

The Scientist

as Believer

By Richard Rice

The expression “science and religion” is abstract. It refers loftily to bodies of knowledge or approaches to truth. My primary concern in this article is the people who do science, specifically people with religious convictions who engage in scientific inquiry, and more particularly those who do so within the setting of a church-related college or university. In other words, I am interested in the questioner, not just the question.

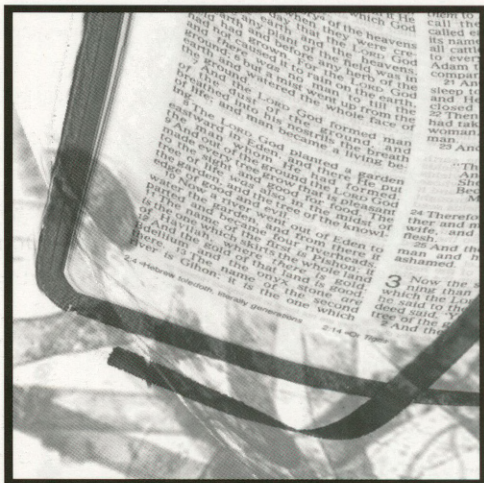
For, as “postmodern” thinkers insist, beliefs do not float around in some ethereal stratosphere of meaning, disembodied and unattached. They belong to flesh and blood human beings—to people, whose perspectives are always affected by particularizing features like body, gender, class, race, and nationality. So we can talk about beliefs all we want to, but we won’t get to the heart of the matter unless we talk about those who hold these beliefs, why they hold them, and what impact holding them has on their lives.

A scientist who is a believer will encounter tension on three different levels, or three different areas, of experience. One is the tension between faith and reason, which is experienced to some degree by all believers who are intellectually responsible. A second is the tension between two intellectual activities, namely, science and theology. Theology applies reason to the contents of faith. Science applies rational inquiry to the natural world, the world accessible to empirical investigation. A third area of tension concerns the two communities to which the Adventist scientist belongs, viz., the community of faith and the community of scientific inquiry. These communities are characterized by different qualities, they serve different purposes, they contain quite different memberships. Can a person fulfill the obligations involved in both communities at the same time?

Let us begin by sounding a note of optimism and confidence. Too many Christians approach this issue of science and religion as a tremendous problem. They accept the perception that science and religion are locked in combat, with religion a decided underdog. Given its compelling effectiveness in explaining our world and transforming our environment, they believe, science clearly has the upper hand. The most religion can hope for is to keep the fight going and avoid getting knocked out.

The attitude is understandable, but it is not unavoidable, and we should not succumb to it. Our heritage as Christians, and as Adventists, gives us a wonderful perspective on reality. The mandate for it lies in biblical affirmations like these: “In the beginning God created the heavens and the earth.”¹ “The heavens are telling the glory of God; and the firmament proclaims his handiwork.”² “Ever since the creation of the world his eternal power and divine nature . . . have been understood and seen through the things he has made.”³ “Fear God and give him glory, for the hour of judgment has come; and worship him who made heaven and earth, the sea and the springs of water.”⁴

Our understanding of God's creative power and love provides a basis for affirming the universe as something wonderful—as valuable, intelligible, and filled with beauty and mystery. We see the world as the manifestation of a God of infinite wisdom and love, who reaches out to us and speaks to us through the glories of the world around us and the depths of the world within us. This confidence should never degenerate into a presumption that offers easy answers to difficult questions or a self-congratulatory smugness that dismisses all opinions but our own. But a view of God that is faithful to the Bible and sensitive to the accumulated insights of the Christian community provides us a basis for exploring the universe, the planet and ourselves with wonder and gratitude.



Faith and Reason

As thinkers and believers, Adventist scientists must relate their trust in God to the activity of careful reflection and the quest for evidence to support all truth claims. There is a fundamental contrast between faith and reason. Faith is the most important category in personal religion, and it refers to several things. As described by the apostle Paul, it means trust in God to save us apart from any of our own accomplishments. The word is also used to refer to the Christian life in general, as a synonym for “Christian experience.” And people also apply it to the beliefs characteristic of Christianity or to the Christian tradition as a whole. In a general, nonreligious sense, faith means trust, particularly in the absence of evidence or proof. To take someone’s word for something rather than finding it out for yourself is to “take it on faith.”

“Reason” has a similarly broad range of meaning. It can refer to our mental faculties generally, to

discursive reasoning, and to the results of rational investigation. Reason is the process of finding reasons for things and drawing conclusions from evidence. In contrast to faith, reason involves having a demonstrable basis for what you believe, one you can show to other people.

Over the centuries, most Christians have taken the position that faith and reason are both gifts from God, and that both lead us ultimately to him. Our relation to God is based on faith, but we can also find evidence to support our confidence, so it makes sense for us to believe. Believing in God never makes perfect sense, however, so we never outgrow a need for trust. The relation of faith and reason is not a simple one, and many people have a tendency to emphasize one at the expense of the other.

My greatest challenges as a religion teacher typically come from two different sorts of students. Some students feel that their religious convictions are obviously true and need no examination. Others insist that religion is so obviously false that it does not deserve serious consideration. We should simply dismiss it and move on.

I had a couple of students long ago who epitomized these opposing attitudes. Dan was a tall, dark ministerial student, who hated every class he took from me, and the program unfortunately required him to take several. He disliked thinking seriously about religion, and his disdain for the process was obvious. He sat in the middle of the classroom with a look of studied boredom on his face. He never took notes, never asked a question, never spoke up except to complain. He felt that theological ideas were nothing but mind games played by misguided people. He wanted nothing more than to get out of school and get on with the real work of the church.

Dave was equally disenchanted with his courses from me, but for entirely different reasons. He was convinced that religion had nothing to recommend it to thinking people like himself, so he openly ridiculed anyone who believed the stuff. And he accused those who defended it, like me, of rationalizing a hopeless position because they were either unwilling to think or else afraid to let people know what they really believed.

In response to both the Dans and Daves in my classes I always present religion as something that both needs and deserves careful investigation. So, I urge believers to think, and I encourage thinkers to believe.

For most of Christian history, people assumed the importance of faith and questioned the value of reason. But about 200 years ago a momentous change in

Western thought took place, and the burden of proof shifted to the other side. As Tom Stoppard puts it, "There is presumably a calendar date—a *moment*—when the onus of proof passed from the atheist to the believer, when, quite suddenly, secretly, the noes had it."⁵ That is true of most educated people today. They take reason for granted, and view faith as problematic. In response, some believers regard serious thinking as a threat to faith, and they look for ways to avoid it. But this is not an option for scientists, who are thinkers by inclination and training, so we need to look for another approach.

The truth is that reason is not inherently a threat to faith, and can be a tremendous help to it. Careful thinking can strengthen religious commitment, once faith is already present. And it can open the way for faith, helping to prepare people for religious commitment. Let's examine these contributions.

According to the Bible, careful thinking and growth in knowledge are important elements in the Christian life. The letter of 2 Peter, for example, exhorts its readers to "make every effort to supplement your faith with virtue, and virtue with knowledge, and knowledge with self-control. . . ."⁶ Acts of the Apostles praises the Jews of Berea, "for they received the word with all eagerness, examining the scriptures daily. . . ."⁷

The Bible also criticizes Christians for a lack of intellectual growth. The letter of Hebrews bemoans its readers' failure to advance beyond a rudimentary grasp of God's word, and urges them to go on to maturity.⁸ Similarly, Paul calls Christians in Corinth "babes in Christ," because they are still of the flesh and unready for solid food.⁹

The New Testament also tells us what role understanding should play in the Christian life. It leads to a life of fruitful activity. It contributes to the general upbuilding of the Christian community. And most important, it strengthens faith. Careful thinking increases comprehension, and increased comprehension deepens religious commitment. Colossians 2:2 links

"Since faith is not a rational product, there will always be room for doubt. We are never so close to God that we could never drift away. The Bible's most outstanding examples of faith faced their greatest trials as mature believers. . . . Faith is never a permanent achievement, something we acquire once and for all. We must affirm it again and again as life goes on."

together the ideas of knowledge, understanding and conviction, with the hope that Christians will "come to the full wealth of conviction which understanding brings." (NEB)

Besides helping us understand what we believe, careful thinking can also help us respond to questions or doubts. The typical path of personal faith is not a smooth, uninterrupted growth in confidence. Sooner or later, we all meet with obstacles that test our trust in

God. When this happens, reason can help us. Finding answers to difficult questions can greatly strengthen our confidence. In fact, many people believe that dispelling doubt is the most important contribution reason can make to religious experience. This seems to have been true of Ellen White. Her well-known statement on faith and evidence appears in a chapter in *Steps to Christ* entitled, "What to Do With Doubt."

In addition to increasing commitment and overcoming doubt, reason also affects the way we look at our beliefs. When we examine our beliefs, their relative importance can increase or decrease. Beliefs may become more or less important to us

than we previously thought. Rational scrutiny can also affect our confidence in certain beliefs. People sometimes realize that some long-held ideas are not as well founded as they had thought. And sometimes they find new evidence to support their beliefs.

This shows there is always an element of risk involved when we start to think seriously about faith. We can never guarantee the outcome. Careful thinking can increase our understanding and deepen our commitment. But it may also expose inadequate arguments, raise questions, and introduce doubt.

Refusing to examine our beliefs, however, contradicts the very nature of faith. Faith means having the confidence to stake your life on what you believe. People who refuse to ask or answer questions give the impression that they are not sure of what they believe.

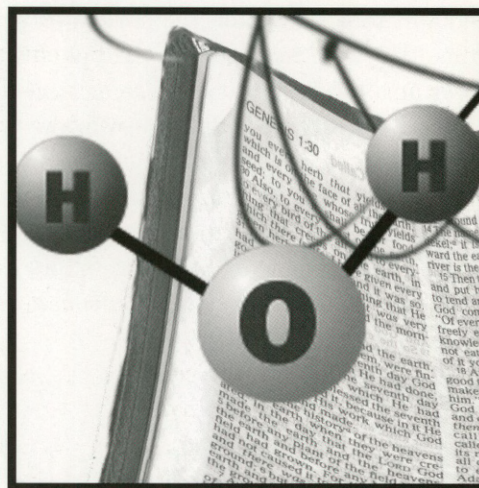
Although reason can make an important contribution to faith, it would be a serious mistake to overestimate it. Logic alone can never take someone all the way from unbelief to trust in God. People virtually never come to believe through a straightforward process of rational investigation, and it is doubtful that arguments have ever converted anybody. Instead, the factors that lead to faith are largely nonrational in character.

Jesus compares the new birth to the wind. "The wind blows where it wills, and you hear the sound of it, but you do not know whence it comes or whither it goes; so it is with every one who is born of the Spirit."¹⁰ We can chart the general course of faith development but its origin is always a mystery.

The very nature of faith also limits the role of reason. Faith is a free decision. Like love, it can't be forced. If trust in God were the only conclusion reason allowed, it would eliminate freedom from faith. And if reason could produce faith, then faith would be a human achievement, a form of intellectual works righteousness, and not a response to God's grace. Furthermore, faith involves more confidence than reason can provide. Faith means trusting God without reservation. But rational inquiry can only achieve a high degree of probability, so it cannot produce the trusting certainty of faith. This is why faith always "goes beyond" the available evidence. It affirms and trusts in more than reason can demonstrate.

Since faith is not a rational product, there will always be room for doubt. We are never so close to God that we could never drift away. The Bible's most outstanding examples of faith faced their greatest trials as mature believers. Job and Abraham had their faith tested after years of walking with God. As their experience shows, faith is never a permanent achievement, something we acquire once and for all. We must affirm it again and again as life goes on.

All this prevents us from expecting either too little or too much from rational inquiry. Scientist-believers should view the search for truth as something fully compatible with their religious convictions. The desire to know and the capacity to discover are gifts from God. He intends us to use them. Scientist-believers also need to appreciate the role that reason plays in faith. By showing that faith is intellectually responsible, reason can prepare the way for faith. And once faith is present, reason can make it stronger. So, it is a grave mistake to disregard what reason says to religion. It is equally mistaken, however, to overemphasize what reason can do. Believers have a responsibility to think. But thinking alone will never be all there is to faith.



Science and Theology

Bill, Bob and Sam all teach in the biology department of a fictitious Adventist university. They were close friends in college but over the years their thinking has led them in different directions. Lifelong Seventh-day Adventists, all three grew up listening to Bible stories, and learning about nature from family camping trips, Pathfinder club and summer camps, and science teachers who used animal stories to illustrate religious lessons. It all turned them on to the world of living things. In fact, one reason each of them went into biology was the conviction that God speaks to us through nature.

They still share that conviction, but graduate study and their own research activities raise questions about the things they were taught as children. The earth seems a lot older than six thousand years. The geological column points to a long succession of life forms. And the notion of evolution gives a plausible explanation for the way different species have adapted to their environment. In addition, predation is endemic in the scheme of things from the cellular level on up, so it is difficult to attribute the origin of death to a single historical event. So, they have all faced questions about the relation between prevailing scientific views and what they read in the Bible.

Our three fictional friends respond to this challenge in different ways. For Bill, everything depends on the concept that the Bible is God's word. Behind the various biblical writings, he believes, there is one divine author, who guided their composition and compilation to insure that the Bible contains just what he wants to say the way he wants to say it. Since God does not inspire error, the Bible is fully reliable in all its contents, and accurate in everything it touches on—from our relation

to God, to the origins of life on earth, to the history of the ancient Near East. And since the Bible is the basis of all true knowledge, it guides us when we look at the natural world. If what we see supports what we find in the Bible, we know the evidence is reliable. If it doesn't, then we know something is wrong with our interpretation. So, we rely on the Bible to help us interpret nature, not the other way around. Our task is not to subject God's word to human reason, but to submit human reason to the authority of God's word.

Bob finds it difficult to reconcile some of the Bible's claims with the results of scientific investigation. Like Bill, he believes that God inspired the Bible, but he's not sure that makes the Bible an infallible authority on every area of human inquiry. The Bible was obviously written before the development of modern science and many passages seem to reflect a prescientific view of the world. Furthermore, Bob doesn't know what it means for a scientist to "yield" to biblical authority, or to any authority, for that matter. As a scientist, Bob looks for explanations that best account for the data he collects. The phenomena under investigation determine the conclusions of his research. To set up an external standard that his results must meet, in other words, to have an outside source dictate what a scientific investigation is supposed to find, Bob feels, would interfere with the process. It wouldn't be science. When his study of the natural world leads to one conclusion and his study of the Bible leads to another, he takes both of them seriously. He continues to look for ways to harmonize the two, but he believes that we'll have to live with some unanswered questions until the Lord comes.

Sam takes a different tack. He sees no conflict between science and the Bible because the two belong to wholly different realms of experience. The Bible deals with spiritual matters. It concerns our relation to God. Its purpose is to make us wise unto salvation, not to inform us about the natural world. It is obvious that the Bible is not a textbook in mathematics or physics. It would be equally mistaken, he believes, to view it as a textbook in biology, or in astronomy or geology, for that matter. Sam reads the Bible faithfully for spiritual guidance. He participates enthusiastically in the life of the church. But he keeps the scientific and religious parts of his life separate. The great nineteenth century physicist Michael Faraday was a committed Christian believer. People said that when he went into his laboratory he forgot his religion and when he came out again he forgot his science.¹¹ Sam doesn't like to think that he ignores either science or religion. He believes that the world is God's creation. So, his religious convictions

support the scientific task in a general way. But he doesn't believe that the idea of creation makes certain scientific theories more credible than others.

How then should Adventist scientists relate their scientific conclusions to their religious convictions? If their religious community teaches one thing and their scientific study teaches something else, what happens? What if God's two books seem to tell different stories? What do you do then?

I suppose the first thing to do is ask, so what? If we are strong believers, why should we care if prevailing scientific theories diverge from our religious doctrines? The reason this discrepancy creates an internal conflict for many of us is the tremendous influence that science exerts in our thinking. And the reason science is so influential is the fact that it is so effective. As Ian Barbour states at the beginning of his Gifford Lectures, "The first major challenge to religion in an age of science is the success of the methods of science."¹²

Let's face it: science is the most reliable means we have of acquiring knowledge. It provides us enormous amounts of information. Moreover, the process of scientific inquiry is self-correcting and cumulative. Science perfectly exemplifies Bernard Lonergan's definition of a method. It is "a normative pattern of recurrent and related operations yielding cumulative and progressive results."¹³ In other words, science keeps getting better. It not only keeps discovering more and more, it keeps finding better ways to do it. Consequently, science is the one area of human experience that exhibits demonstrable progress. There is no evidence that human beings are improving in moral judgment or aesthetic sensitivity. But there is no doubt that we know a lot more than we did before.

It is no wonder that the development of science, as John Herman Randall notes, was more important than any other factor in shaping the modern mind.¹⁴ Like it or not, our view of the world is largely framed by science. So, behind the apparent conflict between scientific conclusions and religious convictions lies our immense confidence in the strategy of science and the view of reality it seems to support.

According to the conventional view, science is an autonomous rational enterprise which follows its own internal logic in testing hypotheses against reliable observations. The scientist accumulates data, formulates a theory to account for it, and then tests the theory against further data. So, there is an inductive move from data to theory and a hypothetical-deductive move from theory to data. The data either confirms or disproves the theory. And the scientist moves on to make further

observations, formulate and test additional theories. Over time a reliable body of truths accumulates.¹⁵

It is customary for people to look at religion with this general view of science in mind. And religion naturally suffers by comparison. "In this popular stereotype," to quote Ian Barbour, "the scientist is seen as open-minded, the theologian as closed-minded. The scientist's theories are tentative hypotheses that are continually criticized and revised, while religious beliefs are unchanging dogmas that the faithful accept without question." Accordingly, "science alone is objective, open-minded, universal, cumulative, and progressive." In contrast, religion is "subjective, closed-minded, parochial, uncritical, and resistant to change."¹⁶ So the very nature of religious conviction seems to separate it from science. If scientific inquiry is the paragon of intellectual achievement, then religion is intellectually irresponsible. If you are truly religious, then you can't think scientifically.

People respond to this challenge in several different ways. Some grant that religion is purely subjective and proceed to make a virtue of it. According to nonrealists, there is no conflict between science and religion, and there never could be, because they pertain to completely different things. Science tells us about reality, religion expresses our reaction to reality. For Don Cupitt of Cambridge University, religious beliefs can be entirely a matter of personal choice. We select them not because they are true, but because they are helpful. We follow a religious tradition, not because it describes reality, but because it helps us cope with reality.¹⁷ I once heard him say that he prays everyday, even though he does not believe that there is a God. Cupitt's position is extreme, to say the least, but there are others who follow a similar strategy. A much less radical example is George Lindbeck of Yale Divinity School. He interprets Christian doctrines as rules of discourse, which guide individual and communal life. They express a self-contained cultural system and do not describe the objective universe.¹⁸

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To formulate the issue precisely, we should speak of science and theology, rather than science and religion. Theology is to religion what science is to sensory experience. It carefully examines the beliefs of a religious community. It identifies these beliefs, explores their meaning, assesses their truth, and sometimes responds to criticisms about them. Like science, theology examines data, formulates theories, and tests its theories against further data. Like scientific theories, theological ideas, or doctrines, must meet the basic criteria of adequacy to the data, coherence, comprehensiveness and fertility.

In spite of their general structural similarity, theology differs from science in significant ways, too. The most obvious is the sort of data that it deals with. Christian theology by definition takes the Bible as its basic source. It draws its theories or doctrines from the Bible and tests them by further examining the Bible.¹⁹ The notion of divine revelation distinguishes the Bible from any of the data to which science appeals. Scientific data are in principle accessible to any inquirer and further discovery may significantly alter the data we rely on. But the contents of the Bible are perceptible only to those who have faith, and Christians believe that nothing will ever supersede the Bible. So the

Bible enjoys a position of authority for theology unlike anything in the realm of scientific inquiry.²⁰

This helps to explain why scientific change is less traumatic than theological change. We rather expect scientists to change their minds over time, but we are not at all sure that theologians should do so. As Iain Pears asks in his recent novel, *An Instance of the Fingerpost*, "How is that when a man of God shifts his opinion it proves the weakness of his views, and when a man of science does so it demonstrates the value of his method?"²¹

Religious experience also makes an important contribution to theology, and this, too, distinguishes it from science. Scientific data are in principle public, that is, accessible to any observer with sufficient patience and skill. But religious experiences are notoriously private. Sometimes they involve dramatic, sensational events, like

the fire that descended on Mount Carmel. But for the most part they are internal, known only to the person who has them.

So, what are we to do when scientific evidence points in one direction and our religious convictions run in another? Is there any way to resolve this tension? I don't have a simple answer to this question, but there are several things that hint at a resolution, without promising that we can actually reach one.

On the side of religion there are doctrinal considerations that may be helpful. Our perspective on humanity prevents us from being either overly optimistic or overly pessimistic about our ability to understand. On the one hand, the world is the creation of an intelligent Being, who placed his image on humans and gave us sovereignty over what he had made. Consequently, we should have confidence in both the possibility and the value of exploring the universe. Intellectual inquiry is good, and it leads to truth. On the other hand, the results of the fall are significant and pervasive. Sin affects both our powers of inquiry and the world we investigate. And this requires us to qualify our claims to knowledge.

The doctrine of creation provides a strong foundation for serious scientific endeavor. And the doctrine of the fall prevents us from taking the results too seriously. I believe this gives us a basis for the sort of qualified optimism that seems to characterize scientific endeavor at its best wherever it takes place. We follow the evidence where it leads, we develop the conclusions it calls for, but we recognize the limitations of all human inquiry, so we keep the issues on the table for further discussion.

If all this discourages people from trying to integrate or coordinate their science and their theology, they should take heart from the fact that recent developments point to a more positive relation between the two. The disciplines are not as dissimilar as many people think, and there are indications that each has something to contribute to the other.

First of all, science is not as "scientific" as people used to think. From the work of Thomas Kuhn and others, it is clear that the course science actually follows does not fit the conventional view of science we described earlier. The picture of dispassionate investigators accumulating data, generalizing, and objectively testing their theories is a caricature. It doesn't fit the facts. The truth is that all data are theory laden. Without some sort of theory, we wouldn't know what to count as data and investigation could never start. Then, too, theories are not mere generalizations from the data.

They require imaginative insights which data alone could never produce. Furthermore, scientists operate within the framework of large-scale, widely shared assumptions, or "paradigms." In other words, they take a lot of important ideas for granted. And when scientists exchange one paradigm for another, their reasons for doing so are never entirely "reasonable." Data alone don't require it. Finally, the whole enterprise of science rests on the fundamental conviction that the natural world is orderly and trustworthy. "Without faith that nature is subject to law," wrote Norbert Wiener, the founder of cybernetics, "there can be no science. No amount of demonstration can ever prove that nature is subject to law."²²

The fact that science rests on unprovable assumptions, that it relies on paradigms and requires an imaginative interaction between theory and data, gives it a strong similarity to theology.

Theologians have also said some things during the past few years that may help us to coordinate, if not integrate, religious and scientific beliefs more effectively. The ones I have in mind reject the idea that we can construct a system of thought that ties our beliefs together in a tight logical package and situate them firmly on a foundation of self-evident truths. This sort of rational system is unattainable anywhere, they argue. It doesn't even work for science—as William Placher notes, the case for science's distinctive rationality has disappeared²³—and it won't work for theology, either. This doesn't mean we have to give up the quest for rationality, but we have to find a different way of construing it. And when we do, it applies to both religious and scientific beliefs.

This is the general position of Nancey Murphy of Fuller Theological Seminary. In her book *Theology in the Age of Scientific Reasoning*, Murphy argues that theology can meet the standards of scientific inquiry, when they are properly formulated.²⁴ For Imre Lakatos, science is a "research program" comprising a set of theories and a body of data. Central to the program is a "hard core" theory. Surrounding it are auxiliary hypotheses that connect it to the data and change as the data require. Murphy maintains that this is a good way to think of theology. Our religious beliefs form a cluster, with some beliefs more central than others, and we modify them as new evidence requires. On this view, there is an openness, a flexibility to theology, which allows for both continuity and change in our beliefs over time, and opens us to relevant information wherever it comes from. According to Murphy, this approach not only gives theology a scientific form, it envisions a way

for theology and science to communicate and contribute to each other.

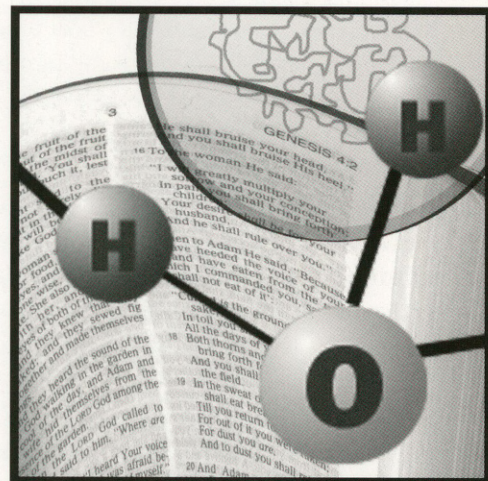
One of the most encouraging developments in this general area is the new openness of scientific theories to the presence of God in the universe. In its cover story of July 10, 1998, *Newsweek* notes the growing visibility of religious conviction among scientists today and reviews some of the reasons they give for believing in God. They include the remarkable ability of the human mind to understand the workings of the universe—"The world follows rules that human minds can figure out"—and various signs that the cosmos is "custom-made for life and consciousness." There are also scientists who believe that big-bang cosmology, evolution, chaos theory, and quantum mechanics allow for divine participation in the natural world. The article concludes with this observation: "Once, science and religion were viewed as two fundamentally different, even antagonistic, ways of pursuing the quest to understand the world, and science stood accused of smothering faith and killing God. Now, it may strengthen belief. And although it cannot prove God's existence science might whisper to believers where to seek the divine."²⁵

In a related development, Darwin's theory of evolution has come under increasing suspicion over the years. And many people now question its adequacy as a scientific explanation of life's history on this planet. Tom Bethell, Phil Johnson, and Michael Behe have made important contributions to this discussion. So, there seems to be less rigidity to some prevalent scientific theories than there used to be, and greater openness on the part of scientists to religion.

While we welcome these developments as ways to ease the tension between science and theology, or to ease the tension within believers who are scientists, an important caveat is in order. It is essential for us to recognize just what this openness of science to theology and theology to science does and does not do. Science can contribute to natural theology, the search for public evidence to support the reality of God. It can also contribute to a theology of nature, an interpretation of the natural world as the object of God's creating and sustaining love. Religion can inform the overall perspective of the scientist and suggest questions for scientific investigation. But this mutual openness does not provide a basis for something like "religious science," that is to say, religiously authorized scientific statements, or scientific theories that have only religious authority to support them. If religion tells science what to say—more accurately, if religious authorities tell scientists what to say—both science and religion are the poorer.

For all the value of interrelating science and theology, we need to respect their integrity as discrete disciplines and not allow one to dictate the contents of the other. Scientific theories require the support of empirical data. Theological statements require the support of religious data. Coordinating them is helpful; conflating them is not.

There is another significant difference between theology and science that anyone who does theology has discovered. This is the role that religious beliefs play in the life of the believer and the community of faith. Influential ideas always die hard. People are reluctant to part with concepts and perspectives that have served them well. This is true in science, but it is doubly true in religion. A religious doctrine is analogous to a scientific theory only to a point. It purports to make sense of evidence and remain open to revision and reformulation. But in fact, it does much more. Theological doctrines deal with the deepest convictions and highest values that people hold. Their tentacles involve the strongest feelings we have. Moreover, religious beliefs are a unifying factor in people's lives. Common convictions are the binding force that holds religious communities together. For this reason, religious communities are enormously resistant to doctrinal changes. And anyone dealing with issues of this nature must be sensitive to this fact.²⁶



The Community of Scientists and the Community of Faith

Tom and Ted were classmates thirty years ago at another imaginary Adventist college. Tom went to graduate school and returned to their alma mater to teach chemistry. He's tried hard to do all the

things expected of small college teachers. He has received several modest research grants, and he is known as an effective classroom communicator. His students generally do well on the Medical College Admission Test, and several of them have gone to graduate work and careers in chemistry. He makes it a point to keep in touch.

Ted went into the ministry and worked his way up the administrative ladder to become president of a constituent conference. Ted's first love is soul winning. He longs to see the message go to all the world and the work finished. So he is deeply committed to evangelism. He urges all his pastors to hold evangelistic series, and he wants to do more outreach with radio and television. As a member of the college board, Ted knows how much money it takes to run a college, and, quite frankly, he wonders if the payoff is worth it. He asks himself how many people would join the church if they put the college subsidy into evangelism. Ted also wonders if our colleges are doing their job. He is disturbed by reports that students sometimes have their faith shaken by things their teachers say. He wants assurances that faculty members support the church's fundamental beliefs.

What should someone like Tom say to someone like Ted? How do we justify our involvement in education? And what is the role of the scientist in an Adventist institution?

It is obvious that Adventists have made a tremendous investment in education. In fact, it is one of the distinctive things about our denomination. We have the largest unified private school system in the world, in spite of our modest size. In North America alone, where Adventists number less than a million, we support a dozen colleges and universities. With higher education growing more expensive every year, it is no wonder that people have begun to question the value of our investment. If the central work of the church is mission, it is natural to ask how scholarship fits into the picture. To some, education distracts us from the church's work. So, what is the role of education in Adventism?

There are certain religious communities that subsume their schools under their evangelistic endeavors. My wife and I conducted a workshop at a Bible college in Oakland, California, a couple of years ago. The campus surrounded a large church and was part of

an extensive school program that went from kindergarten all the way up. The whole program was supported by a large congregation that grew up several decades back as the result of an evangelistic effort in that city. The evangelist is the church pastor; her two daughters serve as president and dean of the college. At a place like this, evangelism is primary; education is secondary.

For Adventists, however, the situation is quite different. For important reasons, education stands, not at the edge, but at the center of our mission and our identity. One is our wholistic concept of salvation. According to Ellen White, the work of education and the work of redemption are one.²⁷ Because a human being is a multi-dimensional unity, a physical, mental and spiritual reality, religion is not just a spiritual matter. It affects the entire person. It enhances all the powers of human life. It not only heals the soul, it

elevates the mind. Our commitment to education reflects the conviction that salvation affects the whole person.

It also reflects our understanding that salvation is a lifelong experience. For Adventists, justification and sanctification are complementary aspects of God's saving work in human life. He not only

"For important reasons, education stands, not at the edge, but at the center of our mission and our identity. . . . Our commitment to education reflects the conviction that salvation affects the whole person."

forgives our sins and restores us to our place in his family, he imparts his Spirit to us in order to transform our lives and make us partakers of the divine nature. With other Christians, we emphasize the importance of helping others come to Christ and join the church, but we are also concerned with everything that happens afterwards. We see salvation as a lifelong experience. For Adventists, church growth is more than just increasing membership, it is spiritual development as long as time lasts. Nurture is essential to the meaning of salvation.

Another factor that elevates education is our doctrine of creation. If this is our Father's world, then it is worth exploring and understanding. It deserves all the attention we can give it. And if we are creatures whose origin and destiny are linked to this planet, then we need to view ourselves within the framework of this larger reality.

For a number of reasons, then, education is central to Adventism. The academy is not irrelevant to the church. It is not incidental to the church. It is part

and parcel of what the church is all about. Adventist theology thus provides an important mandate for the work of the scientist-believer.

It is not enough, however, to applaud the work of academics as important to the general mission of the church. We need to say something about their role within the Christian community. What are the church's responsibilities to its scientists? What are their responsibilities to the church?

On a general level, the church owes its scientists what it owes all its members—an inclusive, supportive community. And this requires a commitment to the full scope of the community's life. Beliefs are important to the life of any religious community. But belonging to a community involves more than doctrinal assent. It involves participating in the life of the community. The church is not just a believing community, but a caring and worshiping community as well, so open communication is vital to its life. Consequently, all of us in the church must strive to develop an atmosphere of trust where people can ask serious questions and explore difficult issues without fear that they will generate suspicion or lead to repercussions.

On a more specific level, the church also needs to affirm and respect the value of the scientific enterprise. Since the integrity of scientific inquiry requires a degree of autonomy, the church must allow its scientists the freedom they need to pursue their work.

While we're thinking about what the church owes its scientists, we should also consider what our scientists owe each other. Scientists should offer each the same trust that they want from the church as a whole. Scientist-believers need to cultivate a culture of conversation. They need to communicate with each other frankly, honestly, charitably. This can only happen where there is trust on all sides. If we are afraid that sharing our concerns and our questions will arouse suspicion and limit our influence, then real conversation will never take place.

The church not only owes its scientists something, scientists owe the church a great deal, too. In particular, they have a responsibility to help prepare our young people for life in the larger world. This involves training students for the rigorous work required of them in graduate school and professional programs. It means preparing them for the questions and challenges that believing Christians will face in the larger academic world. And, most important of all, it includes mentoring—personally demonstrating what it means to be both scientist and believer.

Scientist-believers can also help the church fulfill its mission to extend the gospel into all areas of human endeavor and explore the implications of the gospel for all of life. In recent years a number of conservative Christian thinkers have been examining the relationship between Christianity and scholarship. They issue ringing appeals to Christians in the academy to say more about the impact of their faith on their scholarship. In *The Scandal of the Evangelical Mind*, Mark Noll bemoans how little evangelical Christians have contributed to serious scholarship. Evangelicalism is a large and influential movement on the religious scene, but what great ideas has it communicated to the larger world? What scholarly impact has it had in the natural sciences, in the social sciences, in the humanities, in the fine arts? Not enough, he asserts, not nearly enough in comparison to its potential.²⁸

George Marsden issues a similar challenge. In *The Outrageous Idea of Christian Scholarship* he argues that a creationist, incarnational view of reality should reverberate throughout the academy. Naturally, it will affect different disciplines in different ways, but as he says, "there would be huge implications when [believing] scientists relate their subjects to the larger issues

GOD AND HUMAN SUFFERING: THREE PRESENTATIONS

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of life." In particular, they will oppose the view that materialism "provides the best account of reality."²⁸

No one offers a more urgent appeal along these lines than Alvin Plantinga, a distinguished philosopher of religion. In a recent address, he argues that scholarship and science are anything but neutral. To the contrary, he sees a tremendous struggle between Christianity and two rival perspectives—perennial naturalism, the view that human beings are simply parts of nature, and creative antirealism, the view that all ideas are nothing more than mental constructs and projections. To counter the pervasive influence of these movements, Plantinga calls on Christian scholars to extend their religious convictions into the scholarly arena. Since Christians have the means to make sense of the whole range of human experience, including things such as love, knowledge, aggression, beauty, humor, and more sensitivity, we must not abandon the field to purely naturalistic, reductionistic perspectives. "As Christians we need and want answers to the sorts of questions that arise in the theoretical and interpretative disciplines," he states. And "what we know as Christians is crucially relevant to...a proper understanding; therefore...[we] should pursue these disciplines from a specifically Christian perspective."³⁰

Let us conclude on the same confident note with which we began. The church, the academy, and the world need the contributions of Christian scientists.

Notes and References

1. Gen. 1:1 (REB).
2. Ps. 19:1 (NRSV).
3. Rom. 1:20 (NRSV).
4. Rev. 14:7 (NRSV).
5. Tom Stoppard, *Jumpers* (New York: Grove Press, 1972), 25.
6. 2 Pet. 1:5-7 (RSV).
7. Acts 17:11 (RSV).
8. Heb. 5:11-13; 6:1.
9. 1 Cor. 3:1-3 (RSV).
10. John 3:8 (KJV).
11. John Polkinghorne, *One World: The Interaction of Science and Theology* (Princeton, NJ: Princeton University Press, 1986), 97.
12. Ian Barbour, *Religion in an Age of Science: The Gifford Lectures*, 2 vols. (San Francisco: Harper, 1990, 1993), 1:3.
13. Bernard Lonergan, *Method in Theology* (New York: Herder & Herder, 1972), 4.
14. John Herman Randall, Jr., *The Making of the Modern Mind: A Survey of the Intellectual Background of the Present Age* (New York: Columbia University Press, 1977), 164.
15. Barbour, *Religion*, 31-32. We could expand every element of this account. For example, scientists evaluate their theories in light of four criteria. The most important, of course, is agreement with the data. The others are coherence

with other theories, explanatory comprehensiveness—the best theories explain a lot of material—and fertility in providing a framework for further investigation.

16. Barbour, *Religion*, 58, 5.
17. Don Cuppitt, *The Sea of Faith* (Cambridge, Eng. and New York: Cambridge University Press, 1988).
18. Cited in Barbour, *Religion*, 14.
19. Other factors, too, inevitably play a role in this theological reflection—notably tradition, experience, and reason—but theologians differ as to whether we should construe them as "sources" alongside the Bible, or aids to help us understand the Bible.
20. Another feature of the Bible that distinguishes it from scientific data—at least a good deal of scientific data—is its historical character. The events of which the Bible speaks, like all historical events, are unrepeatable. We cannot reproduce the data under different conditions. This is not unlike the data which some sciences deal with, such as cosmology and paleontology, but it distinguishes theology from a good deal of scientific endeavor. Theologians must develop their theories on the basis of data that accumulated a long time ago.
21. Iain Pears, *An Instance at the Fingerpost* (New York: Riverhead Books, 1988), 531.
22. Quoted in David N. Livingstone, "Farewell to Arms: Reflections on the Encounter between Science and Faith," in *Christian Faith and Practice in the Modern World: Theology from an Evangelical Point of Views*, eds., Mark A. Noll and David F. Wells (Grand Rapids, MI: Eerdmans, 1988), 260.
23. William C. Placher, *Unapologetic Theology: A Christian Voice in a Pluralistic Conversation* (Louisville, KY: Westminster/John Knox, 1989).
24. Nancy Murphy, *Theology in the Age of Scientific Reasoning* (Ithaca: Cornell University Press, 1990).
25. *Newsweek*, July 10, 1998, 51. One of those featured in the article is John Polkinghorne, a physicist who entered the Anglican clergy. As one of his book titles indicates, *One World*, (see no. 10 above) Polkinghorne affirms the fundamental harmony of science and theology. He believes that they have the same ultimate objective—seeking to understand reality—and they are capable of mutual and fruitful interaction.

26. Galileo wasn't sensitive, according to a careful reading of his confrontation with church authorities, and instead of changing minds quickly and radically as he intended, he hardened them against his views. There are lessons to be learned from all sides of that experience. See Jerome J. Langford, *Galileo Science and the Church* (Saint Augustine's Press, 1998).
27. E. G. White, *Education* (Mountain View, CA: Pacific Press, 1903), 30.
28. Mark A. Noll, *The Scandal of the Evangelical Mind* (Grand Rapids, MI: Eerdmans, 1995).
29. George M. Marsden, *The Outrageous Idea of Christian Scholarship* (New York: Oxford University Press, 1997), 92.
30. Plantinga's views on scholarship are spelled out in several articles at the following website: hisdefense.org/articles.htm. Or visit www.ucsb.edu/fscf/library/plantinga/OCS.html.

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