PART THREE

PHILOSOPHICALLY CONFUSED

The emphasis on personal experience has awakened in people the awareness that they have the capacity to know things other than through their physical senses. Pluralism has forced an emotional retreat from rationalism, which tends to force people to make choices.

Reliance upon the senses and the scientific method created a world of absolute certainty during the modern age. Truth consisted in what could be proved empirically. Oddly enough, the modern world made statements about the transcendent that it could not observe, verify, or falsify; such as the psychological view that the idea of God is a projection onto the universe. Modernity could not recognize realities that lay outside its frame of reference. The philosophers described this situation by calling religious categories "non-sense" and by dismissing them with the aphorism, "Whereof we cannot speak, thereof we must be silent."

In the complexity of life created by modernity and in the failure of science to answer the profoundest questions, people turned toward a search for the transcendent with the opposite assumption from modernity: there is something out there that we cannot know through our senses. In this sense, postmodernity has much in common with premodernity. Virtually any metaphysic is open to consideration. Christianity offers a way to know the transcendent world, and as such the postmodern person will give it a fair hearing.

The postmodern generation does not require logical consistency. Rationalism was the twin sister of empiricism in the modern age. Christianity embraced rationalism with wanton abandon as it constructed

highly rationalistic theological systems on the right and on the left. By buying into rationalism, Christianity accepted modernity's loathing of paradox. How can you have A equals A and A does not equal A at the same time? Modernity would also ask how Christ could be both human and divine.

The central truths of Christianity fall within the category of paradox, and they do not create the problem for the postmodern mind that they held for the modern mind. Scripture does not present faith in the kind of logical system that appeals to the rationalism of modernity, but it does present truth in the patterns that appeal to postmodernity.

CHAPTER SIX

THERE'S MORE TO LIFE THAN MEETS THE EYE: EMPIRICISM

Current scientific thought can be dangerous to faith. When religion poses explanations for natural phenomena, or things that occur in the physical world, and these explanations conflict with the explanations of science, then people of faith must make a decision to believe the explanation of science or the explanation of faith.

I have read the account written by a young man who was pursuing an academic career. He rejected his faith because of the teachings of science. The account is all the more startling because he took his faith quite seriously; he studied the Scriptures, and spoke about his faith with more mature believers. In the end, however, he rejected his faith because its teachings on the origin and nature of the cosmos conflicted with the latest scientific thought. Eventually, he would take up another religion that made more sense because of its consistency with his new scientific understanding.

The young man's name was Augustine. The religion he rejected was Manichaeism. The science he accepted was Ptolemy's view of an earth-centered universe. The religion he later embraced was Christianity. This all happened fifteen hundred years ago. The Manichaeans had adopted many terms from Christianity and had appropriated scriptural passages as well, but had given all a vastly different meaning. The differences appeared most graphically in their description of the relationship between the Father, Son, and Holy Spirit and the material world. The sun was called Christ and was worshiped. The moon was the dwelling of the wisdom of God, and the air

was the dwelling of the Holy Spirit. The divine nature was mixed with the material substance of evil represented by people. As the divine part of the "elect" was released, it passed back to the sun and moon, which accounted for eclipses and changes in the appearance of the moon. The sun (Christ) was actually a triangular window through which the light of God shone on the world. Augustine accepted this view until he studied the mathematical calculations of Ptolemy, which allowed a person to predict with accuracy the movement of the heavenly bodies.

Though science led him to reject his religion, it did not provide him with a new understanding of what kind of God exists and how God relates to the physical world. He did not take Christianity seriously because it worshiped a physical God with hands, eyes, arms, and a face, according to the Bible. Though he had rejected Manichaeism, he still retained the deeply embedded Manichaean concepts and depiction of other religions. Not until he heard Ambrose of Milan preach did he come to understand the metaphorical and allegorical use of language in Scripture. Yet, he was still bound by a world-view that could not conceive of spiritual substance. His reading of Plato helped him understand how God could be spiritually substantive, have no aspect of evil, and create the physical world as a good thing. Augustine finally embraced Christianity as a faith that did not conflict with science. He became the guiding theologian of Christianity for one thousand years through the medieval period and, through his influence on Luther and Calvin, the guide for Protestantism.

THE PROBLEM OF SCIENCE AND RELIGION

Augustine's struggle demonstrates the problem of science and religion. It may be easy to see that the Manichaeans had misstated the cause of the movement of the heavenly bodies, but we also know that the current science of that day developed by Ptolemy also misstated the description of the operation of the heavenly bodies around the earth. One interpretation of the Bible seemed foolish to Augustine, yet another interpretation gripped his soul and changed his life. The person of science and the person of faith must both grapple with the problem of interpretation. In the case of Augustine, we see that he brought an entire set of assumptions to his initial interpretation of Scripture, which had become so much a part of him that he was not conscious of them.

Ptolemy and Copernicus interpreted the same data, yet they reached different conclusions. Copernicus concluded that the sun sat at the center of the heavenly bodies, instead of the earth. Galileo explored this idea experimentally with his telescope and came into conflict with the authorities for his

views. Oddly, Galileo was not punished because his views conflicted with the Bible, but because his views conflicted with the prevailing philosophy of science based on the teachings of Aristotle. The academic establishment had so entwined their philosophy with their interpretation of the Bible that they could not recognize that they had imposed Aristotelian philosophy on the Bible.

This problem of the confusion of philosophy with one's science and faith can be seen most recently in Carl Sagan's famous words in introducing his television series. He declared that this is the cosmos and the cosmos is all there is. The statement is not a scientific statement derived from experimentation using the scientific method. Instead, it is a philosophical statement based on naturalism. Many people confuse naturalism with science and impose its views on the interpretation of scientific data.

THE PROBLEM OF MODERNITY

Thomas Aquinas invented the modern world in the thirteenth century, though he did not know he had done it. It would not become apparent for five hundred years. Aquinas changed the basic question people asked. The great theologian before Aquinas was Augustine who died about A.D. 430. Augustine had invented Christendom, the whole idea of feudalism, and the Middle Ages by asking the question, "What kind of God exists?" That was the basic question he needed answered before he became a Christian. He needed to know what kind of God exists. What he came to believe was that the kind of God who exists is a creator of the universe who rules over all the universe; who is sovereign over the affairs of all people, all places, and all times; and who has control of eternity from beginning to end. That is the kind of God that exists. The kind of society that developed in the Middle Ages mirrored that fact. There was a hierarchical system in which all authority derived its relationship from God.

In his conversion from paganism and his earlier understanding of what God is like, Augustine was helped along by Plato's philosophy. Plato's philosophy helped him come to an understanding of what reality is like before he ever took the Bible seriously. Thomas Aquinas was born into a world that assumed the existence of the Creator God, so Aquinas did not have to struggle with the same question. He lived in a culture that knew what kind of God existed. Aquinas asked "What can we know because God exists?" which is an entirely different kind of question.

Aquinas was fascinated by the philosophy of Aristotle. Aristotle had taught that when you come into the world, your mind is a blank slate. You know nothing to begin with, and all you will ever know is what you discov-

er by observation. This view is known as *empiricism*, or the idea that real knowledge comes through sense experience. The only real knowledge comes through hearing, seeing, touching, tasting, and smelling. Thomas Aquinas used the philosophy of Aristotle to help him think about God. Aquinas said that the reason we can know anything is because God exists. God made real things, and we can know them by observing them.

Now that sounds fairly simple, but it was a radical idea in the world outside of the Christian West and the Muslim Middle East. Most of the people in the world at that time, meaning the people of the Hindu subcontinent of India and the continent of Asia including China and all of its tributary states, were either Hindus or Buddhists. They believed that, in fact, the world did not exist because there was no creator. It only seemed that there was a world here, so why bother to observe it? With his question Aquinas made science possible, modern science as we know it. Unlike Hinduism and Buddhism, he affirmed a real world that is substantial, and unlike Islam which also affirmed a real world, he affirmed the Incarnation. God came into this world and took on flesh, which means this world that he created matters to him; and therefore it should matter to us. The theology of Aquinas encouraged people to be involved in observation and learning because God cares about his creation. This perspective is the foundation for the modern world and for a scientific method. Western science comes out of Christian theology, but Christian theology in an Aristotelian Greek philosophical framework. That framework is very important. When people come to the Bible, they bring some kind of cultural presuppositions or philosophical worldview along with them.

Time passed and Galileo, the great Italian, invented the telescope and verified the theory of Copernicus about the motions of the heavenly bodies. Through his observations he concluded that the planets do not revolve around the earth. Instead, the earth and the other planets revolve around the sun. The earth is not the center of the universe. He got in trouble for that view. The way the story is often told is that he got in trouble with the church and Christianity and that Christianity persecuted him. Actually, Galileo got in trouble not with the church so much as with the academic establishment because he was disagreeing, not with the Bible, but with Aristotle. Aristotle and Ptolemy said that the earth was the center of the universe. Galileo went against the official academic position; and because the academy was a subdepartment of the church at that time, the church got drawn into it. But it was an academic dispute. As a result of Galileo's controversy, the importance of objective observation as the basis for knowledge and truth was only heightened. The emerging scientific method gained respectability as the true way of knowing, a superior way of knowing, even when it came in conflict with the official teachings of the church.

By the time of Isaac Newton, we see science moving beyond just the observation of facts to the construction of theories and laws about knowledge on the basis of the observation. Newton observed the motion of objects and proposed his laws of motion. For Newton, the discovery of laws was possible because God had established ordered patterns in the universe, and these patterns reflected God's design. For Newton there was absolutely no conflict with the Bible or belief in God. For him it was the wonder of having a glimpse of what God had done.

The practice of establishing laws of science based on observation began to move out into other fields. In the nineteenth century, we find the theory of evolution developing based on observations of various animal lifeforms encountered by Charles Darwin on a world cruise. We find Sigmund Freud developing theories about the identification of the cause of psychological disorders. This tendency to develop laws spread out into all kinds of other fields as people wanted to give more credibility to their discipline. I think the most ludicrous of these would be laws that are used in determining market timing in the stock market. Different market timers describe the laws they use to know when the market is going to go up and when it is going to go down. Market timing comes from this fascination that the modern age has had with trying to make a science out of what is often really an art.

Over the centuries from Aquinas to Einstein, bit by bit Christians embraced the scientific worldview of empirical knowledge. They embraced the idea of knowledge by observation or empiricism, because it really does sound like it has a theological basis. We can go to the Psalms and read

> The heavens declare the glory of God;
> the skies proclaim the work of his hands.
> Day after day they pour forth speech;
> night after night they display knowledge.
> There is no speech or language
> where their voice is not heard.
> Their voice goes out into all the earth,
> their words to the ends of the world. (Ps. 19:1-4)

With the Enlightenment of the 1700s in France, a slight shift occurred. God became unnecessary for knowledge, which was quite different from Newton's perspective. Science became the standard of knowledge. Scholars began to be aware in a new way that God could not be examined. How could God truly be known if God could not be examined by the "true" basis for acquiring knowledge? As we know from the old expression, "familiarity breeds contempt," as science became more familiar with creation, creation

lost its wonder. There have really been very few true atheists in the world. Even in the scientific community, very few people actually embraced atheism. Mostly, people just began to live their lives increasingly oblivious to the presence of God. As the world ceased to be a mysterious place, everything could be explained. God may still be there, but he lives far off. The theory of God as a watchmaker, who may have made the world but wound it up like a clock, left it, and went off about his business, came to be popularly held.

During this period the church increasingly accepted the idea that scientific knowledge is the real knowledge. Both conservatives and liberals adopted this view, brought it into their theology, made it part of their methodology and their hermeneutic for studying the Bible. Beginning in the late eighteenth century and increasing into the nineteenth century, we saw a movement toward the scientific study of the Bible. This movement began in Germany with the schools of higher criticism, but it occurred in the United States with dispensationalism. The Scofield Study Bible was an attempt to arrive at the scientific understanding of the Bible. With Charles Finney, the American evangelist, we see the attempt to establish the Laws of Revival. Once determined, pastors could follow these procedures and have a revival in their church. In the twentieth century, we see the application of empiricism in the Church Growth Movement, which attempts to use scientific principles to establish the principles by which churches grow. This fascination with empiricism is not unique to liberals; it is something that the whole Western church has embraced in one way or another. Rudolf Bultmann, the German Greek scholar, accepted the presuppositions of science that include the idea that "dead men tell no tales." According to empiricism, Jesus could not have risen from the dead; but Bultmann wanted to create a place for faith without any specific content. His whole effort was aimed at providing a rationale to still have faith yet not have an Atonement, a Resurrection, or life after death. In the fundamentalist/modernists debate, both sides assumed an empirical worldview. The Bible must be accurate according to a scientific standard, so a scientific understanding of what is real became the standard for evaluating the Bible. Conservative apologetics and liberal theology sought to make Christianity acceptable to a scientific worldview.

THE PROBLEM OF POSTMODERNITY

Against the backdrop of an empirical tradition dating back to the Middle Ages, we find this new postmodern worldview gradually appearing in the twentieth century. Bit by bit the chinks began to appear in the armor of empiricism, but in the last ten or fifteen years this trend has begun to mush-

room. The postmodern generation has rejected the absolute claim to knowledge that science enjoyed for so long. There is a growing scientific skepticism among the postmoderns that replaces the spiritual skepticism of the moderns. Now people accept the unexplainable. People believe in things that cannot be demonstrated. Dorothy Sayers, the English Christian apologist, was also a famous mystery writer during the thirties and forties. In *The Unpleasantness at the Balona Club*, her detective, Lord Peter Wimsey, complains that there is no hard and fast evidence to prove what he and everyone else knows. They know who did it, but they cannot prove it. The criminal that everyone knows to be guilty cannot be convicted for lack of adequate proof. The point she is making in that story is that we can know God exists but lack evidence to prove it scientifically. The postmodern person says that you do not have to prove it scientifically if you already know it. You see, it is a generation that now accepts multiple forms of knowledge as equally reliable, which is quite different from the modern era. People know now that there is more out there than meets the eye.

At the same time there is a growing distrust of scientific knowledge. We see this in such things as the Elvis Presley observations, this curious, curious phenomenon of people claiming to have seen Elvis, which is related to UFO observations. In 1996 in Arizona there was a big buzz about odd lights in the sky. There were newspaper reports about it. On national network news we saw home videos of a triangle-shaped object that flew over a town. Many observers believed it moved about thirty-five miles an hour and hovered about one hundred fifty feet above the ground. The science editor for this broadcast, however, placed little credence in the videotapes explaining that our faculties of observation are quite unreliable. The moon looks the size of a dime when we observe it in the sky. There has to be some way to correlate the meaning of the observation. The postmodern person is increasingly skeptical of the reliability of observation itself.

Postmodern people have grown up with science and technology such that it does not produce awe and wonder for them. Think of the changes in this century in communication: the telephone, the radio, the television, the VCR and other recording equipment to augment the broadcast equipment, the computer, the Internet to connect computers, the World Wide Web to make the connection more graphic and visual, and the development of virtual technology. The advances are explosive. Little children five and six years old have absolutely no wonder and awe and amazement about things even though older adults are flabbergasted with every new development. We see the same advances in transportation. To think that we began this century with the marvel of heavier-than-air flight going over a hundred feet in a bamboo and silk aeroplane, but we end it with no one even bothering to

watch liftoffs anymore from Cape Kennedy. The problems with the Mir Space Station are dealt with the way we deal with an old automobile. Let's just get a new one. The postmodern generation has no sense of wonder and awe. They see new discoveries proving old discoveries wrong. So they say you just never know. They are now in the same position that their ancestors were two hundred years ago—familiarity breeds contempt. There is nothing special about the technology. They know that sensory knowledge is flawed and that verifiability may work, but only within certain limits.

The cultural shift taking place in the West that has been called postmodernity is having a curious impact on science. Many scientists are searching for an acceptable "spirituality." Carl Sagan is dead. The naturalistic philosophy of modernity adds nothing to the scientific data, yet it adds nothing to personal life either. Eastern religions have become more popular because they allow a person to develop a form of spirituality, yet without a content that might conflict with the scientific data.

Christianity seems to have little to offer because its content appears to conflict so dramatically with the scientific data, even if it does offer a rich source of spirituality. Some scientific people resolve the problem by living in two worlds in an uneasy truce. The problem grew to such a barrier in the modern period because the church bought into the scientific worldview so completely in the nineteenth and twentieth centuries. Scientific truth was the most respectable truth; therefore, the truth of Christianity must be scientific truth. Scientific truth must be concrete, measurable data; therefore, the Bible must be literally true or not true at all. Thus, Christianity in the West split into two camps, with a third group of noncombatants uncomfortable with the extreme positions.

Liberal theologians like Rudolf Bultmann accepted the assumptions of secular science in his interpretation of the Bible. He reasoned that because dead men do not rise from the grave, there must be some other explanation for the resurrection accounts in the Gospels. Fundamentalist theologians, on the other hand, rejected the leading theories of modern science because they conflicted with a literal reading of the first chapter of Genesis.

Thus, the philosophical assumptions of modern liberalism and fundamentalism became barriers to faith. Liberalism drained Christianity of its transcendence, and fundamentalism drained it of its connection with the physical world of experience.

THE UNCERTAINTY PRINCIPLE

The scientific method created a false sense of security in terms of what people can know for certain. Confidence in the reliability of objective

empirical observation led to what has proved to be an unwarranted sense of certainty about what we can know. From the time of Isaac Newton until the revolutionary insights of Albert Einstein, this confidence prevailed not only in the scientific world but also in the popular imagination.

Albert Einstein helped destroy the notion of scientific certainty in the first decade of this century when he came up with the simple little formula $E = mc^2$. He declared that space was curved rather than flat. The shortest distance between two points was not a straight line as everyone had known since the time of Euclid. Instead, Einstein reasoned that in the vast expanses of space, the shortest distance between two points might be a curve. Time and space were relative matters and only the speed of light was constant. Such matters affected the outcome of observations depending on one's location and what one was observing. Though he shook the notion of certainty, the initial impact of the breakthrough was only understood by a handful of scientists. The implications of Einstein's theory of relativity would take almost a century to work their way through the scientific community to the other academic disciplines and finally to the popular culture.

Einstein's work in 1905 effectively destroyed Newton's universe. Einstein changed the way scientists think about the universe. In opening up this empirical can of worms, however, he also demonstrated how our philosophical prejudices make it difficult to grasp an idea that clashes with our preconceived notions. At the time of his work, most scientists believed in a static, unchanging, everlasting universe that had no beginning. The equations that Einstein developed to explain relativity, however, would not support a static universe. Rather than give up the prevailing view of the universe, Einstein added into his calculations what he called the *cosmological constant*, which offset the implications of his own theory.

Einstein's special theory of relativity had some intriguing implications for empirical observations. Relativity proposes that time passes at a different rate for a stationary observer than for a moving observer. If two people are stationary, their watches will tell the same time; but if one of them is moving around the world in an airplane or to the moon in a space shuttle, when the two people come back together, their watches will tell different times. This discrepancy grows with the speed and distance at which objects move. In his foreword to the truly postmodern book *The Physics of "Star Trek,"* Stephen Hawking comments on how enormous the discrepancy can grow: "If the *Enterprise* were restricted to flying just under the speed of light, it might seem to the crew that the round trip to the center of the galaxy took only a few years, but 80,000 years would have elapsed on Earth before the spaceship's return."[1]

When Einstein conceived of relativity, space flight existed only in the

mind of Jules Verne. In fact, heavier-than-air flight had only been achieved two years earlier by the Wright brothers. Einstein relied upon a much slower but common travel experience to illustrate the discrepancy of observations.

Imagine someone traveling on a train who has set up an experiment to measure the distance and speed of a pulse of light from a bulb on the ceiling to a mirror on the floor and back to the ceiling. The observer on the train will observe the light traveling in a straight line, the shortest distance between the floor and ceiling. The light travels at 186,000 miles per second. A second observer outside watching the train pass by will observe something different. The trackside observer will see the man, bulb, and mirror moving sideways. From this perspective, the light will have to travel farther because the mirror has moved as the light pulse approaches it, and the ceiling has moved as the light pulse is reflected back toward its source. Bird hunters understand this concept. Instead of shooting straight at a bird flying across a hunter's field of vision, the hunter will "lead" the bird and shoot ahead of it so that pellets and bird arrive at the same spot at the same time. By aiming straight at the bird, the bird will have passed by the time the pellets reach the spot where the bird had been when the episode began. Because light always travels at the same speed, the person outside the train will observe that the incident took longer because the light had farther to travel. Einstein concluded that time is not a universal that is standard in all places. Instead, it is quite personal and local.

Relativity also had implications for the observation of space. Using the train example again, we can see how motion affects the observation of physical objects. If an observer on the train measured the time it took for a light pulse to travel the length of a train car, the observer could calculate the length of the car, because the speed of light is constant throughout the universe. The outside observer would calculate a different length for the car, however, because of the motion of the car. If the light source faces the rear of the car, the forward motion of the car will mean that the light has a shorter distance to travel because the rear of the car is rushing forward to meet the pulse of light. If the light source faces the front of the car, the forward motion of the car will mean that the light has a farther distance to travel because the front of the car is rushing away from the light. The effect for the outside observer will be that the train car appears to be longer or shorter than the observations of the person inside the moving train car.[2] Einstein reasoned that as objects approach the speed of light, space collapses to near zero and time stretches to infinity.

Einstein's special theory of relativity did not challenge the validity of empirical observation, but it did shatter some of the fundamental assump-

tions about the nature of the universe in which empirical observations are made. It also introduced the idea that observations may be "relative." The special theory of relativity brought the first serious challenge to the idea of Absolutes though it only specifically challenged the idea of Absolute Rest and Absolute Time. Einstein destroyed the mechanical universe of Newton, but with it the Moral Absolutes of the deists could also be challenged by analogy. Maybe morality was "relative" as well.

The second, and perhaps greater challenge to certainty, also came in the early days of the twentieth century. While Einstein's theories of relativity deal with explanations of the universe at large, quantum theory focuses on the tiny world within an atom. Max Planck used the term *quanta* to name the tiny-sized packets in which he reasoned light must come. Einstein received the Nobel prize in 1921 for a paper he wrote, which argued that Planck's quanta would explain the photoelectric effect, or why some metals give off electrons when light strikes them. As quantum theory developed, however, it took some turns that Einstein found more disturbing than other scientists had found his relativity theories.

Before quantum theory, scientists thought of the atom as a tiny solar system with particles traveling around a nucleus the way planets travel around the sun. The developed physical models of the atom that looked like billiard balls or Tinkertoys with little sticks connecting them. All of this conceptualization gave a solid appearance to the atom, which seemed to give the universe a solid foundation. Quantum theory changed all that.

Quantum mechanics explores the strange world of subatomic particles. This field of science has created a crisis for all of science because it has destroyed the old absolute certainty associated with an older philosophy of science. Instead of moving around the nucleus like a planet around the sun, electrons "jump" or "leap" from one location to another around the nucleus. During this quantum leap, the electron moves from one position to another, but it does not travel. It is as though it ceases to exist in one spot and suddenly appears at another spot, like Jesus when he went from the meal in Emmaus to a room in Jerusalem. As physicists examined electrons, they discovered that they could locate the position of an electron or the velocity of an electron, but they could not determine location and velocity at the same time. Furthermore, they determined that electrons possessed mutually exclusive and contradictory properties. Electrons behave like particles (fixed, discrete points) and waves (continuous extensions). In order to measure these subatomic particles, it is necessary to use a quanta of light. These tiny packets seem insignificant to us; but to the particle being measured, it is the same as being hit by an automobile. In other words, the attempt to measure accurately creates an inaccurate measurement.

One of the marks of modern science had been its confidence in the deterministic nature of the universe. To know the position and velocity of something means one can know the past and the future of that object. Quantum theory changed all that. One could only predict with probability the future behavior of objects. Werner Heisenberg formulated this feature of quantum theory as the *uncertainty principle* in 1926.

After several centuries of expecting science to provide all the answers, physicists now doubt the certainty of observations. The very act of observation distorts the data being observed at the subatomic level, and the contradictory nature of the subatomic world has led a growing group of physicists to doubt the reality of the physical world. The data is neutral, but the interpretation of the data introduces an ever-growing collection of philosophical biases. Eastern religions provide an attractive way to make sense of a world that no longer fits the old philosophy of science. In Hinduism and Buddhism we do not have a "real" world. The physical universe is either an illusion or a delusion.

Christianity offers another attractive understanding that allows people to continue to believe in an objective physical world. While we affirm an objective universe, we believe that the all-present, all-powerful, all-knowing, immortal God who created it took on flesh in a particular body in a particular time and place, and then died on a cross. The affirmation of the Incarnation of God in Jesus Christ has stood at odds with the same tradition of logic that blinks in the face of quantum mechanics. But if such a God exists, it would not be surprising to find at its fundamental level that the universe reflects the nature of God. The sublime behavior of electrons reflects the full deity and full humanity of Christ.

Finally, chaos theory combined with quantum theory gives a one-two punch to the old deterministic model of a closed universe. The average person can identify with chaos theory best each evening when we watch the weather report knowing that the poor souls forecasting the weather miss it as often as not. In the secure closed environment of a controlled laboratory experiment, a scientist can predict with great accuracy the result from introducing changes in barometric pressure, temperature, humidity, and wind velocity. In the real world, however, the variables multiply at an incalculable rate. The laws of physics still work, but in the context of a wide-open system that has been dubbed "chaotic." One need no longer do logical gymnastics to make a case for the intervention of God into the old closed universe of Newton. Instead, chaos theory suggests that the universe is not closed at all, but wide open for God to interact with creation from the subatomic to the cosmic levels. Rather than thinking of the intervention of God and the suspension of the laws of nature, chaos theory suggests an open universe in which God has freedom of expression.

CONCLUSION

Where does that leave the church, the Christian faith, and the gospel? I think it creates a tremendous opportunity because the good news in communicating faith to postmodern people no longer has to deal with the apologetic issue of making the case for the possibility of the knowledge of things that cannot be seen. That is, we no longer have to make a case for the spiritual world. Now, revelation is as valid a way of knowing as is sensory experience. Postmodern people accept the idea of holy writings. They do not see the Bible as having any exclusive place, but they accept it as a way of knowing something. We do not have to make a case for it anymore, nor do we need to feel that it requires some sort of scientific explanation. They are a pragmatic people. They want to know if it works.

The effective engagement of the world with the gospel of Jesus Christ in the future will require Christians to examine seriously their own philosophical presuppositions about their faith and about science. We cannot expect non-Christians to bear the responsibility of making sense of our faith. As a result of the discoveries of quantum mechanics, modern science has been thrown into a crisis about what science can know with certainty. Uncertainty is not such a bad thing in scientific or religious speculation. It forces us to slow down and be a bit more humble in our declarations.

Augustine became a Christian when he discovered that some parts of the Bible speak allegorically and metaphorically about the spiritual truth of how God relates to the world. Relieved of the old scientific theory of knowledge, Christians may once again explore how God creates and relates to the world. The scientific theories that our old philosophical assumptions tell us to fear most and fight with all our vigor may be the very opening that makes sense of faith to the skeptic.

For most of the twentieth century, both liberal and conservative Christians created a barrier to the hearing of the gospel by scientifically informed people. By accepting the mechanical model of the universe or naturalistic philosophy, liberal theologians drained Christianity of its transcendence. By assuming a literal meaning to the opening chapter of Genesis, conservative theologians imposed a theory of science necessary to salvation. As we move into a new century, perhaps we can learn an old lesson from Augustine. If our message is tied too closely to any particular theory of science, then when new scientific theories come, our message will be discarded with the old science. On the other hand, if our message cannot transcend the shifts in science from a flat earth sitting on four pillars, to the earth-centered world of Ptolemy, to the sun-centered solar system of Copernicus, to the mechanical universe of Newton, to the

relative universe of Einstein, then perhaps we have misunderstood the message of the Bible. As Christians consider their responsibility to make Jesus Christ known to people who long to make sense of their world, we will do everyone a service by reflecting on how our habitual ways of dealing with biblical faith and science may need revision.