A BIBLICAL-CHRISTIAN APPROACH TO THE SCIENCES

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What kind of relation should exist between science and religion? between nature and revelation? Should it be one of conflict or cooperation? The inspired writings present both views.

Conflict is definitely found. Some aspects of nature were not to be part of the worship of Israel because of their association with heathen worship. Through Moses, God said, "Thou shalt not plant thee a grove of any trees near unto the altar of the Lord thy God". (Deut. 16:21) In I Timothy 6:20,21, Paul warns Timothy to avoid "oppositions of science, falsely so called." *The Great Controversy* says that

> To many, scientific research has become a curse. God has permitted a flood of light to be poured upon the world in discoveries in science and art; but even the greatest minds, if not guided by the word of God in their research, become bewildered in their attempts to investigate the relations of science and revelation. (GC 522)

On the other hand, cooperation is seen, for example, in Psalm 19:1, "The heavens declare the glory of God; and the firmament showeth his handywork." Romans 1:20 states that, "The invisible things of [God] since the creation of the world are clearly seen being perceived through the things that are made, even His everlasting power and divinity." And Paul seems to approve of the scientific method in I Thessalonians 5:21, where he says "Prove all things; hold fast that which is good." The *Ministry of Healing* says, "Nature testifies that One infinite in power, great in goodness, mercy, and love, created the earth, and filled it with life and gladness." (MH 411)

CONFLICT BETWEEN RELIGIOUS AND SCIENTIFIC WORLD VIEWS

Old Testament stories of conflict

Stories in Scripture serve as warnings of the failure that comes from putting the creature above the Creator. This worship of nature was an integral part of the pagan religion that surrounded the Jews of the Near East.

The ten plagues on Egypt were specifically directed against the nature gods. The plague of hail destroyed the sacred objects of worship, the cattle and sheep. The plague of locusts revealed a God in control of the animals. The plague of darkness showed the weakness of the sun god Ra. The turning of water to blood was directed against Osiris, the god of the Nile, whose yearly flooding brought soil, fertility, and wealth to Egypt; the Nile god appeared to have within itself the power of rejuvenation, regeneration, and resurrection.

The Canaanites often worshipped their nature gods in beautiful natural settings. Before the Israelites entered Canaan, God instructed them to "utterly destroy all the places, wherein the nations which ye shall possess served their gods, upon the high mountains, and upon the hills, and under every green tree". (Deut. 12:2) Before Gideon attacked the Midianites, he cut down the groves where his own people worshipped Baal. (Judges 6:25) Solomon married wives from the surrounding nations and built high places for them on the hills of Jerusalem. (I Kings 11:5,7) Because of Solomon's apostasy, 10 of the tribes rebelled under Jeroboam, but he also made "groves on every high hill". (I Kings 14:23)

During the reign of Ahab and Jezebel, the kingdom of Israel worshipped Baal. Yearly rituals between Baal the weather god, and Anat the goddess of love and war, involved temple prostitutes and ensured the next season's fertility. The three and a half years of famine foretold by Elijah and the futile incantations of the priests and prophets of Baal on Mt. Carmel showed the impotence of this storm god. The lightning and rain in answer to Elijah's prayer made obvious to the Israelites that instead Yahweh was in control of nature. (I Kings 18)

The nature gods were not like Yahweh: they were not personal gods; they would only bring blessings when given sacrifices; they were only interested in the rituals, not the affairs of normal life; and they did not demand exclusive worship. The worship of these nature gods was never eradicated, so that the Israelites were still building the high places of Baal in Jeremiah's time, and God allowed them to be taken into captivity to Babylon. (Jer. 19:5-9)

Last day examples of conflict

The tendency remains today to worship the creature, instead of the Creator. Nature is a good gift from God, and science can appropriately be used as a tool for its study, but when the creation takes priority over the Creator, it is false worship. The difference between worshipping the Creator and the creation can be very subtle for Satan will even make "fire come down from heaven on the earth in the sight of men" as Elijah did (Rev. 13:13). However, the 7 last plagues, similar to the plagues of Egypt, show that nature is ultimately under God's control, not humanity's.

The three angel's messages (Rev. 14:6-12) contrast the worship of the Creator and the worship of the creature (the creation). The first angel calls all to "worship him that made heaven, and earth, and the sea, and the fountains of waters". The third angel warns against worshipping the creature—any human institution or endeavor set up to take the place of God—for "If any man worship the beast and his image, ... The same shall drink of the wine of the wrath of God".

The first angel reminds that there is more than natural law—there is also a moral law that should cause all to "Fear God, and give glory to him; for the hour of his judgment is come". To prepare for the judgment, the first angel has "the everlasting gospel to preach unto them that dwell on the earth". It points beyond salvation by personal effort to the One who can re-create. The system of salvation by works has fallen. Great Babylon, and before it the tower of Babel, were symbols to mankinds's ingenuity and wisdom, his probing the secrets of nature, and his attempts to save himself. Nebuchadnezzar said, "Is not this great Babylon, that I have built for the house of the kingdom by the might of my power, and for the honour of my majesty". (Dan. 4:30)

The symbol of those who worship the creature, or beast, is the mark. Nothing in creation is more important to life on earth than the sun. The Egyptians realized that and worshipped the sun. The Roman empire did the same and set up their own day of worship. In contrast, the symbol of those who worship the Creator is found in the fourth commandment, "For in six days the Lord made heaven and earth, the sea, and all that in them is, and rested the seventh day: wherefore the Lord blessed the sabbath day, and hallowed it". (Ex. 20:11) The Sabbath as a symbol or ritual is meaningless in itself, but it points to the essence of the Bible message.

God's interaction with the creation

In Bible times God was seen as the direct cause of all that happened in nature. He controlled the weather—the rain to fall on the just as well as the unjust, the plagues of Egypt, the drought in the time of Elijah. God caused leprosy and blindness as punishment. He was directly responsible for the fertility of Sarah and Hannah.

Most of the founding fathers of science studied nature to learn how God works. St. Thomas Aquinas pointed out the need for faith where reason couldn't explain. Newton envisioned a mechanistic universe, but one where God made adjustments to keep it working smoothly.

As more and more was understood about the world, a feeling arose in the last century that given enough time all phenomena could be explained by natural means. If God's direct agency was not needed as an explanation for the weather, for health, for fertility, etc., then perhaps God's interaction was not needed at all, even for life and its origin. Science would be inhibited by assuming that some observations in the natural world required a supernatural explanation beyond human understanding. Thus, the god-of-the-gaps argument fell into disrepute.

The scientific method

The scientific method of arriving at truth by human reason and experimentation (rather than by supernatural revelation) came to be seen by many as the best and only method for arriving at truth—a method that is objective, rational, reductionist, deterministic, and naturalistic.

Science is seen as *objective*, independent of the observer and his religious or political bias, with no place for emotions or feelings. This feature provides for a common bond between scientists of different political or religious persuasions.

Much of science is *rational* and can be studied by logic and reason, for which mathematics provides a tool. This leads to the belief that in principle all areas of human experience can be understood by human reason.

A *reductionist* approach assumes that the whole is no more than the sum of its parts. The natural world can be reduced to its simplest form to study, with the complete picture being built up of the independent pieces.

The scientific method assumes that the natural world is *deterministic*. Direct cause and effect relations make scientific observations repeatable and scientific models falsifiable. Observations about N-rays, the fifth force, and cold fusion could not be consistently repeated, and models about Lamarkianism and the aether could be falsified, so none are still part of science. The criterion of repeatability is more difficult to apply to the historical parts of geology, evolutionary biology, and cosmology, but is made possible by using the dictum that "The present is the key to the past". The deterministic nature of the world gives scientific models their predictive power, for example in filling in the table of the elements. A deterministic world view allows for no beginning to the universe—a beginning would be an effect without a cause.

A *naturalistic* world view sets up a philosophical framework where mankind explains the workings of nature without invoking the supernatural. That this philosophy has worked so remarkably well in the physical sciences, has led to the belief that it can work in other areas as well. In biology, a naturalistic world view does away with teleology and any explanations based on a Designer.

Conflict or compatibility between science and religion

Probably one of the most dramatic incidents in the history of the relation between science and religious faith was the condemnation of Galileo by the church in the 1600's. The conflict over the fixity of species and evolution in the last century is the other prime example, with the Scope's trial in this century as a focal point in the United States. The two best-known Victorian versions of the science/religion conflict are John William Draper's *History of the Conflict between Religion and Science* and Andrew Dickson White's *A History of the Warfare of Science with Theology in Christendom* where numerous examples are given to make the point. Today, science classwork rarely includes any references to religion.

There is a conflict, but the case is often exaggerated. For example, a flat earth was not the generally accepted church doctrine of the Middle Ages (Gould). The next section suggests reasons for the science/religion conflict. The third section outlines some principles for lessening the conflict. The final section provides examples of cooperation—the important, positive influence that Christianity had on the development of science.

REASONS FOR EITHER COOPERATION OR CONFLICT

Cooperation occurs as long as God remains supreme, that is, as long as the Creator is worshipped. The conflict only comes when God is no longer given His rightful position, and when the creature takes the place of the Creator.

There is conflict when: (1) science sees nature as an end in itself, independent of any Creator, Sustainer, or Savior; (2) mankind thinks he can unravel all the complexities of nature himself; (3) mankind sees no personal God of love behind the natural world; (4) the beauties and marvels of nature are appreciated for their own sake with no thought of their source; (5) the laws of nature are not seen to extend to a moral law governing human behavior as well; and (6) the natural resources of earth are exploited for selfish ends.

On the other hand, there is cooperation when: (1) nature—that is the creation—points to the Creator; (2) the complexities of nature are seen as manifesting God's infinite wisdom; (3) the inter-relationships of nature are seen to demonstrate God's love and personal concern for mankinds's welfare; (4) God's good handiwork leads to appreciating the beauty of His character; (5) the law and order in nature lead to understanding God's government; and (6) the resources of nature are used with good stewardship to bring glory to God. There is cooperation between science and religion when science studies nature in order to understand the Creator.

First, and basic to the others: nature points to the Creator, and away from ourselves. Psalm 104 exemplifies this approach. In contrast, Jeremiah shows his distress at Israel who made idols out of wood and stone: "in the time of their trouble they will say, Arise, and save us. But where are thy gods that thou hast made thee? let them arise, if they can save thee in the time of thy trouble." (Jer. 2:27,28)

Second: nature shows God's wisdom, not mankinds's. Much is said about God's wisdom in Job. Chapter 28, for example, states that wisdom is not to be found in nature, but in the fear of the Lord. Near the end of the book God asked Job, "Who is this that darkeneth counsel by words without knowledge? Gird up now thy loins like a man; for I will demand of thee, and answer thou me". (Job 38:2,3) God asked plenty of questions about nature that Job was unable to answer.

Third: God is a personal God, not some impersonal natural force. In the Sermon on the Mount, Jesus portrays God as one who takes care of the "fowls of the air" and the "lilies of the field."

> "Therefore take no thought, saying, What shall we eat? or, What shall we drink? or, Wherewithal shall we be clothed? ... for your heavenly Father knoweth that ye have need of all these things. ... [and] all these things shall be added unto you." (Matt. 6:25-33)

The book *Education* says,

> "No intangible principle, no impersonal essence or mere abstraction, can satisfy the need and longings of human beings in this life of struggle with sin and sorrow and pain. It is not enough to believe in law and force, in things that have no pity, and never hear the cry for help. ... We need to clasp a hand that is warm, to trust in a heart full of tenderness." (Ed 133)

Fourth: the beauties of nature show the goodness of God and are not themselves to take prominence. At the end of the creation "God saw everything that he had made, and ... it was very good". (Gen. 1:31) But the first and second commandments prohibit worshipping nature as god, including "any likeness of any thing that is in heaven above, or that is in the earth beneath, or that is in the water under the earth". (Ex. 20:4) And Paul speaks of "the wrath of God" against those "Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed for ever". (Rom. 1:18,25)

Fifth: God has instituted a moral law as well as natural law. Nature relentlessly obeys her laws, but humanity doesn't. "The stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming; but my people know not the judgment of the Lord". (Jer. 8:7) Romans 1 outlines the lack of moral law for those who worship the creature more than the Creator.

Sixth: Mankind is a steward of God's world. Natural resources are not mankinds's to plunder. God says, "every beast of the forest is mine, and the cattle upon a thousand hills. ..." (Ps. 50:10,11) In the creation, God said to Adam and Eve, "Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth". (Gen. 1:28) And the time will come when God will "destroy them which destroy the earth". (Rev. 11:18)

PRINCIPLES IN RELATING SCIENCE AND SCRIPTURE

Several of these concepts are now expanded to suggest principles for reducing the conflict between science and religion: (1) God's ways are much greater than humanity can understand or imagine; (2) God's character is love; (3) faith is based on evidence, not proof; and (4) a balanced approach is necessary.

God is much greater can be imagined

Whether we try to visualize the great size of the universe or the small size of the atom, God controls it all. It is greater than we can imagine: "For my thoughts are not your thoughts, neither are your ways my ways, saith the Lord." (Isa. 55:8)

The book of Job talks of the wonders of creation. After all the misery that Job went through, God still didn't explain it all. Instead God asked Job numerous questions about nature and let him know that He was in

control. Job's response was, "Behold, I am vile; what shall I answer thee? I will lay mine hand upon my mouth. (Job 40:4) But God kept asking questions. Finally Job said:

> I know that thou canst do everything, and that no thought can be withholden from thee. Who is he that hideth counsel without knowledge? therefore have I uttered that I understood not; things too wonderful for me, which I knew not. (Job 42:2,3)

Our picture of God is too small. The essence of the second commandment in contrast to the first emphasizes the problem with too small a picture of God. The first commandment prohibits the worship of other gods besides the true God. The second commandment goes a step further and prohibits even the worship of human representations of the true God. In the time of Israel, these were idols. The Old Testament Jews wanted something they could see as a symbol of their God. This symbol however, would lower their conception of the true God. It would be easy to come to believe that the true God was no more than their representation of Him. God told them that they had not seen Him in the Mount, so they were to make no representation of Him. (Deut. 4:15-19)

Today as well, it is natural to have too limited a picture or concept of God. J.B. Phillips gives examples in his book, *Your God Is Too Small* (1961). One chapter is entitled "Grand Old Man". Since God was around in Old Testament times and even before, He must be very old. A nice old man, but not very up to date. He understood how the farmers thought, but wouldn't understand today's culture very well. Would Jesus be able to run a computer? Would He know how to fly a jet aircraft? Surely he would have trouble running a nuclear power plant. He would be fooled by all the "high-tech" special effects in today's video productions. Would he be able to fathom modern communication by FAX, Internet, etc.? The initial reaction is that these are too "high-tech" for God, but of course it is obvious that He knows all about the intricacies of technology.

Reason is important, but God is too big for human reason to comprehend. The wisdom from above is needed. Paul says in I Corinthians 1:

> (19) For it is written, I will destroy the wisdom of the wise, and will bring to nothing the understanding of the prudent. (20) Where is the wise? where is the scribe? where is the disputer of this world? hath not God made foolish the wisdom of this world? ... (23) But we preach Christ crucified, unto the Jews a stumbling-block, and unto the Greeks foolishness; (24) But unto them which are called, both Jews and Greeks, Christ the power of God, and the wisdom of God. (25) Because the foolishness of God is wiser than men; and the weakness of God is stronger than men.

God's character is love

How does one deal with the problem of pain, suffering, and death in the world? As the atheist, Steven Weinberg says,

> I have to admit that sometimes nature seems more beautiful than strictly necessary. Outside the window of my home office there is a hackberry tree, visited frequently by a convocation of politic birds: blue jays, yellow-throated vireos, and, loveliest of all, an occasional red cardinal. Although I understand pretty well how brightly colored feathers evolved out of a competition for mates, it is almost irresistible to imagine that all this beauty was somehow laid on for our benefit. But the God of birds and trees would have to be also the God of birth defects and cancer. (p.250)

There is a logical explanation: "An enemy hath done this." (Matt. 13:28) This is an important answer in the conflict between evolution and creation. Competition, survival of the fittest, the rule of tooth and claw, suffering, pain, and death are not part of God's ideal plan for development. He may use this of necessity and allow all things to "work together for good to them that love God" (Rom. 8:28), but His use of that as a preferred plan would be in conflict with a God who knows when a sparrow falls and is creating a heaven where the wolf and the lamb will lie down together. Provonsha says that the God of evolution is the God of Nietzsche:

> to attribute the salient features of the theory of evolution to God is to come up with the wrong kind of God! The God of the evolutionary hypothesis, as it is commonly understood, would be Nietzsche's god, not the Father of Jesus Christ. (p.75)

However, the logical explanation is not sufficient. John 11:35 states that "Jesus wept"; He knew He would raise Lazarus, but he was touched by sorrow. Philosophy is fine for answering philosophical questions, but what many need is not theology or the logical explanation, but the personal touch of another who is also hurting.

Humanity needs to know of a loving, caring personal God, of a Christ who suffered along with us here on the earth, who knows our sorrows as well as our joys. This is the God of Isaiah 53:3, "He is despised and rejected of men; a man of sorrows, and acquainted with grief: and we hid as it were our faces form him; he was despised, and we esteemed him not." And the God of Hebrews 4:15, "For we have not an high priest which cannot be touched with the feeling of our infirmities; but was in all points tempted like as we are, yet without sin."

Evidence for faith, but not proof

Eve had evidence for faith in God's word, but there was also apparent contrary evidence. She "saw that the tree was good for food, and that it was pleasant to the eyes, and a tree to be desired to make one wise". (Gen. 3:6) "Eve really believed the words of Satan, but her belief did not save her from the penalty of sin. She disbelieved the words of God, and this was what led to her fall." (PP 55) She was the first scientist and based her decision on the evidence of her senses.

The Israelites had plenty of evidence of God's power to deliver them, but they also had good reason to be afraid of the Canaanites. The evidence appeared to be against them. Their mistake was in not remembering God's power.

> In the conquest of Gilead and Bashan there were many who recalled the events which nearly forty years before had, in Kadesh, doomed Israel to the long desert wandering. They saw that the report of the spies concerning the Promised Land was in many respects correct. The cities were walled and very great, and were inhabited by giants, in comparison with whom the Hebrews were mere pygmies. But they could now see that the fatal mistake of their fathers had been in distrusting the power of God. This alone had prevented them from at once entering the goodly land. (PP 436)

Christ had evidence at His baptism that He was the Son of God, but in the wilderness the evidence seemed to be against Him. He appeared to be the fallen angel instead of Lucifer. Christ's first temptation was to prove to Satan that this was not the case, but He resisted that temptation to use proof.

> One of the most powerful of the angels, [Satan] says, has been banished from heaven. The appearance of Jesus indicates that He is that fallen angel, forsaken by God, and deserted by man. A divine being would be able to sustain his claim by working a miracle; "if Thou be the Son of God, command this stone that it be made bread." Such an act of creative power, urges the tempter, would be conclusive evidence of divinity. It would bring the controversy to an end. Not without a struggle could Jesus listen in silence to the arch-deceiver. But the Son of God was not to prove His divinity to Satan, or to explain the reason of His humiliation. (DA 119)

Thomas had evidence that Christ was resurrected, but Christ said that those were blessed who did not need that evidence.

> Many who, like Thomas, wait for all cause of doubt to be removed, will never realize their desire. They gradually become confirmed in unbelief. . . . [Jesus'] example shows how we should treat those whose faith is weak, and who make their doubts prominent. Jesus did not overwhelm Thomas with reproach, nor did he enter into controversy with him. He revealed Himself to the doubting one. Thomas had been most unreasonable in dictating the conditions of his faith, but Jesus, by His generous love and consideration, broke down all the barriers. Unbelief is seldom overcome by controversy. It is rather put upon self-defense, and finds new support and excuse. But let Jesus, in His love and mercy, be revealed as the crucified Saviour, and from many once unwilling lips will be heard the acknowledgment of Thomas, "My Lord and my God." (DA 808)

Steps to Christ says that God gives evidence, but there is always room for doubt.

> God never asks us to believe, without giving sufficient evidence upon which to base our faith. His existence, His character, the truthfulness of His word, are all established by testimony that appeals to our reason; and this testimony is abundant. Yet God has never removed the possibility of doubt. Our faith must rest upon evidence, not demonstration. Those who wish to doubt will have opportunity; while those who really desire to know the truth will find plenty of evidence on which to rest their faith. It is impossible for finite minds fully to comprehend the character or the works of the Infinite One. (SC 105)

God provides evidence, but it is not compelling. God gives humanity room to choose. Likewise, Christians would do well to "be ready always to give an answer to every man that asketh [you] a reason of the hope that is in you" (I Pet. 3:15), but not try to prove the point or force another to believe.

Use a balanced approach

The conflict between scientific and religious issues presents a paradox, but it is only one of a number that Christians struggle with, some for hundreds of years: the divine/human nature of Christ, predestination and free will, justice and mercy, faith and works. In Christ's day there was the paradox of a conquering king versus a suffering servant. Other paradoxes that seem to defy human logic are found in scripture:

We find rest under a yoke. (Matt. 11:28-30)
We become first by being last. (Matt. 20:16)
We are exalted by being humble. (Matt. 23:12)
We reign by serving. (Mark 10:42-44)
We are made great by becoming little. (Luke 9:48)
We live by dying. (John 12:24,25; II Cor. 4:10,11)
We conquer by yielding, and are made free by becoming His bond servants. (Rom. 6:16-18)
We become wise by becoming fools for Christ's sake. (I Cor. 1:20,21)
We glory in our infirmities, and are strongest when we are weak. (II Cor. 12:5,7-10)
We see unseen things. (II Cor. 4:18)

Only in Christ are some of the paradoxes resolved:

> It had been Satan's purpose to divorce mercy from truth and justice. He sought to prove that the righteousness of God's law is an enemy to peace. But Christ shows that in God's plan they are indissolubly joined together; the one cannot exist without the other. "Mercy and truth are met together; righteousness and peace have kissed each other." Ps. 85:10 (DA 762; see also 6BC 1071-2)

In physics, the dual character of light as both a wave and a particle is a paradox. Which model best describes light depends on the conditions under which it is observed. Some pairs of sayings can be paradoxical: "Look before you leap" and "He who hesitates is lost".

Sin latches onto one side of a paradoxical truth and ignores the other half. Error needs truth in order to deceive. The problem comes from holding an extreme position as the whole truth.

> It is a fact widely ignored, though never without danger, that error rarely appears for what it really is. It is by mingling with or attaching itself to truth that it gains acceptance. The eating of the tree of knowledge of good and evil caused the ruin of our first parents, and the acceptance of a mingling of good and evil is the ruin of men and women today. (Ed 230,231)

One should not take either extreme of a paradox; balance is necessary. Many understandings are possible for a complex issue, e.g., the elephant and the six blind men of Hindustani. This approach makes it harder to say "I'm right; you're different; therefore you must be wrong".

COMPATIBILITY BETWEEN RELIGIOUS AND SCIENTIFIC WORLD VIEWS

Christian origins for modern science

Historians of science have suggested that the Judeo-Christian environment of western Europe and the belief in a monotheistic God were responsible for the development of modern science in that culture.

The *personal* God of Christianity is separate from nature. Abstract laws are reasonable, and experimenting on nature is not a frightening probing of the deity. In contrast, the impersonal nature gods of other religions made abstract natural laws unrealistic and experimentation on nature a frightening prospect.

From the Judeo-Christian monotheistic heritage, God is seen as the *law giver*. His creation should then be amenable to study using rational inquiry of cause and effect relationships. In contrast, the irrational and arbitrary

gods of other cultures with their polytheism and warring factions would result in a natural world where rational inquiry would be useless.

The Genesis account pictures God creating a *world that is good*, and thus worthy of man's study. Manual labor for study is not degrading. For the Christian, and especially in the Puritan work ethic, science was an attractive vocation and its goal was to give glory to God. In contrast, Greek culture held philosophy in high regard, but manual labor was for slaves. The real world was not perfect anyway and, if studied, would quite likely give erroneous results; only ideas were perfect.

The Christian God is *free to create* as He chooses in any one of many ways. Therefore, man must study nature to find out how it functions, rather than using philosophy to determine how nature must behave. In contrast, the Greeks modeled nature indirectly using philosophy, rather than directly from nature itself. They believed that nature could operate in only one way, that philosophy could determine that way, and that there was little need to experiment.

The Christian picture of God (personal and lawful) and how He creates (good and freely) set an excellent framework in which to study nature and form the foundation for the present scientific method. In addition, the church of the Middle Ages was the patron of education, since literacy was needed for Bible reading and logic was needed to defend the Christian faith. (Pearcey and Thaxton)

Founding fathers of science who were Christians

Sir Isaac Newton (1642-1727) developed theories of light and of universal gravitation and shares with Leibniz the honor of inventing calculus. Newton's science was closely related to his theology. In the General Scholium of his *Principia*, he states that its purpose was to establish the existence of God. It was to combat atheism, challenge the mechanical explanation, and point to the need for a wise and benevolent deity and an intelligent Creator. He wanted certainty in his beliefs and to use the Bible as a clear rule, so he had a well defined set of rules for interpreting the Bible. John Locke said that Newton had few equals in Bible knowledge. Newton believed that he was part of a remnant, chosen by God to restore the interpretation of the Bible. Later in life he wrote on prophecy and the chronology of ancient kingdoms. (Westfall)

The Christian founding fathers of science represent various disciplines. Blaise Pascal (1623-1662) was a brilliant mathematician who became a devout Christian at age 31. He carried with him all his life a description of that experience. In his *Pensées* he has valuable insights into the relation between science and religion. Robert Boyle (1627-1691) was founder of the Royal Society in London and is sometimes called the father of modern chemistry. His scruples in matters of religion prevented him from taking the oaths required of a president of the Royal Society, which he thus declined. In his will he left an endowment to provide sufficient income for an annual lectureship to combat the atheism widely professed by wits in taverns and coffeehouses. Louis Pasteur (1822-1895) made advances in biology and demonstrated that spontaneous generation did not occur. He could not understand those who affirmed that matter had organized itself and were not moved by the Infinite Power who created the worlds. William Buckland (1784-1856), a professor of geology at Oxford, was known for his systematic study of Great Britain's geologic structure, and twice served as president of the Geological Society. He was a committed Christian and Anglican clergyman and wrote a two-volume treatise entitled, *Geology and Mineralogy Considered With Reference to Natural Theology*.

Several other of the founding fathers of science were clergy. Nicolaus Steno (1638-1686) developed principles for describing sedimentary rocks that are still in use today. In his later life he turned from science to theology and was ordained a Catholic priest. He took the vow of voluntary poverty, gave all his possessions to the poor, and finally died from an ordeal of poverty and fasting. Gregor Mendel (1822-1884), an Austrian monk, did experiments on garden peas to study patterns of inheritance.

Some ideas for basic scientific principles were take from Scripture. Lord Kelvin's (1824-1907) second law of thermodynamics, that the dissipation of energy is a universal feature, was based on two of his deepest commitments: universal natural law is created and governed by divine power, and the world is progressively developing toward an inevitable end. He summarized his belief by quoting Psalm 102:26, "all of them shall wax old like a garment". Carolus Linnaeus (1707-1778) is considered the father of taxonomy and instituted the binomial (two word) nomenclature still used today to define genera and species. The Linnaean system was inspired by his

search for the distinct "kinds" of created organisms mentioned in Genesis. Johannes Kepler (1571-1630) found that the doctrine of the Trinity suggested the three part heliocentric system of the sun, the fixed stars, and the space between them.

Present-day scientists who are believers

Although not often realized, there are many present day scientists who are also believers. *The Skeptical Inquirer* may be an unlikely place to find some examples, but several are mentioned by Tom McIver, an anthropologist at UCLA. Wernher von Braun was a chief rocket engineer for the German V-2 program in World War II. In the 1960s he was director of the Marshall Space Flight Center and an administrator for planning at NASA headquarters until 1972. He wrote a forward to the 1971 Pacific Press book, *Creation: Nature's Designs and Designer* in which he says:

> Manned space flight is an amazing achievement, but it has opened for mankind thus far only a tiny door for viewing the awesome reaches of space. An outlook through this peephole at the vast mysteries of the universe should only confirm our belief in the certainty of its Creator.

McIver mentions Frank Borman's reply to a Soviet cosmonaut about not seeing God in space: "I did not see Him either, but I saw his evidence." James Irwin formed the evangelical High Flight Foundation the year after he walked on the moon and nearly lost his life on Mt. Ararat leading a High Flight expedition searching for Noah's Ark. When Irwin was asked what he would have said were he able to dialogue with God while on the moon, he answered: "I would have said, 'Lord, is it all right if we come to visit this place?'" And how did he think God would answer? "'It's all right as long as you give Me the honor.'" (Kossick)

Walter L. Bradley served as head of the department of mechanical engineering for 4 years at Texas A&M and later as a professor and Senior Research Fellow. He has received over US$3,000,000 in research grants and contracts resulting in the publication of more than 80 technical articles. In the spring of 1987 while on business at Cornell University, he agreed to give a Campus Crusade for Christ presentation, entitled "Scientific Evidence for the Existence of God". He says, "As I gave my presentation with eagerness that evening, I knew God was doing something special in and through my life." Over 500 students and faculty attended and a lively discussion lasted past midnight. Since then, similar lectures have been greeted with an overwhelmingly positive response at many of the major US universities. (Bradley)

Henry Schaefer is the director of the Center for Computational Quantum Chemistry at the University of Georgia. He is a five-time nominee for the Nobel Prize and was recently cited as the third most quoted chemist in the world. In a *U.S. News & World Report* article on creation, he is quoted as saying, "The significance and joy in my science comes in those occasional moments of discovering something new and saying to myself, 'So that's how God did it.' My goal is to understand a little corner of God's plan." After evaluating the cosmological evidence, Schaefer comes to the conclusion that a Creator must exist; he must have awesome power and wisdom; and He must be loving and just. Each of us falls hopelessly short of the Creator's standard, but He has made a way to rescue us if we trust our lives to Jesus Christ. (Schaefer)

CONCLUSION

A Christian believes that reality consists of more than science can address. The miracles recorded in the Bible, especially the incarnation and resurrection of Jesus Christ (the heart of Christianity), cannot be studied by the scientific method. These supernatural events are not presently occurring and thus are not observable, repeatable, reproducible events. In addition, science provides no absolute standard for answering moral and ethical questions, and science has difficulty providing purpose and meaning to life since it cannot conquer death.

It is true that reason and evidence are important for faith (Isa. 1:18; I Thess. 5:21) and God provides evidence that appeals to the reason—the miracle of life, fulfilled prophecy, changed lives, and moral instincts. Likewise, God sustains His creation by natural laws that require reason to understand. However, human reason has its limits; God is too big for us to ever fully comprehend (I Cor. 1:19-29). Room for doubt will never totally be

removed (SC 105-113), because our understanding is finite. Pride would be no hinderance to a belief in God if it were based on human reason alone (DA 455), but faith is based on more than just the evidence of the senses (DA 406).

Both faith and reason are needed in a complete world view, and finding a reasonable faith is a continuing process. (5T 698-711) It is not a completed conclusion, because only part of the data is available, and we only know a few of the possible interpretations; therefore, tolerance should be extended to others who see things differently. In the process, one expects not to have all the answers and not to have complete harmony. There is no need to fear looking at all the evidence; faith should be able to withstand the most careful scrutiny.

How then should reason be used in relation to faith? It can suggest to the unbeliever that his world view doesn't fit with reality, and to one who is weighing the evidence that science does not need to stand in the way. For the believer, reason and evidence serve to confirm a faith that is already present. However, scientific evidence is not a proof for God or Christianity and our apologetic cannot be to convince by reason alone. In the end, the best argument for faith is not impersonal facts, but the life of the believer.

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