CREATION RESEARCH AND ITS IMPLICATIONS FOR SCIENCE

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CHRISTIANITY AIDING THE DEVELOPMENT OF SCIENCE

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INTRODUCTION

Warfare and conflict are often what come to mind, when thinking about the relationship between science and religion. The church's resistance to Galileo and his heliocentric system, Darwinian evolution, and a flat earth are the usual examples given. The two best-known Victorian versions of the thesis 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. (Cantor, p.290) It should be noted that the flat earth idea is really not even a valid example (Gould).

When taking science classwork, its relation to religion is rarely mentioned. The Christian framework in which science developed and the Christian beliefs held by many scientists are often not recognized. This discussion is to present some of the positive relationships between science and Christianity: the religious framework in which science developed in western Europe, the founding fathers of science who were devout Christians, and present day scientists who are believers. (Pearcey/Thaxton, p.17-42)

THE DEVELOPMENT OF SCIENCE IN A CHRISTIAN CULTURE

From the Judeo-Christian monotheistic heritage, God is seen as a the law giver. His creation should then be amenable to study using rational inquiry to study cause and effect relationships. (Bynum/Brown/Porter, p.376) The personal God of Christianity is separate from nature, making abstract laws for nature reasonable. This is in contrast to the irrational, arbitrary gods of other cultures. Polytheism and warring factions would result in a natural world where rational inquiry would be useless. And the impersonal gods who

are part of nature would make abstract natural laws unrealistic. (Needham, p.327,328; Whitehead, p.18,19)

The Genesis account of creation shows God creating a world that is good, thus it is worthy of man's study. Manual labor to study the world is not degrading (Clark, p.21). For the Christian, and especially in the Puritan work ethic, science was an attractive vocation. It's goal was to give glory to God. (Deason, p.171,172) The Royal Society in England was largely begun by Puritans (Clark, p.16,22). In other religions, the puny goods might be envious if man came to understand nature (Clark, p.22). There was a fear of enquiry that was banished by love in Christianity (Clark, p.23). The biblical account sees time as linear, progressing in one direction from a creation to an apocalypse, rather than cyclical. God was free to create in anyway He chose, therefore man must study nature to find out how it worked. One doesn't learn about nature from the authorities, but from nature itself. (Brown/Bynum/Porter, p.376) This is in contrast to Greek culture where philosophy was held in high regard, but manual labor was for the slaves. (Hooykaas, p.78-85) Nature could only operate in one way. Philosophy could determine that way, so there was no need to experiment. The real world was not perfect anyway and would quite likely give erroneous results. Only the ideas were perfect.

So we find that the Christian picture of God (lawful and personal) 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. (Lindberg, p.149,150)

SIR ISAAC NEWTON

Sir Isaac Newton (1642-1727) is a fascinating example of a preeminent scientist who was also a devout believer, although in some ways unorthodox. He developed theories of light and of universal gravitation and shares the honor of inventing the calculus with Leibniz.

As a child growing up, his father died and his mother remarried. His step-father had little use for Isaac. He had trouble developing companionship. At age 20, Newton underwent some sort of religious crisis. At least he felt impelled to examine the state of his conscience and to draw up a list of his sins before that date. The list included:

"Having uncleane thoughts words and actions and dreamese." He had not kept the Lord's day as he ought: "Making pies on Sunday night"; "Squirting water on Thy day"; "Swimming in a kimnel [a tub] on Thy day"; "Idle discourse on Thy day and at other-times"; "Carlessly hearing an committing many sermons." He had not loved the Lord his God with all his heart and with all his soul and will all his mind: "Setting my heart on money learning pleasure more than Thee"; "Not turning nearer to Thee for my affections"; "Not living according to my belief"; "Not loving Thee for Thy self"; "Not desiring Thy ordinances"; "Not fearing Thee so as not to offend Thee"; "Fearing man above Thee"; "Neglecting to pray." (Westfall, p.17,23)

In studying Christian theology he wrote in his notebook a list of headings for topics to study (Westfall, p.120). 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. (Westfall, p.129) John Locke said that Newton had few equals in Bible knowledge (Westfall, p.199). Newton believed that he was part of a remnant, chosen by God to restore the interpretation of the Bible (Mandelbrote, p.299). He was charitable with his money (Westfall, p.308). His humility is seen in his comment:

I don't know what I may seem to the world, but, as to myself, I seem to have been only like a boy playing on the sea shore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me. (Westfall, p.309).

One relative and biographer has described his life as "one continued series of labour, patience, humility, temperance, meekness, humanity, beneficence & piety without any tincture of vice", (Westfall, p.306) although this might be seen as the product of hero worship. He believed that the ancient texts provided science information (Shea, p.681), including a description of a recent creation and catastrophic destructions (Westfall, p.309). Later in life he wrote on prophecy (Brooke, p.178-180) and the chronology of ancient kingdoms (Harrison, p.30). It is said that a nervous breakdown in 1693 ended his scientific contributions, and redirected his efforts toward theology. Although this may be partially true, he had done considerable study in theology before and did some important scientific research afterward. (Westfall, p.217)

As with any human, this is only one side of the picture and hero worship can be dangerous. Newton's heterodoxy was not realized until the 20th century (Westfall, p.304). He believed in the primacy of scripture, but he questioned its inspiration in places. He admitted the Mosaic account, but checked it against other ancient testimony (Westfall, p.139). And he believed there were corruptions (Mandelbrote, p.284). In particular, he believed that one corruption was the trinitarian texts. He was Arian in belief and considered that the worship of Christ was idolatry. Because of his unorthodoxy he would not take orders at Cambridge (Westfall, p.130). He wanted to be sure of the fundamentals of Christianity and considered that to be the religion of Noah: love for God and man that Christ later enunciated (Westfall, p.138,303; Mandelbrote, p.283). Probably because of his unorthodox beliefs, he felt that religion should be more tolerant, although he was not very tolerant of the Roman Catholic church (Mandelbrote, p.285,287,288). He was deeply interested in the Mosaic chronology and authored The Chronology of Ancient Kingdoms Amended, and also talked vaguely and suggestively of other worlds formed before the creation of the Earth (Harrison, p.30). He disguised his radical theology as chronology to Caroline, princess of Wales (Westfall, p.300; Harrison, p.30).

Later in life he was more willing to compromise (Westfall, p.241). Although at one time he was willing to surrender his fellowship rather than give up his unorthodox beliefs, later in life he cultivated orthodoxy (Westfall, 302). Although he would not take the sacraments before his death, he wanted no one to know (Westfall, 310).

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 (Westfall, 205,290; Clark, 12; Brooke, p.169; Mandelbrote, p.292,300). It was to combat atheism (Mandelbrote, p.292), challenge the mechanical explanation, and point to the need for a wise and benevolent deity and an intelligent Creator (Harrison, p.27). He believed that the universe was governed by general, natural laws set up by God, but preserved by special providence, i.e., aided by supernatural acts, such as comets (Harrison, p.27; Mandelbrote, p.290).

Bentley gave the first of the lectures established by Boyle to defend religion. In so doing he drew heavily on Newton: the belief that the universe was not mechanical alone, but required an intelligent Creator (Westfall, p.205). Bentley wanted neither self-sufficient natural laws nor ad hoc miracles, but instead wanted natural laws aided by supernatural acts (Harrison, p.27)

MICHAEL FARADAY

Historians have argued that science is opposed to revealed theology, but the example of Michael Faraday (1791-1867) effectively refutes this viewpoint. He was a leadingþpossibly the leadingþscientist of his generation. He is known for his pioneering work in electricity and magnetism, including the concept of electric fields. He is honored by having the unit of capacitance named after himþthe farad. He was also a fully committed Christian who based his religion on a literal interpretation of the Bible (Cantor, p.10). As Faraday told Ada, Countess of Lovelace, he belonged to "a very small and despised sect of Christians, known, if known at all, as Sandemanians". (Cantor, p.34) He viewed his Sandemanian membershipþits Christian beliefs, practices and fellowshipþas more important than his career in science (Cantor, p.72).

Discipline was a key term for the Sandemanians, who accepted the Bible not only as the basis for all action but also as the rule-book for church organization. It was a unified group who achieved an extraordinarily high degree of consensus. The periphery of the group was sharply bounded and there could be no intermediate position. (Cantor, p.33) Throughout their history the Sandemanians have endeavored to keep themselves distinct from all other religious groups in the belief that they alone are accurately following the directions given in the Bible (Cantor, p.87). They considered themselves set apart from the world (Hunt, p.1059).

For his admission to the church, Faraday would have been required to demonstrate before the assembled congregation his faith in the saving grace of God and his commitment to live in imitation of Jesus Christ (Cantor, p.60). Faraday lived by the Bible and by the demanding discipline imposed by the Sandemanians. His Christianity was not limited to Sunday observance but infused all aspects of his lifeþhis social intercourse, his views on social and political issues and his science. Every Sunday morning and Wednesday evening he would leave the Royal Institution and travel to the meeting house in the Barbican. His normal practice of the elder's duties would include most obviously his participation in the Sabbath services, including the exhortations that he was expected to

deliver. He performed numerous pastoral duties among the London brethren, such as visiting those in need and tending to them, both materially and spiritually. (Cantor, p.64-66)

Although it has been suggested that Faraday had a passionate temperament, suffered from clinical insanity for several years (Koestler, p.688), and seethed like a volcano internally, there seems to be little evidence to support it (Cantor, p.263). His contemporaries almost unanimously described him as kind, gentle, unassuming, and honest (Williams, p.122). He consistently expressed his disinterest in a knighthood, since he believed that the British honors system was corrupt (Cantor, p.101). His income was small compared with what he might have obtained as a leading scientific lecturer and researcher (Cantor, p.109). He felt that no God-given moment should be wasted. His time had to be strictly controlled. (Cantor, p.111) Although Sandemanians emphasized sobriety, they did not forsake worldly enjoyments. They saw no need to abstain from such social pleasures as the theater or alcohol, provided that these were undertaken in moderation. For relaxation Faraday sang, visited the theater, concert hall or the opera. Popular novels were another source of enjoyment, and he preferred the meat and wine of life to its locusts and wild honey. (Cantor, p.112,113)

Faraday is seen as a man with a deep fear of "confusion" of any kind and a strong need to order his environment, themes that pervaded both his science and his religion (Cantor, p.283). Faraday's religion affected his science, notably in his conviction that nature was orderly and "economical" and that divinely ordained natural powers were indestructible, and in his caution about the speculative interpretation of experimental factsþa caution that parallelled the Sandemanians' adherence to the literal word of the Bible, without interpretation. Indeed, Sandemanian "exhortations" consisted of (carefully chosen) Biblical passages strung together with a minimum of connecting material, just as Faraday's scientific papers ideally consisted of (carefully chosen) descriptions of experimental facts strung together with a minimum of speculative interpretation. (Cantor, p.65; Hunt, p.1059)

He was appointed to the elder's office in October 1840. This election was one of the most important events in his life. For the next 3 1/2 years he played a leading role in Sandemanian community. However, on 31 March 1844 he was excluded from the sect. The reason usually given for his exclusion is that he was invited to visit the Queen one Sunday early in 1844. By responding to the summons he failed to appear at the meeting house that Sunday. In the published source for this incident, the reason Faraday was excluded was not so much that he accepted the Queen's command, as that he was not repentant but insisted on defending his action. Although there are reasons to question this exact explanation, the exclusion did result from a dispute over discipline. The exclusion affected Faraday deeply, however, he was restored to the community a month later, having expressed his sincere repentance. (Cantor, p.61-64) His exclusion lasted 5 weeks, but it was a further 16 years before he was re-elected to the elder's office. He was then an elder for a further 4 years after which he resigned, due to the offer of the Presidency of the Royal Institution. He had been asked to be the president in 1848 and 1858, which he refused (Cantor, p.134). When asked again in 1864 he resigned the office of elder due to

the crisis (Cantor, p.279). If he had undertaken the Presidency, he would have run the risk of compromising his Sandemanian faith, and of a second and final exclusion (Cantor, p.275,278).

OTHER EXAMPLES OF THE AFFECT OF CHRISTIANITY ON SCIENCE

Nicolas Copernicus (1473-1543) was an astronomer and canon (staff clergyman) in Poland, though he never went on to become a priest (Hummel, p.41). His research he regarded as `a loving duty to seek the truth in all things, in so far as God has granted' (Peacock, p.147).

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 (Koestler, p.125).

Francis Bacon (1561-1626) predicted that any effort to mix science with theology would come to no good end. He says:

. . . some of the moderns have indulged this folly, with such consummate inconsiderateness, that they have endeavoured to build a system of natural philosophy on the first chapter of Genesis, on the Book of Job, and other parts of Scripture. . . . And this folly is the more to be prevented and restrained, because not only fantastical philosophy but heretical religion spring form the absurd mixture of matters divine and human. (Albritton, p.40)

Blaise Pascal (1623-1662), brilliant mathematician, became a devout Christian at age 31. He carried with him all his life a description of that experience. (frag. 913, p.309) In his Pensees he has some valuable insights into the relation between science and religion. God wishes to move the will rather than the mind. Perfect clarity would help the mind and harm the will. (frag. 234, p.101) so: There is enough light for those who desire only to see, and enough darkness for those of a contrary disposition. (frag. 149, p.80) If there were no obscurity man would not feel his corruption: if there were no light man could not hope for a cure. Thus it is not only right but useful for us that God should be partly concealed and partly revealed, since it is equally dangerous for man to know god without knowing this own wretchedness as to know his wretchedness without knowing God. (frag. 446, p.167) He believed that it was useless to try to prove the Bible, because it wouldn't help the atheist and the Bible is sterile without Christ. (frag. 449, p.169)

Robert Boyle (1627-1691) was founder of the Royal Society in London and is sometimes called the father of modern chemistry (Peacock, p.149). He had a deep theological commitment and was well known for his piety and his scruples in matters of religion. This prevented him from taking the oaths required of a president of the Royal Society, which he thus declined. He believed there were things we could never know, but that God's purposes were not completely inaccessible to us. God created and supported the world directly, just as He dealt directly with the believer. (Knight, p.200) 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 (Harrison, p.24).

Nicolaus Steno (1638-1686) was a professor of anatomy and later 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. From one of his public lectures is a line that is often quoted: "Beautiful is that which we see, more beautiful that which we know, but by far the most beautiful that which we do not comprehend." (Albritton, p.22,34,38)

Lord Kelvin's [William Thomson] (1824-1907) second law of thermodynamics, that the dissipation of energy is a universal feature, was directly related to his theology. Here he unified 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". He believed that God alone could restore the original distribution or arrangement of energy in the created universe. (Smith/Wise, p.317,331,332,497; Clark, p.14) Related to this, Kelvin objected to evolution by blind chance. He believed that life proceeds only from life, that it is a mystery and a miracle, and was designed and guided by a Creator. However, he accepted long times for an evolution guided by a Creator. (Albritton, p.184,185)

James Clerk Maxwell's (1831-1879) abstract equations of the electro-magnetic field were comparable to his religious beliefs conceived in symbolic, almost abstract terms. Maxwell renounced physical models represented in terms of sensory experience. He proceeded from the contemplation of material relationships to spiritual truth, as he did from the model of the electro-magnetic field to the equations. This is in contrast to Faraday's fundamentalist creed and his lines of force that were "as real as matter". Maxwell was aware of the limitations of a rigidly deterministic outlook and replaced mechanical causation by a statistical approach. This was a decisive step towards quantum physics and the principle of indeterminism. He ridiculed the shallow materialism of the Philistines (Koestler, p.689- 691):

In the very beginning of science,

the parsons, who managed things then,

Being handy with hammer and chisel,

made gods in the likeness of men;

Till Commerce arose, and at length

some men of exceptional power

Supplanted both demons and gods by

the atoms, which last to this hour.

From nothing comes nothing, they told us,

nought happens by chance but by fate;

There is nothing but atoms and void,

all else is mere whims out of date!

Then why should a man curry favour

with beings who cannot exist,

To compass some petty promotion

in nebulous kingdoms of mist? ...

Maxwell made a deep seated and permanent faith commitment at age 22. He came away from the establishment, from his upbringing in the Church of Scotland and the Church of England in his very personal religious quest. After his religious conversion, he was sure that the basis of religion did not lie in rationalist elaborations. (Theerman, p.312) Maxwell freely acknowledged that science should never be considered a guide to religious truth. "The rate of change of scientific hypothesis is naturally much more rapid than that of Biblical interpretations." Movements from science to theology may be more than illegitimate, they may be dangerous for believers. (Theerman, p.316)

Gregor Mendel (1822-1884), an Austrian monk, did experiments on garden peas to study patterns of inheritance. ((Keeton, p.583))

Louis Pasteur (1822-1895) looked for spontaneous generation for 20 years without finding it. Concerning this he said, "Science should not concern itself in any way with the philosophical consequences of its discoveries." Whether the facts he had discovered supported spontaneous generation or refuted it, it was too bad for those whose philosophical or political ideas were hindered by them. However, he also made it clear that in his beliefs and conduct of life, he took more into account than acquired science. He believed there were two distinct domains in man, the scientist and the man of sentiment and belief, and "woe to him who tries to let them trespass on each other in the so imperfect state of human knowledge." He could not understand certain givers of easy explanations who affirm that matter has organized itself, and who [consider] as perfectly simple the spectacle of the Universe of which Earth is but an infinitesimal part, [and] are in no wise moved by the Infinite Power who created the worlds." And it says that with his whole heart he proclaimed the immortality of the soul. (Vallery- Radot, p.242-244,342; Meadows, p.169,175,176)

At that time, when triumphant Positivism was inspiring many leaders of men, the very man who might have given himself up to what he called "the enchantment of Science" proclaimed the Mystery of the universe; with his intellectual humility, Pasteur bowed before a Power greater than human power. "Positivism," he said, "does not take into account the most important of positive notions, that of the Infinite." He wondered that Positivism should confine the mind within limits. (Vallery-Radot, p.342,343)

Scientists have used religious ideas in developing their scientific models. Benjamin Franklin (1706-1790) may have arrived at his concept of the conservation of matter, from his belief in the conservation of souls. He believed that souls are immortal and cannot be destroyed, only transformed. (Koestler, p.686) Marconi apparently came upon his idea of wireless waves extending beyond the horizon, remembering that the human mind knows no barriers to God, but can reach Him by prayer (Clark, p.50). Thomas Edison (1847-1931), while searching for a material from which to make electric light filaments said, "Somewhere in God Almighty's workshop is dense woody growth, with fibers almost geometrically parallel and with practically no pith, from which we can make the filament the world needs." (Clark, p.51)

COMMENTS ON THE PHILOSOPHY OF SCIENCE AND THE SCIENTIFIC METHOD

The relation between science and religion were important for the early scientists. The religious motivation of the scientists was made explicit in their papers (Webster, p.213). They believed that facts should first be presented in a scientific paper in as impersonal a manner as possible and only at the end would they present their own conclusions. This would belittle their own opinions so that the facts of nature and not man's cleverness in interpreting them, would form the basis of science. God, not man, knew the meaning of the phenomena (Clark, p.18).

The Bridgewater treatises were published under the auspices of the Royal Society. Each was written by an eminent scientist in his own field and was designed to show the wisdom and goodness of God in creation. (Clark, p.15)

Scientific journals of the last 100 years still refered to the relation of God to the physical world. The purpose of the Physical Review, the journal of the American Physical Society, was to understand the physical character of nature. These efforts were similar to those of the Silliman Lectures on Science, which had begun at Yale University: "to illustrate the presence and providence, the wisdom and goodness of God, as manifested in the natural and moral world." (Adair/Henley, p.22) Sir J. J. Thomson's inaugural presidential address to the British Association is recorded in the August 26, 1909 issue of Nature. He concludes by saying,

"As we conquer peak after peak we see in front of us regions full of interest and beauty, but we do not see our goal, we do not see the horizon; in the distance tower still higher peaks, which will yield to those who ascend them still wider prospects, and deepen the

feeling, the truth of which is emphasized by every advance in science, that `Great are the Works of the Lord.'"

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.

I find it as difficult to understand a scientist who does not acknowledge the presence of a superior rationality behind the existence of the universe as it is to comprehend a theologian who would deny the advances of science. And there is certainly no scientific reason why God cannot retain the same relevance in our modern world that He held before we began probing His creation with telescope, cyclotron, and space vehicles.

Our survival here and hereafter depends on adherence to ethical and spiritual values. Through science man tries to harness the forces of nature around him; through religion he tries to control the forces of nature within him and find the moral strength and spiritual guidance for the task that God has given him.

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." Jack Lousma, another astronaut, writes: "If I can't believe that the spacecraft I fly assembled itself, how can I believe that the universe assembled itself? I'm convinced only an intelligent God could have built a universe like this." John Glenn has appeared in the Moody Institute of Science "Sermons from Science" films to affirm how trust in flight instruments increased his faith in God. Charles Duke testifies that he studied geology at NASA but discovered that science is always changing and concluded that evolution was more a matter of faith than was creation. 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. (McIver, p.263,271) 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, p.9)

Robert Jastrow, founder and director of the Institute for Space Studies at the Goddard Space Flight Center, writes frequently about science's confirmation of theism. He considers evolution "plausible" but not "certain". In a recent book, he and others attack "naturalistic" science for neglecting God and the supernatural. They also get in some digs at the young-earth creationists, who they feel give creationism a bad name. (McIver, p.271,274) In his book, God and the Astronomers, he says:

For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries. (Jastrow, p.116)

John Polkinghorne, a former mathematical physics professor at Cambridge University and Fellow of the Royal Society, began to train for the Anglican priesthood in 1979. In his book, One World: The Interaction of Science and Theology, he says:

The rational order that science discerns is so beautiful and striking that it is natural to ask why it should be so. It could only find an explanation in a cause itself essentially rational. This would be provided by the Reason of the Creator ... we know the world also to contain beauty, moral obligation and religious experience. These also find their ground in the Creatorþin his joy, his will and his presence. (Polkinghorne, p.79)

A recent book has been published entitled, Cosmos, Bios, Theos: Scientists Reflect on Science, God, and the Origins of the Universe, Life, and Homo Sapiens. In it, 60 leading scientists, including 24 Nobel prizewinners, answer questions about science and God. Arthur L. Schawlow is a Professor of Physics at Stanford University and shared the 1981 Physics Nobel Prize with Bloembergen and Siegbahn for their contribution to the development of laser spectroscopy. Schawlow says:

It seems to me that when confronted with the marvels of life and the universe, one must ask why and not just how. The only possible answers are religious. . . . I find a need for God in the universe and in my own life. (Margenau/Varghese, p.105)

Walter L. Bradley spent 8 years as a professor at the Colorado School of Mines and is currently at Texas A&M University. At Texas A&M he served as head of the department of mechanical engineering for 4 years, and is now 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 most of the major US universities. (Bradley)

Henry "Fritz" Schaefer is the Graham Perdue Professor of Chemistry and 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. (Sheler/Schrof, p.62) 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

Although there is a definite tension between Christianity and science, it is often over emphasized. There are many distinctly positive interactions between the two. Christianity had an important part in the development of science in western Europe and many of the founding fathers of science were devout Christians. They saw God's finger in Nature, and used theological arguments with their science. (Brown/Bynum/Porter, p.376) Today, even in our secular world, we continue to find affirmations of faith among the scientific community.

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What changes would a creationist make to scientific research directions that are presently done from an evolutionist point of view ?

Different presumptions :

Divine guidance for researchers (based on personal creator)

Absolutes (supernatural revelation - Judeo-Christian)

Different assumptions :

Philosophy of science - original cause/random chance - intelligent creator/theory of chaos

An approach to the question of beginnings would be entirely different if the primal assumption is that of an original Creator. The focus would be to elucidate the perceived qualities and/or characteristics of the Creator through His works (Rom 1:18-24).

Biological Sciences - Law of biogenesis/life from non life, origin research

(Biology : A search for Order in Complexity, 1970. John N. Moore and H. Slusher)

Instead of curing symptoms of disease or biological malfunctions, one would try to discover the innate pre-designed repair and homeostatic systems already present in the organism.

A complete revamping of cladistics and phylogenetic systematics. A re-analysis of virtually the whole field of taxonomy based on differences rather than evolutionary similarities. Some interest should be generated concerning archetypes (original types).

Genetics and biochemistry - Mutations/Genetic manipulation, Ethics (see below)

Research concerning the ability for the DNA to repair itself. Another area of research might be pre-flood genetics (i.e. ferns - fossilized phenotypic expressions are suspiciously similar to the same plants today. Maybe the genetics are very similar and this expression is the result of the environment).

Human Genome Project

Earth Sciences - Recent catastrophism/uniformitarianism, Continental plate

movement/hydroplate theory, dating methods.

Re-interpretation of the "geologic column" based upon flood models.

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Physics - New approaches to classical physics/Quantum Mechanics, Creationist cosmology/Big Bang.

Reference : Starlight and Time, D. Russell Humphreys, 1995

Pre-flood environment -

Pre-flood canopy : Research into higher atmospheric pressure, greater terrestrial magnetic field, possibly higher O2 concentrations, high humidity (no rain), stable temperature. Effects on life span, snake venom, fauna and flora phenotypes, etc.

Paleontology - Classification, Pre-flood phenotypic variability.

Research into the actual formation of fossils. Increased understanding of petrification and semi-petrification. Examination of non-fossilized findings.

Space research - /SETI, Life on Mars, water on the moon, UFO's

Building of a creationist observatory. Increased understanding of the Creator's extraterrestrial design and possible implications for use on earth.

Environmental research - stewardship of earth/new age Gaia modeling.

Research would include sustainable agricultural practices, use of bacteria to "fix" present problem situations, etc.

What would a creationist research ethic look like ?

Developmental procedures : Ethic position papers to be written by Judeo-Christian university and college department heads, and/or others, for each field of research or scientific field. Procedures and choice of ethical standards would be developed with the aid of pastors, ministers, rabbis, researchers, Judeo-Christian businessmen/women, Judeo-Christian politicians.

Possible enactment : Establishing of a Committee of Christian Research Scientists (CCRS) which would oversee the implementation of a voluntary research ethic based upon biblical absolutes and stewardship responsibilities. The publicizing of a Christian Research Ethical Standard Oath which involves Honesty, Cooperation, Love and Responsibility for the rest of God's creation.

For then shall be great tribulation such as was not since the beginning of the world to this time, no, nor ever shall be. And except those days should be shortened, there should no flesh be saved; But for the elect sakes those days shall be shortened (Math 24:21-22).

Rev 8:7-11

For I reckon that the sufferings of this present time are not worthy to be compared with the glory that shall be revealed in us. For the earnest expectation of the creature waiteth for the manifestation of the sons of God...

Because the creature itself also shall be delivered from the bondage of corruption into glorious liberty of the children of God. For we know that the whole creation groaneth and travaileth in pain together until now. (Rom 8:18-22).