

Communications

THE INTEGRATION OF FAITH AND SCIENCE LEARNING

A major concern of Christian teachers is the integration of faith and learning, and the relationship between academic disciplines and Christian faith and behavior. One of our goals as teachers is to define and articulate an integrated relationship in the classroom. Unfortunately, with respect to the natural sciences, a well-balanced, mutually supportive relationship is often obscured by overly zealous Christians who feel that integration of faith and learning means either using aspects of science to support biblical truth, or defending the integrity of Scripture against perceived scientific attacks. In both cases there is a lack of scientific understanding.

One of the primary assumptions in modern science is "tentativeness." Scientists know very much about the natural world, but, nonetheless, in science there is rarely indisputable proof of hypotheses and certainly no absolute truth. All facts, hypotheses and theories are subject to changes in the light of further discovery, evidence and insight. When a Christian then uses a discovery or tenet of science to support a biblical truth, which he undoubtedly holds as absolute, he is using evidence which by nature is tentative. What happens at a later time when scientists alter or overthrow that tenet? The argument for biblical truth is damaged, for one is led to conclude that the biblical truth is just as tentative as the scientific truth that was used to support it.

The assumption of scientific tentativeness should also be remembered when one perceives a scientific threat to Scripture. For over 100 years now, the best example of such a threat has been the General Theory of Organic Evolution. Christians need to remember that despite claims that sound like absolute truth, evolution is a theory, albeit an important one. It is one that has changed significantly since Darwin's first conception of it, and remains a theory subject to revision. There are, of course, people who try to use scientific theories against biblical truth. They do this with some success, but oftentimes Christians play into their hands by allowing themselves to be provoked with phantom issues.

The relationship between Christian faith and science has little to do with arguments between the two, or with the using

of one to support the other. In the past, the relationship was one of presuppositions which predisposed a Christian-oriented society to pursue scientific knowledge. These presuppositions included the belief in an orderly physical world, and the reality of cause and effect. Today it is hard for us to see that relationship because science has become known for its highly prized technological applications. Nations that have had little Christian influence pursue science zealously because they associate science with technological advancement. Yet for Christians, faith should still be a motivation to pursue basic scientific knowledge. By this we demonstrate our belief that God has wrought a good creation; and as our knowledge of the natural world increases, so does our awe of the Creator.

Presuppositions of Science and the Biblical World View

In 1961, the late Georgetown historian Carrol Quigley published a fascinating, perspicacious study of civilizations, *The Evolution of Civilizations*. He noted that although regions within any civilization often vary considerably, no region can be adequately described without reference to ideological elements that are common to the civilization as a whole. In Western civilization, for example, whether one is describing Greece or the USA, Poland or Australia, the description will be incomplete without terms such as Judeo-Christian, scientific, industrial, and capitalistic. Quigley gives these and nine other terms as examples, but the first two are the pertinent ones for this essay. Western civilization is both Judeo-Christian and scientific. Quigley, who was not an evangelical Christian, rejected the notion that this concurrence was a mere fortuitous circumstance. He considered all ideological elements of a civilization to be interrelated.

The particulars of the relationship between Judeo-Christianity and science is the scholarly work of R. Hooykaas, an Utrecht professor of the history of science. He points out that while science has flourished from time to time in other civilizations, the expansive and technologically fruitful discipline of modern science arose only in the West. Even the

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Islamic civilization, which shares with the West classical Greek roots and whose science and development during the Middle Ages far exceeded that of the West, failed to develop a modern science. In the history of science one finds that the Hebrews made few lasting material contributions to science, but their Bible has endured and influenced the way in which Westerners perceive the world. That influence is a salient distinctive of the West, and modern science is in part the product of it.

Just how is it that Westerners "see" the world, and in what manner is that vision biblical? After all, not that many Westerners consciously think of their cognitive processes as being biblically influenced. Nevertheless, the Bible has influenced Western thinking in many ways. The influences pertinent to science have to do with the reality and nature of the physical world, the nature and role of mankind, and the value of secular work. Since science is the study of the physical world it is easy to see that only those who are convinced of a "real" physical world will bother to pursue the study of it. Furthermore, one must be convinced that the real physical world is orderly and therefore understandable. Then one must be convinced that humans are capable of such understanding, and that it is proper and profitable to make the attempt. Finally, the efforts (particularly "hands-on" experimenting) made in such attempts must be esteemed in the society.

In the study of civilizations one can find a correlation between the lack of the above presuppositions and the stultification of science. Classical Greece is a case in point. Although known as the birthplace of science, it also could have been the deathplace save for Muslim and early Western scholars. One of the main reasons that Greek science did not continue to flourish was the pervasive notion that the world of ideas, concepts and philosophy was more real and certainly more important than the physical world. Thus, the Greeks denied themselves the essential experimental methods of science that must be coupled with theory and philosophy.

In contrast to Greek philosophy, the Bible clearly teaches that there is a real physical world. "In the beginning God created . . ." the world, and not only that, but God pronounced His creation good. Then He commissioned mankind to subdue and reign over creation (see Genesis 1). Here in these few words one finds the foundation of a world view that holds to a real physical, understandable world and sanctions the investigation of that world. Furthermore, the Bible is eminently historical. Abraham was called out of Ur. Moses led the Hebrews. Jesus the Nazarene was crucified at Golgotha. These historical events are physical events, and demonstrate to those influenced by the Bible the importance of the physical world. Furthermore, work is held in honor; all work, not just religious work. The best indication of this is that Adam was expected to till the soil even in the garden of Eden. If in Eden, that paradise, there was work to be done then work must be a part of that which is good and worthy of esteem.

There is much more that could be said on this topic, but in a nutshell these are the biblical influences on Western thinking that were and are so conducive to science. As Hooykaas has said metaphorically, "whereas the bodily

ingredients of science may have been Greek, its vitamins and hormones were Biblical." These vitamins and hormones are the biblically assured, understandable world, and the sanctification of work and inquiry.

Faith, Learning, and Responsible Action

A second aspect of the integration of faith and science learning ought to be the biblically motivated and directed responsibility to influence the development and deployment of applied scientific knowledge. One could argue that this responsibility is obligatory because of the positive relationship between biblically influenced thinking and the rise of modern science. More important, this responsibility is obligatory by virtue of the stewardship commands of the Gospel.

Although there are many things to which the Bible does not speak directly, Christians nonetheless find biblical principles for guidance in all areas of life. The control of the application of scientific knowledge is no exception. I would like to draw two principles from three verses of Scripture and apply them to two areas which are most perplexing. The verses are:

And God saw every thing that He had made, and, behold it -as very good. (Genesis 1:31a)

For God so loved the world, that He gave His only begotten Son ... (John 3:16a)

Therefore, all things whatsoever ye would that men should do to you, do ye even to them ... (Matthew 7:12a)

One sees in these verses that the earth is God's own creation, the Fall notwithstanding, and that the creation is good. It is seen that God has immense love for a special part of His creation, people, and that it is the law of God that people do good to each other. The principles are:

1. Because God created the earth and called it good, it is ungodly to commit wanton violence against that creation.
2. People, that special creation of God and loved by God, should not suffer violence, and moreover should be respected as God's loved ones.

Due to the Fall, we see in Scripture violence used to restrain evil, and thus have arisen concepts such as "The Just War." The justifiability of such violence does not however negate the above biblical principles of nonviolence and of doing good, in fact the Just War theory incorporates those principles. Those principles are a restraint that cause Christians to ask: Is this violence to God's creation and His loved ones necessary? And this is a question that must be asked today, unless Christians wish to abdicate their responsibility to help resolve today's foremost problem in the application of scientific knowledge; that is, the development of modern weapons, the use of which would destroy the world.

The development of weapons of mass destruction is the result of a foreign policy which the USA and the USSR have followed for thirty years, Mutually Assured Destruction, otherwise known as MAD. Christians-and remember that Christians make up a significant segment of the voting

public, and thus share responsibility for the actions of elected officials—must ask if this is a biblically defensible position. It appears that the policy has been effective in preventing a major war these past thirty years, but does a desired result justify a willingness to commit an action that is unbiblical? Remember that MAD has only been effective because each side has believed that the other side was willing to commit mass destruction, that each side was willing to literally destroy the earth in order to thwart the other side. Can any Christian seriously believe that God would for any reason condone this utter annihilation of His creation? This not only ignores God's principles of nonviolence and of doing good, but raises other conflicts with Scripture. If a Christian supports the development and use of weapons for the policy of Mutually Assured Destruction, is not his willingness to commit mass destruction in conflict with God's scripturally stated intention that Christ should return to an intact world? If ever there was an area which required the integration of Christian faith and scientific learning it is here in the development and use of modern weapons.

A second area where the application of scientific knowledge must be dealt with carefully is in the development and subsequent use of industrial technology. Especially in the West, people enjoy a comfortable standard of living largely due to industrialization, but there are also the perplexing difficulties of actual and potential pollution. Take, for example, the actual pollution of acid rain and the potential pollution of a chemical spill the magnitude of the recent spill in Bhopal, India.

On the surface, it would seem that this should be no problem, after all it is a silly bird that fouls its own nest. Yet one can find many existing cases of pollution and potential threats of pollution that people accept simply because the alternatives are deemed too expensive. Consider two examples. The technology for significantly reducing pollution caused by automobile emissions has been available for some time now, but attempts to mandate the use of that technology have been stoutly resisted. Unfortunately "dirty cars" are cheaper than "clean cars." Sometimes the use of a dangerous technology is desirable, but paying for the safe use of that technology is not. The chemical industry is a case in point. The public wants the products but they want them at a price that discourages a manufacturer from employing the safety practices that he should. It is hard to imagine a Christian saying to God that he polluted God's good creation and harmed God's loved ones because it was too costly to do otherwise, but in the final call to judgment that is what is going to happen.

The integration of faith and scientific learning requires first that Christians hold to true godliness, which mandates that one love, respect and preserve that which God loves and has called good. Second, all Christians need to be informed of what is happening on God's earth. It has been noted that for all too many Christians, world affairs stopped at 33 A.D., with the exception of the establishment of the modern state of Israel. Finally, the integration of faith and learning requires that Christians give voice to their consciences and act responsibly to influence the use of knowledge for the well-being of humanity. Today, scientific knowledge is

highly advanced and has already been used for many marvelous and God-honoring purposes. Yet that same knowledge holds the potential for creation-altering, evil effects which no Christian can ignore with impunity.

REFERENCES

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William W. Cobern
Department of Education
Austin College
Sherman, TX 75091