

Religion and Science in Christian Perspective

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INTRODUCTION

I want to begin by thanking the coordinators and sponsors of this Symposium for the invitation to speak to you today. In particular, I want to thank Professors Mel Stewart and Robin Wang from the American side, and Professors Zhao Dunhua and Zhang Zhigang from the Beijing side, for their hard work toward this international conference. It is an honor to be here.

For my presentation today I would like to consider with you the nature of the relationship between religion and the sciences. Religion and the sciences are often portrayed as mortal enemies locked in a struggle of such magnitude that one endeavor triumphs only by the death of the other. However, this essay is written with the conviction that religion and science are not truly at war, nor is religious faith an out-of-date superstition of the past, as some would have us believe. Rather, both religion and science should be understood as necessary components of a broader ethical worldview which reflects both dimensions — the material and the spiritual — of human thought and life.

For purposes of this essay, our examination of the relationship between religion and the sciences is organized around three questions. First, does science itself yield a worldview? Second, can science replace (or explain-away) religion? And finally, how can scientific knowledge work together with religious wisdom? In the course of this discussion I will present what I believe to be the proper relationship between

religion and science, and at the same time reject the view that science itself presents us (or ever could present us) with a complete worldview. I shall also reject the suggestion that in some way science must favor materialism (including, of course, dialectical materialism). I hope to convince you that a third option, a synthesis of religious teachings with the sciences in a broad worldview, is to be preferred. I will then close with some considerations of the Christian worldview as it impacts upon scientific inquiry.

As with most philosophical inquiries, we begin with a brief consideration of some key terms. Toward a more productive intellectual engagement I would like to clarify what I intend in my use of the terms "scientism", "religion", "worldview", "theology", and "science". By scientism I understand a materialistic or naturalistic worldview that places its faith in science and technology, and sees science as the best example (sometimes the only example) of the proper methods and aims of human knowledge. The basic tenet of such a faith was described by philosopher Patricia Churchland as follows: "In the idealized long run, the completed science is a true description of reality, there is no other Truth and no other Reality."^{1[1]} Marx would thus also qualify as a believer in scientism in the sense I am using it.

For scientism, modern science spells the end of any religious claim to truth. This perspective, arising out of the European Enlightenment, has had many important advocates in the history of Western thought. China too experienced a similar movement during the Republican period, influenced by the West, and supporting something like scientism.^{2[2]} The philosopher Bertrand Russell is certainly a good representative of this worldview in the West, as are well-known scientists such as B. F. Skinner and E. O. Wilson. Likewise, Chinese thinkers such as Hu Shih (1891-1962) felt that the triumph of Western science and technology called for a revolution in thought. A good example of such a perspective is geologist Ting

^{1[1]} Neurophilosophy (Cambridge, MA: MIT Press, 1986), 249.

^{2[2]} This debate is collected in the two-volume work, in Chinese, Science and the Philosophy of Life (ed. Ting Wen-Chiang and Chang Chun-li; Shanghai: Yatung, 1923) and in English is discussed in D. W. K. Kwok, Scientism in Chinese Thought, 1900-1950 (New Haven: Yale University Press, 1965).

Wen-Chiang, or V. K. Ting as he is called in the West (1888-1936), who confidently held that biology as a science resolved the ancient Chinese debate about the goodness (or evil) of humanity.^{3[3]}

By the term religion I mean a cultural movement and institution that includes a creed (or belief system), and cult (or ritual) and a code (or moral-ethical teaching). Religions unify and direct human life through a symbolic and behavioral pattern connecting people to the divine (or to Ultimate Reality as that religion understands it). A worldview, on the other hand, is both broader and more narrow than a religion. A worldview is a consistent and comprehensive philosophy that includes elements of metaphysics, natural philosophy (or science), and ethics. Marxism, materialism, idealistic Neo-Confucianism, and Christianity all have their associated worldviews.

A worldview is held by individuals, but shared among many people. It comes out of an intellectual tradition, and is not just a personal creation. A personal philosophy of life, on the other hand, would be a more individualistic notion, as I am using these words. In this context theology represents the worldview aspect of a religious tradition. Theology is the more philosophical, reflective, or abstract dimension of a particular religious tradition. By science or the sciences I will always mean modern Western natural and social science. I call "ancient technologies" and "natural philosophies" those things which are sometimes called "science" in history, especially by those interested in the natural philosophy and ancient technology of the past. With these definitions in mind we turn our attention to the first of our questions, namely, is science itself a worldview?

IS SCIENCE ITSELF A WORLDVIEW?

The sciences are divided into two types, each one focusing on different aspects of creation. The natural sciences study material objects, their natures and their powers. This would include such disciplines

^{3[3]} See Ting, [in Chinese] "Metaphysics and Science", second article in the first volume of the two-volume collection [in Chinese] Science and the Philosophy of Life, *op. cit.* Samples from this book are translated into English in Sources of Chinese Tradition, ed. W. T. de Bary, *et al.* (New York: Columbia University Press, 1960), 834-843. Ting is cited on p.838.

as physics, chemistry, biology, geology, astronomy. The social sciences focus on the lived human world, with our drives, needs, meanings, relationships, social institutions, history, cultures, and the like. It includes such disciplines as sociology, history, anthropology and psychology. I would like to note from the outset that I have a deep and lasting respect for science and the scientific quest, having been trained in areas of both the natural and social sciences. The natural sciences have given us significant knowledge of the material universe beyond our immediate experience. The social sciences, too, have greatly increased our understanding of ourselves and our cultures.

This being said, those of us who live at the end of the twentieth century have begun to realize the fundamentally ambiguous character of scientific achievement. Science has given us knowledge and power, but has it given us wisdom? Can we look at the horrors of our century — war machines, nuclear arsenals, systemic pollution, illegal and immoral scientific experiments — without asking when this gift of science and technology becomes more curse than blessing? The Enlightenment rationale of science for science's sake, and the value of knowledge in and for itself, have been seriously undermined by the abuse of scientific knowledge and practice. In the post-modern world, the pursuit of scientific knowledge no longer conveys a special immunity against larger ethical concerns.

Closer reflection upon this situation makes clear the fact that that the natural sciences do not, of themselves, represent a complete worldview. The natural sciences have limited their field of inquiry to knowledge of physical objects, their nature, their relationships, and their natural causal powers. They focus on quantitative knowledge and mathematical models, rather than qualitative philosophical speculation. Indeed, this quantitative and mathematical focus is at the heart of the revolution wrought by Copernicus, Kepler and Galileo from Aristotelian natural philosophy to early modern science. But this limitation means that the natural sciences can tell us nothing of morality, or art, or meaning, or metaphysics.

Our awareness of the basic moral ambiguity of scientific knowledge has been slow in coming. This is due in part to the fact that, in its origins, natural science simply borrowed from Christianity and Greek philosophy certain key assumptions and values which it cannot justify. Among these are the values of honesty, integrity, and the importance of truth and knowledge. Put another way, the intellectual

assumptions of science include the rational and mathematical character of the natural world, the independent existence of the material universe, and reasonable faith in human epistemic abilities, including the reliability of sense perception.^{4[4]} All of these are important assumptions, without which there could be no science. Yet all of these are assumptions which science itself cannot know, because they cannot be verified by scientific methodology.

Because of this focus upon material things and quantitative-mathematical knowledge, the natural sciences may yield important insights which help us answer religious and philosophical questions, but there are some questions which science, by its nature, cannot address. This is not to say, however, that the true value of science is diminished by its limitations. Various worldviews and philosophies should investigate the teachings and theories of the natural sciences. As will become apparent, we have an intellectual obligation to take the scientific disciplines seriously, and to allow our worldview to be informed by them. We will also want to interpret the theories and discoveries of the natural sciences from a philosophical perspective. For example, what impact should modern neuroscience have upon our understanding of the human soul or mind? While neuroscience itself cannot answer this metaphysical question, it does provide vital information for philosophical interpretation (as Prof. William Hasker's paper makes clear). It is clear, therefore, that those who think that natural science favors materialism mistake a limitation for a result.

The natural sciences have chosen to limit themselves to material objects and quantitative analysis. However, such a limitation neither implies that the world consists only of matter-energy, nor that only quantitative knowledge is possible or valuable. Obviously such conclusions are themselves philosophical, not scientific. And while the limitations of such reductionism may be obscured by the wealth of opportunities for scientific inquiry, the larger scientific enterprise can only borrow its fundamental values from other sources. Thus an adequate worldview will respect the sciences, but will seek to understand them within the larger context of religion and philosophy.

^{4[4]} This is a point commonly made in the literature of philosophy and theology of science, e.g., David L. Dye, Faith and the Physical World (Grand Rapids: Eerdmans, 1966).

CAN SCIENCE REPLACE RELIGION?

We have seen that the natural sciences do not provide a complete worldview, nor do they favor materialism, per se. We now turn our attention toward the social sciences. Here we consider our second question, can science replace or explain-away religion? As in the natural sciences, many bright minds have concluded that any claim to religious truth can be explained as some deep psychological or sociological function, thus reducing theology to social science. Such a scientific perspective was certainly held by early thinkers in the social sciences, such as Auguste Comte, Herbert Spencer, Sigmund Freud, Emile Durkheim, and Karl Marx. Let us consider their claims to have eliminated any rational basis for religious truth-claims.

The social sciences, like the natural sciences, are interested in explanation and knowledge. Yet they are different in some key respects. The social sciences assume the results of the natural sciences, and share their methods whenever possible. The realm of the social sciences, however, is not the material universe but the human life-world, the realm of human behavior, culture, and history. While some of the questions of the social sciences can be answered in terms of natural science, the social sciences also seek explanation and knowledge based on knowledge of the nature and causal powers of the human psyche and social institutions. The explanation of human behavior is not limited to natural objects, but includes needs, symbols, meanings, drives, and purposes that are psychological and/or social in character.

The social sciences also include, beyond explanations based upon psycho-social forces, a hermeneutical element of understanding the social symbol-system of a culture, the beliefs, myths, and stories that give meaning and purpose to a particular society. Such hermeneutical concerns encompass language and patterned behaviors that are symbolic, and which embody psychological or social meaning and significance. Archeology and art history (including architecture) also encompass the interpretation of

human artifacts. These three elements, then, natural explanation, psycho-social explanation, and symbolic understanding or interpretation, form the methodologies of the social sciences.

As previously indicated, the founding fathers of social science believed that a social-scientific explanation and understanding of religion as a human, cultural and historical phenomenon, would eliminate the need to seek religious truth. An excellent example of this scientific faith is the great French sociologist, Emile Durkheim (1858-1917). In his classic study, The Elementary Forms of the Religious Life (1915), Durkheim concludes with the following meditation, which deserves to be quoted in full. After concluding that religion and science do not really conflict because religious life is a sociological fact, he wrote:^{5[5]}

Thus there is no conflict except upon one limited point. Of the two functions which religion originally fulfilled, there is one, and only one, which tends to escape it more and more: that is its speculative function. That which science refuses to grant to religion is not its right to exist, but its right to dogmatize upon the nature of things and the special competence which it claims for itself for knowing man and the world. As a matter of fact, it does not know itself. . . It is a subject for science, so far is it from being able to make the law for science! And from another point of view, since there is no proper subject for religious speculation outside that reality to which scientific reflection is applied, it is evident that this former cannot play the same role in the future that it has played in the past.

Durkheim is at least partially correct in his observation. Religion is indeed a proper subject for social-scientific investigation. The social sciences have caused theologians to consider the status and psycho-social functions of religious symbols, rituals, and institutions. There are things that theologians would not, strictly speaking, have discovered through theology alone. Durkheim also rightly protests against religion pretending to speak on scientific matters. At best religion and philosophy help us to interpret and understand the sciences. They must not dictate which conclusions and theories are accepted in scientific disciplines. And while I have argued at length elsewhere for a dialogue between theology and

^{5[5]} Tr. from the French by J. W. Swain (New York: Collier Books, 1961), 478.

science, religious believers are not at liberty to adopt or discard scientific theories without regard for scientific criteria.^{6[6]}

This being said, the basic gravamen of this quotation from Durkheim must be rejected. Durkheim wishes to eliminate the "speculative" element from religious life and thought, that is, he wants to eliminate theology or religious explanation. Yet upon what grounds does he make this claim? Simply that the sciences examine the same world as religion, and that religion is itself studied by science. This from Durkheim's perspective proves that science provides the superior source of knowledge about that world. Freud and Marx in their own way make very much the same claim. The fundamental and unchallenged assumption is that social sciences provide a better foundation for understanding the nature of human existence, even of religion, than does theological reflection or speculation.

In light of such a position, it can be somewhat disconcerting to note the prevalence of conflicting theories in the social sciences. If the social sciences truly provide us with such an unassailable body of knowledge and insight with regard to human activity, how do we account for such fundamental and enduring disagreement? And if the social sciences provide a knowledge superior to that of theology and philosophy, what exactly do they teach us? But we would be wrong to focus on disagreements in social sciences as a reason to dismiss these disciplines. There are important insights to be gained from sociology, anthropology, psychology and the rest. However, as we shall see, such knowledge neither conflicts with, nor replaces, theological knowledge.

The theological and philosophical elements in a worldview do not compete with social science because they are concerned with different areas or subjects. Even if the social sciences could completely explain religion within the limited methodology of these disciplines (which is at best a goal for modern social science, rather than an achievement), they could not replace philosophy and theology. It is true that

^{6[6]} See two articles of mine, "Levels of Explanation in Science and Theology," Glaube und Denken: Jahrbuch der Karl-Heim-Gesellschaft 7 (1994), 184-201; and "The Mutuality of Theology and Science," Christian Scholar's Review 26 (1996), 12-36.

the social sciences can explain the psychological, economic, political or sociological function and meaning of religious life and its institutions. However, that still neither affirms nor denies the truth claims of the religion in question. Many types of worldview can serve the same psychological, political, economic, and sociological function. Which of them, however, is morally good? Which of them is the most adequate to reality? The social sciences cannot answer these sorts of questions, because social scientific inquiry is only designed to see certain types of things. They are limited by the focus of their methods and areas of study. This focus is a strength of scientific method, but it can lead to serious philosophical blind spots when one expects too much from science.

In short, human value judgments and morality claims are philosophical or theological in character. They are not social scientific questions. When Durkheim wrote, "In reality, then, there are no religions which are false. All are true in their own fashion; all answer, though in different ways, to the given conditions of human existence" he was confusing his own sociological analysis with the quite different philosophical or theological question of the truth of a religious worldview.^{7[7]} Only theological or philosophical reflection is structured to consider such questions. Thus, for example, those who assert that the world is wholly material are making a metaphysical, rather than a scientific statement. And only metaphysics can assess the truth of such a statement of faith.

The same real world can be seen from different levels and perspectives: physical, social, ethical, metaphysical and theological. In fact, all of these levels should fit together into a balanced and comprehensive worldview. Scientism might in fact be true, but such a claim must be argued in the philosophical arena. All too often scientism is a mere bias rather than a carefully considered philosophy or worldview. Science cannot answer all legitimate questions. The limitations of the sciences, and their various assumptions and presuppositions, ensure that they can never address all of our deep questions about human existence and the world we live in. For that we will always need philosophical insight and religious wisdom (or something like it). The speculative element in religion should not "dogmatize", and must

^{7[7]} Durkheim, 15.

respect the teachings of the sciences. But that does not mean that theology and philosophy are rendered obsolete.

In building a more comprehensive worldview which balances the insights of religion and science it is helpful to understand that there are levels of explanation in the sciences.^{8[8]} This is to say that one science (say, meteorology) assumes the results of another (say physics), while at the same time allowing for dialogue and modification between both disciplines. An example of this would be the physics of dynamical systems or "chaos" theory, which was developed in the study of weather (the higher science) but has important implications for physics (the more basic science). It is possible, therefore, for a dialogue to take place between different levels of explanation. This, I suggest, is the proper relationship between theology and science.

The theology of any religious tradition is an attempt to add to a coherent view of God and the world, a worldview, which is grounded in revelation but is also an attempt to make sense of all that human existence, history, and reason — including the natural and social sciences — tell us about the world. As such, there needs to be an on-going dialogue between theology and science in which each discipline learns from the other. Of course theology is only interested in the most general results of the special sciences. Science, likewise, must come to its conclusions based on scientific data and methods, not on the basis of religious beliefs. Nevertheless, a coherent worldview is desired in Christian Doctrine (systematic theology), and therefore what we learn from both theological disciplines and the sciences should be woven together into a larger picture. If we are rational, then what we believe as members of a religious tradition will give shape to our views of natural science, and what we learn from the sciences will shape our theological convictions. There is no question of holding to scientific theories because of theology, or letting theology be dictated to by science. Rather, there is room in both disciplines for a broader, more general attempt to put together a holistic worldview that includes what we believe both as religious thinkers and as scientists.

^{8[8]} I develop this in my paper, "Levels of Explanation in Science and Theology" ([art. cit.](#))

THE CHRISTIAN RELIGION AND SCIENCE

Having outlined my view of the right relationship between religion and science, we are now ready for some further reflection on the specifically Christian aspect of this topic. As noted at the beginning of this paper, I wish to conclude by considering what the Christian faith brings to the table in a synthesis of theology and science. If religion and science must work together to bring us a worldview that incorporates the best of both areas, what exactly does the Christian religion have to add to the discussion?

Why discuss Christianity at this point? First of all, once one establishes a synthetic relationship between religion and science in the development of a worldview, all talk of "generic" religion is over. We must choose a specific religion in order to move forward. Secondly, since my religious tradition is Christian, and since many people do not have a sophisticated understanding of Christianity, I have chosen to focus on my own faith tradition.

What, then, does Christianity teach about the world, God, and humanity that contributes to a worldview which will bring together scientific knowledge and religious wisdom? To answer the question in a satisfactory manner would require an entire series of books. In addition, there is no one set of ideas we can call "Christian Doctrine", for there are a number of interpretations of the Christian religion. Still, there exist some basic Christian teachings which we can identify as fundamental to a Christian view of scientific investigations. I will close my presentation by mentioning a few of these ideas in outline form:

1. God is creator of the world, and is not identical to it. God made the world out of nothing (2 Maccabees 7:28), and endowed creation with its own contingent order that we humans can discover (Genesis 1).
2. Human beings were created in the image of God, which I understand to be a set of relationships and a set of powers that allow us to rightly fulfill these relationships (Genesis 1:26-30). The relationships include human community, love and family (sexuality), as well as obedience and worship toward God. Toward the earth humans have a moral responsibility of stewardship, to "till and to keep" the good creation (Genesis 2:15). Knowledge and wisdom are gifts from God (Job 28; Daniel 2:20-24), and we advance our

scientific knowledge within the overall moral responsibility of stewardship of the earth and of love and justice toward each other, along with obedience to the Creator. For the Christian, scientific knowledge is good but not an end in itself.

3. The order of the creation, and the gift of knowledge and wisdom, originating from the same Source, ensure the reliability of human knowledge, including sense perception, and provides a foundation for scientific investigation.

4. Human beings have fallen into sin and disobedience, which has destroyed these relationships toward each other, toward God, and toward the earth (Genesis 3). Sin plus a mechanized view of nature is the root of our present ecological crisis (Habbakuk 2:8, 17).

5. Jesus of Nazareth effected a means of salvation, restoring a right relationship with God which in turn is the foundation of a new community which will co-operate with God, work for peace and justice, and overcome the power of sin and darkness through Christ. The goal of God is a kingdom of love, peace and justice, founded upon the on-going work of Christ. God intends to restore creation, and human community, and calls people to join in this Kingdom (James 1:16-21). Scientific knowledge and morally right use of technology has a place within this overall plan, when used for these ends (James 3:13-18). In the end, under God, there shall be a new creation and a new science. As it is recorded in the vision of Isaiah: "For, behold, I create a new heavens and a new earth. . . Be glad and rejoice forever in what I create" (Isaiah 65:17-18); and "The wolf also shall dwell with the lamb, and the leopard will lie down with the kid, and the calf and the young lion and the fatling together, and a little child shall lead them. . . . They will not hurt or destroy in all my holy mountain, for the earth shall be full of the knowledge of the Lord, as the waters cover the sea" (Isaiah 11:6-9).

Humanity is faced with a number of difficult problems and choices. We stand in need of worldviews which can help guide us as we face the many problems of our generation on this planet: problems which are generated, in some cases, by the abuse of modern science and technology. Those who respect both religion and science must step forward and demonstrate their deeper harmony. Only a worldview which incorporates the best wisdom of our religious traditions, respecting the limits and joys of

our creaturehood and adopting the values and responsibilities appropriate to our humanity, while at the same time accepting the power and knowledge science gives us, can light our way in this present darkness.
