

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

CAN SCIENCE DISPENSE  
WITH RELIGION?



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Edited by  
**Mehdi Golshani**

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## PREFACE

This book attempts to clarify various aspects of the relation between science and religion. The scholars who contributed to this anthology are all theists who believe that both science and religion are important aspects of our lives and neither one should be sacrificed for the sake of the other, and that there is no conflict between them if they are properly understood and if the domain of each one is correctly recognized and preserved.

We sent the following eight questions to many scientists, philosophers and theologians:

1. *What is your definition of science and of religion?*
2. *Do you see any conflict between your definitions of these two concepts?*
3. *Where do you think there may be a conflict between these two?*
4. *What have been the grounds for the development of conflict between these two?*
5. *What has been the role of religion in the development of science in the West?*
6. *Can we have a religious science?*
7. *Can science dispense with religion?*
8. *Can one separate the domains of activity of science and religion completely?*

In the first edition of the book, thirty scholars answered the questions directly. Dr. P.E. Hodgson and the late Professor K.V. Laurikainen responded by sending full length essays. In the second edition, twelve new contributions and an “Afterword” by me, analyzing the responses to the posed questions, were added. The third edition contained eighteen new contributions. This new edition contains eight new contributions and my “Afterword” is revised

Twenty one of the scholars interviewed for this anthology are Muslims, the rest are Christians (Catholic, Protestant or Orthodox).

## P R E F A C E

I hope that this anthology will contribute to the illumination of the relation between science and religion, and that it will encourage further dialogues on this vital issue.

Now that the new edition of this book is being published by Amin Research and Cultural Centre (ARCC) of Malaysia, I would like to thank Dr. Mohsen Miri for arranging the publication of this book in Malaysia, and this Centre's publication department and Al-Mustafa International University for their swift action in publishing this book.

**Mehdi Golshani**  
**Tehran , May 20, 2013**

## INTRODUCTION

*Science and religion need each other. None of the two will be sufficiently close to its meaning without taking the other one absolutely seriously.*

Carl Friedrich v. Weizsäcker<sup>1</sup>

In the Middle Ages teleology played an important role. The philosophy behind this was that everything has a special place in the hierarchy of the created world, because it is created by a God who has a designed telos to the universe.

It was during the same era that Aristotelian philosophy was synthesized with the Christian theology. The architect of this synthesis was Thomas Aquinas, who believed that reason and revelation cannot be in conflict. According to him, God is both the Creator and the Sustainer of the universe. God usually acts through natural means, but He occasionally manifests His power through miracles.

In the seventeenth century, modern science was developed in the hands of Descartes, Galileo, Newton,... . The main characteristics of this science was mathematical argumentation and experimental observation.

In this science, teleology was left aside and the description of phenomena became the goal. Descartes, who was a theist, tried to explain the world mechanically. In his word:

*Give me matter and motion and I will construct the universe<sup>2</sup>*

Following Descartes, Hobbes restricted the existence to the material world, and denied that any supra-material force can affect the material world. Galileo, who was a theist, considered the world to be made of particles which have two primary properties: mass and velocity. Galileo

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1. From Prof. von Weizsäcker's response to our questionnaire.

2. S. Jaki, *The Relevance of Physics* (Edinburgh: Scottish Academic Press, 1992), p. 111.

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saw no conflict between his religious convictions and his scientific ideas, because God is the author of both the *book of Nature* and the *book of Scripture*. But, the holy book's role is to lead to the spiritual and moral development of humans. It does not provide us with scientific facts. In Galileo's words:

*God has endowed us with senses, reason and intellect . . . would not require us to deny senses and reason in physical matters which are set before our eyes and minds by direct experiences or necessary demonstrations.*<sup>1</sup>

Newton and his followers developed the mechanical pictures of the universe. In the Newtonian view, the universe is like a complicated machine that follows exact laws. Newton, himself, considered this machine to be the creation of God, and he even considered a continuing role for God in giving equilibrium to the solar system, safeguarding it from perturbations. Lagrange and Laplace pointed out that perturbations in the solar system never exceed a certain limit and this is taken care of automatically. There is no need for God's intervention. Thus, the idea of filling gaps in the scientific knowledge, by appealing to God, fell out of favor. Furthermore, the mechanistic model of the universe strengthened the position of deists who restricted God's action in the physical world to the initial creation. This diminished God's involvement with the world so much that it led ultimately to atheism.

On the other hand, the founders of modern science considered the study of nature as a study of the signs of God in nature and they interpreted the presence of order in natural phenomena as an indication of God's supreme Knowledge and Wisdom. In Newton's words:

*This most beautiful system of the sun, planets and comets could only proceed from the counsel and dominion of an intelligent and powerful being.*<sup>2</sup>

These pioneers were explicitly asserting that their main motivation for scientific endeavour was access to God's wonderful Handiwork. As Leibnitz put it:

*It is especially in sciences . . . that we see the wonders of God, His Power, Wisdom and Goodness . . . i.e. why, since my youth, I have given myself to the sciences that I loved.*<sup>3</sup>

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1. S. Jaki, op. cit, p. 422.

2. Ibid., p. 437.

3. Ibid., p. 428.

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But, with the passage of time, this outlook lost its appeal and the dependence on human reason became more and more dominant. This affected theology very seriously and the role of religion became limited to moral issues. Several factors were effective in the establishment of *scientism* during the eighteenth and nineteenth centuries, a doctrine which holds that science can explain everything and there is no need to bring God in:

### **1. The appearance of Darwinism in the mid-nineteenth century.**

Darwinism confronted religion in four fronts by:

- disputing *the argument from design* (through describing the order of the biological world by Darwinian natural selection).
- disputing the real distinction of humans from other animals.
- disputing religious moral codes.
- disputing the special creation of mankind.

### **2. The prevalence of Empiricism.**

The doctrine of empiricism claims that the senses are the only sources of knowledge. Thus, metaphysical concepts should be eliminated from any physical theory, because they are not rooted in sense experience. This doctrine is an old one, but it got prominence with the works of the British empiricists of the seventeenth and eighteenth centuries and was fortified by the positivism of August Comte and the logical positivism of the “Vienna Circle” of the 1920s and 30s. A common feature of all schools of empiricism is that they give primacy to sense experience and reject metaphysics.

It was claimed by empiricists that the methods of experimental knowledge are universal and that they should be used in all fields of knowledge, including humanities. Thus reductionism (both epistemological and ontological) became the rule of the game, and it was said that everything is to be ultimately explained by the laws of physical science and that everything is to be reduced to matter. As Condorcet put it:

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*[Human and physical events] were equally susceptible to being calculated and all that is necessary to reduce the whole of nature to laws similar to those which Newton discovered with the aid of calculus, is to have a sufficient number of observations and mathematics that is complex enough.<sup>1</sup>*

And in the words of Holbach:

*It is to physics and to experience that man must have recourse in all his investigations: he must consult them in matters of religion, ethics, legislation, political government, the sciences and the arts, even in his pleasures and suffering<sup>5</sup>.*

The doctrine of conflict between science and religion was developed by T.H. Huxley and his colleagues in the second half of the nineteenth century, and it was propagated by the works of two historians of science: J.W. Draper and A.D. White.

With the dominance of scientism in the second half of the nineteenth century, religion became more and more isolated and science became the religion of scientists and it became against fashion to speak of religious matters in the academic circles. This trend is still dominant. Thus, e.g. when the setting up of a lectureship in theology and natural sciences at the University of Cambridge in 1993 was announced, Richard Dawkins, an Oxford zoologist, wrote a letter to the editor of the *Independent*, in which he said:

*Sir: In your dismally unctuous leading article (18 March) asking for a reconciliation between science and 'theology', your remark that 'people want to know as much as possible about their origins'. I certainly hope they do, but what on earth makes you think that 'theology' has anything useful to say on the subject? Science is responsible for the following knowledge about our origins.<sup>2</sup>*

and he concluded this letter with:

*What makes you think that "theology" is a subject at all?<sup>3</sup>*

One can safely say that the main factor in weakening religion in our century is the prevalence of philosophies that rejected metaphysics and restricted knowledge to the experimental one.

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1. S. Jaki, op. cit., p. 465.

2. M. Poole, *Beliefs and Values in Science Education* (Buckingham: Open University Press, 1995), p. 35

3. Ibid., p. 36.

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In the last few decades, however, science has lost part of its sovereignty and one notices a revival of interest in religion. Today scientists are much less arrogant and they are more cautious about the limits of science than they were, say, forty years ago. There are several reasons for this change of attitude. We just mention the most important factors:

Some scientists have disputed the claim that science could answer ultimate questions of human concern. In the words of J. Polkinghorne:

*I believe that, in principle, scientifically passable questions are scientifically answerable. We should use our scientific knowledge and abilities to learn all we can about the probable early history of the universe and about how inanimate matter complexified into living matter. However, other questions which we surely must ask – such as, why is there a world at all? Why is it the way it is in its given law and circumstance? Is there a purpose behind cosmic history? – are not scientific and require metaphysics for their answer. I find the most satisfying and comprehensive answer to be provided by theism.<sup>1</sup>*

It has been noticed that contemporary science is based on some controversial generalizations. For example, our knowledge about the early universe is so little that we should be careful in answering questions concerning the origin just on the basis of some transient theories. The American astrophysicist J. Bahcal has beautifully expressed the matter:

*I personally feel it is presumptuous to believe that man can determine the whole temporal structure of the universe, its evolution, development and ultimate fate from the first nanosecond of creation to the last 10<sup>10</sup> years on the basis of three or four facts which are not very accurately known and are disputed among the experts. That I find, I would say, almost immodest.<sup>2</sup>*

and in the words of John Polkinghorne:

*It is not obvious to me that it is feasible and sensible program to apply quantum mechanics to the whole universe. The universe is a different sort of entity from any subsystem contained within it; and because we do not actually*

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1. H. Margenau and R.A. Varghese, eds., *Cosmos, Bios, Theos* (La Salle, Ill.: Open Court, 1992), p. 88.

2. E. Regis, *Who Got Einstein's Office?* (London: Simon & Schuster, 1988), pp. 210-11.

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*understand how quantum theory relates to the everyday world, it seems to me slightly over ambitious to leapfrog that and apply it to the whole universe.<sup>1</sup>*

Scientific speculations about domains which are out of our control or direct observation could not be used to settle basic problems of existence. One has to go beyond the domain of science to get a deeper understanding of them. As the American astrophysicist R. Jastrow put it:

*We have no information whatsoever about what happened in the universe when it was younger than three minutes, and in particular, when it was 10-43 second old, and so on. It seems to me naïve to construct elaborate theories that propose to answer profound philosophical and religious as well as scientific questions, on the basis of speculation about an area never touched, directly or indirectly, by observation.<sup>2</sup>*

It has become more and more clear that science cannot work without some meta-scientific assumptions: the assumption of reliability of senses-data, the assumption of comprehensibility of nature by human intellect, etc.

Science cannot explain its own success, and it cannot rule out meta-scientific dimensions of the universe. In Michael Poole's words:

*It is no use going to science, which is the study of nature to try to find out whether there is anything other than nature to which nature owes its existence.<sup>3</sup>*

Gödel's incompleteness theorem has disappointed those who thought through mathematical physics they could explain everything. Eugene Wigner, Nobel Laureate in physics (1963), elaborates on this point:

*My best friend, John von Neumann, tried to prove the consistency of mathematics, and he was upset when Gödel proved that it cannot be proved. That was quite a shock to John von Neumann.<sup>4</sup>*

Some religious scholars have tried to become experts in various areas of modern science and have tried to explore the common grounds of

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1. J. Polkinghorne, *Serious Talk* (London: SCM Press LTD, 1996), p. 31.

2. H. Margenau and R.A. Varghese., op. cit., p. 47.

3. M. Poole, op. cit., p. 38.

4. T.D. Singh and Ravi Gomatam, eds., *Synthesis of Science and Religion* (Bombay: The Bhaktivedanta Institute, 1987), p. 258.



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science and religion. On the other hand, some scientists have willingly exposed themselves to theological ideas, and, frequently, scientists, philosophers and theologians have become engaged in serious dialogue. Thus, they have got a better understanding of each other's position.

Science has contributed much to the progress and welfare of mankind, but this has been at the expense of human values, and has considerably nullified the achievements of science. The two world wars of the twentieth century showed that misguided science and technology could lead to destruction. Thus, it has become clear that science cannot provide a sense of direction and cannot bring peace and tranquility to human beings. The separation between science on the one hand and philosophy and religion on the other hand, has produced a gap between technical knowledge and the priorities of its applications. It is religion with its value system and intellectual and spiritual dimensions that can give proper direction to the use of technical knowledge.

In short, human experience has more dimensions than what science can accommodate. One needs a much larger framework to integrate all aspects of human experience. Dr. R.L. Thompson has put the matter nicely:

*The understanding of nature as a machine has resulted in much technological progress, but now we find people throughout the world abandoning traditional ways of life to join in a struggle for technical supremacy - a struggle that culminates in the construction of more and more deadly machines of mass destruction.*

*It can be argued that this trend of modern civilization has been strongly encouraged by scientific theories that appear to contradict any philosophy of life other than materialism. It may be very difficult to change this dangerous trend. But an essential ingredient for such a change could be the wide dissemination of a valid approach to scientific knowledge that allows for a tangible spiritual dimension to human life and is compatible with the ancient understanding that mankind is dependent on a transcendental Supreme Being. Such an approach opens up the possibility of directing human energy towards higher spiritual goals and of providing a solid ethical basis for the conduct of our material affairs.<sup>1</sup>*

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1. T.D. Singh and Ravi Gomatam, op. cit., p. 235.

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The program of reductionism, both epistemological and ontological, has been confronted with serious obstacles. Thus, there has been serious challenges to the reduction of the whole physics to the elementary particle physics or the reduction of life to microbiology. In the words of Dr. Maurice H. Wilkins (Nobel Laureate in Medicine, 1962):

*But, I don't agree with the molecular biologists who think that the whole nature of life can be comprehended in terms of molecular biology alone. I think that is a very simple minded, mechanistic way of thinking.*<sup>1</sup>

In the last three decades, especially during 90s, we are seeing a noticeable movement towards religion and spirituality. As a witness to this movement, we just mention a few observations:

1. Popular books of eminent scientists, which bear the name of God (e.g. *God and the New Physics*, *The God Particle*, *The Mind of God*, etc.) have sold out, and their number is increasing. The main reason for popularity of these books is that people really want to remove any discrepancy between their faith and science.

2. During the last two decades, there has been an increasing number of conferences about the subjects of mutual interest between science and religion. An important and unprecedented aspect of these conferences is that they have been interdisciplinary, i.e. they involved scientists, philosophers and theologians. Thus, they were very fruitful and enriching.

Also, there has been a very rapid increase in the number of science - religion courses offered by Western universities, and some universities have even started MA and Ph.D. programs in science and religion.

Furthermore, several important research institutes have been established, which have been instrumental in setting up major conferences and publishing journals and books.

Finally, a large number of books have come out which have dealt with the problems at the interface of science and religion, illuminating various aspects of the relation between these two fundamental departments of human concern.

About thirty years ago Ian Barbour categorized possible ways of relating science and religion. His categories were: conflict, independence, dialogue and integration. At that time one could count most of the scientists and philosophers as belonging to the first two

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1. T.D. Singh and Ravi Gomatam, op. cit., p. 33.

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categories. Today, an increasing number of scientists believe in dialogue or integration, and some, including myself, consider scientific endeavour as part of religious experience. Furthermore, many scholars are seeking common grounds for discussion between theology and science. Thus, science-religion dialogue has become very exciting, and science-theology venture seems very promising.

To contribute to the good traffic between scientific and theological ideas, the idea of preparing this book was conceived. Believing that:

- religion can accommodate scientific insights
- religion can give sense of direction to science
- both religion and science contribute to the understanding of nature, and together they provide a deeper vision of truth,

I sent a set of eight questions to many theist scholars of various disciplines and religious faiths. The responses are reproduced in the following pages.

A proper understanding of the relation between science and religion is of at most importance for securing the spiritual welfare of all humanity. May this book contribute to a better appreciation of this relation.

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