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## Science and the Heart of Religion

**By Philip Clayton**

A famous Buddhist teacher once said, "To concentrate always on the differences between religions is like focusing only on the fingers, without ever acknowledging that they all extend outward from the one hand." The differences between the fingers matter, of course: the thumb can do things that the baby finger can't do. But who could ever understand what it is to be a finger without perceiving the hand that holds them all together?

We who are brothers and sisters in the Abrahamic family — Muslims, Jews, and Christians — have not found it easy to acknowledge that we all worship the one God. We acknowledge the distinctiveness of God's prophets,

and we are right to do so; but we are less good at testifying to the one God who sends prophets to humankind. In a divided world, a world that stands poised on the brink of war and environmental catastrophe, it becomes urgent that we learn to emphasize what unites us all as children of Abraham.

In these few pages I would like to focus on science as an important but underutilized resource to help Muslims, Jews, and Christians recognize what we share in common. This suggestion may strike some readers as a surprising resource for addressing the problem. After all, doesn't science often line up as an opponent to religion? Is

it not itself a divisive force? But these responses overlook some important features of the religion-and-science discussion. In fact, there are at least five significant ways in which science can be helpful to the interfaith dialogue:

- The common respect that scientists share for each other's work can help them learn to respect each other's religion just as deeply.
- The very differences of the sciences from religion serve to draw the religions closer together.
- Even the similarities between science and religion deepen our sense of the common threads that bind us together.
- Science appears most noble when seen in the light of religion, and religion can perceive its essence most clearly when it is viewed in the light of science.
- The study of the natural world and the study of God's revelation through his prophets offer two forms of knowledge of the one ultimate reality. When we see both as means to divine understanding, we better understand the nature of religion.

I.

We'll return to each of these themes in what follows. Let me begin, however, with a story. The visionary founder of the Templeton Foundation, Sir John Templeton,

had learned this lesson by the early 1990s. He commissioned the Center for Theology and the Natural Sciences in Berkeley, California, led by Robert J. Russell, to bring together Muslim, Jewish, and Christian scientists for intense, private discussions. The project, which ultimately lasted seven years, came to be known as "Science and the Spiritual Quest" (SSQ). SSQ convened groups of 15 scientists each, divided by specialization: cosmology, physics, biology, etc. Each of us knew our individual faith, and all of us knew science, but at the beginning we were ignorant of each other's traditions. Unfortunately, ignorance breeds prejudice. We also gradually realized that our religious leaders — our priests, rabbis, and imams — had taught us things that increased our suspicion of each other.

What to do? We did what we knew how to do: we talked about science. Biologists shared their love of nature; doctors shared their passion for healing sickness; physicists discussed the enduring puzzles of their fields; cosmologists talked about the newest data from astronomy. We learned to respect each other as scientists. When the trust was in place, we began to share our personal stories about our religious communities, our scriptures, our understanding

of God, and our attempts to live faithful lives in continuous response to God. Amazing things happened during each of the three-day periods when we met for intense discussion and exploration.

In June 1998 the Physics Department at the Berkeley campus of the University of California invited 23 of the SSQ scientists to publicly share the results of their meetings. Six hundred guests packed the Wheeler Auditorium on the center of campus, and media from around the world were present. As, one by one, the scientists came to the podium to speak, a surprising pattern began to emerge. They began setting aside their carefully prepared notes and speaking to the audience from the heart. Their common message went something like this: "The religious teachers of my tradition have too often focused on what separates Jews from Muslims and Muslims from Christians. But for the first time in my life I have found that there is more that binds us as believers in God than separates us. If we had begun with theology, I don't think we would ever have learned this. But because of the high regard in which we hold each other as fellow scientists, and because of the common ground that we share as students of the natural world, we have come to see our commonalities for the first

time."

It wasn't just the scientists who realized that something special was happening; the audience and the media realized it as well. *Newsweek Magazine* featured the conference as its cover story in July 1998, and within a few months the event had received 100 million media impressions. In an age when religious divisions attract so much attention, people are more and more eager to hear about occasions when religious people become allies and partners. When science helps believers to bury old prejudices, the international interest is even stronger.

## II.

Some years have passed since this early Templeton project, and by now many scientists and religious believers around the world have had similar experiences. Can science still have this positive effect? What must we do to make it possible? Most importantly, how can we construct the interfaith dialogue today so as to maximize this powerful sense of connection between Muslims, Jews, and Christians? To answer these questions, it's important to return to the five propositions with which I began and to consider each one in greater detail.

(1) *The common respect that scientists share for each other's*

*work can help them learn to respect each other's religion just as deeply.* This is the most direct moral of the "Science and the Spiritual Quest" story. Respect is the only starting point. When a person or tradition is very different from your own, you have to overcome the natural tendency to see that tradition, or that person, as inferior. For example, the people of European descent in North America have had a very hard time treating the people of African descent as fully equal. Racial prejudice leads to separation, separation leads to discrimination, and discrimination leads to injustice. Yet the antidote really isn't that complex: as soon as whites begin to engage in activities together with blacks, they realize that their prejudices are unfounded. Inevitably they learn mutual respect through working together, or studying together, or playing sports together, or attending the same religious community.

The same principle applies to religious difference. Science is a demanding taskmaster. No person masters medicine, engineering, mathematics, or physics without both intelligence and hard work. When you have undergone the rigorous work of mastering a scientific discipline, it becomes easy for you to respect others who have achieved a mastery

in your field that is equal to or greater than your own. And once you have begun to look another human being in the eye with deep respect, it is much less difficult to learn to respect his religious beliefs and practices as well — no matter how different from your own they may be.

(2) *The very differences of the sciences from religion serve to draw the religions closer together.* It may seem like Doha is a long way from Los Angeles, especially when one is suffering through jetlag before or after the long flight between these two cities. But when we consider the distance between them as a fraction of the distance to a nearby star — say, Alpha Centauri — the distance pales in comparison. Alpha Centauri is the closest star to our solar system, but it is still 4.37 light years away. That's a staggering  $4.134 \times 10^{13}$  km. Imagine the jetlag you'd have after that trip! Similarly, one horse may look quite different from another one, but when you compare the two horses to a turtle, they don't seem so different after all.

Comparing Islam, Judaism, and Christianity to science has the same effect. To recognize how different the core scientific practices are from all three of our religious traditions is to recognize at the same time how many

religious practices we all share in common: prayer, scripture reading, fasting, almsgiving, and above all to worship the name of God, the compassionate, the merciful.

Scientific work does not employ any of these means. What makes science powerful in its particular domains are objective data and replicable experiments. No one knows for sure what happens in the heart of another person, and two people's experience of the same conversation can be miles apart. By contrast, the data-points upon which we build our best theories are the result of objective measurements and carefully corroborated data collection. The experimental procedures by which we test a given scientific prediction must be set up in a way that any scientist in the world can, in principle, repeat the same experiment. It can't matter whether the scientist is Chinese or Arab, Indian or European, black or white, male or female, believer or nonbeliever. Of course, this demand means that certain important areas of human experience lie outside of the realm of scientific experiment; the domain of natural science is narrower than the domain of human experience as a whole. In fact, the incredible power of the scientific method for understanding physical states of affairs comes precisely from this

limiting of the questions that can have scientific answers.

No one equates the practices of science and the practices of religion. As we better understand their differences, we cannot help but understand at the same time how much Muslims and Jews and Christians share in common.

(3) *Even the similarities between science and religion deepen our sense of the common threads that bind us together.* Science and religion cannot be identified. But of course they are not utterly dissimilar either. To reflect on their common features is at the same time to learn more of what the three Abrahamic faiths share in common.

One way to perceive the similarities is to think in terms of three levels. The first level is experience. Religious persons know about the immediate sense of the world as created by God. We know the feeling of gratitude that wells up automatically within us in response to divine compassion and care. We know the sense of the immensity of the universe, through which we intuit the divine power that undergirds all things. Scientists also begin with a basic level of experience of the world. Some scientists have spoken of the "natural piety" that leads them to value the basic data of experience, even when it overturns cherished

hypotheses. Both groups, in their different ways, value this primary level of immediate experience, which serves as a foundation for all that follows.

The second level is belief. Every Muslim interprets his or her experience in light of the teachings of God's Prophet (saas) in Holy Qur'an. Every observant Jew finds himself or herself reflected and involved in the central narratives of Torah. These are not just stories of a bygone era; they are the defining narratives of Jewish identity. And Christians relive the progression from Christmas to Easter afresh in each liturgical year. To be a Christian just is to see the world in light of the teachings of Prophet Jesu.

Science is not different; it too offers core beliefs that form one's identity as a scientist. The physics of Galileo and Newton and Maxwell's equations is not universally valid, as physicists once believed. But we still understand these sets of equations as "limit cases" of a more generalized physics. Today special and general relativity, the Schrödinger equation and quantum field theory, inflationary big bang cosmology and the four fundamental forces of nature provide the central framework with which physicists view the world. Now it usually makes scientists uncomfortable to describe these

theories as a "belief system." Still, it is certainly true that new observations in physics are and must be interpreted in light of the dominant physical theories of our time. This fact represents a parallel between science and religion that is too seldom appreciated.

The third level is reflection. Members of religious traditions, and especially scholars, are just as driven to understand their worldview in a systematic way as scientists are. The widespread assumption that religious believers are simplistic, that their belief systems lack deep reflection, and that they cannot comprehend the demands of systematic and rigorous thought is not just insulting; it is so far from the truth that it is ludicrous. For example, for several decades I have worked to understand the great centuries of classic Islamic philosophy. Hundreds, if not thousands, of books have been written about the profound philosophical reflection that we find in the works of Al-Farabi, Ibn Sina, Ibn Rushd, and of course al-Ghazālī. No less complex are the Scholastic Christian thinkers who came after, and were inspired by, these great Islamic philosophers and theologians. Ordinary believers do not *need* to know the philosophers, and God's prophets are not reliant on them. Still, they are a living testimony



that human thought is not any less profound when directed toward the question of God than it is when directed toward the law-like regularities of the natural world which science studies.

(4) *Science appears most noble when seen in the light of religion, and religion can perceive its essence most clearly when it is viewed in the light of science.* Perhaps it will be seen as controversial to claim that, just as science needs religion for its fullest self-understanding, so also religion has something to learn from the human quest for knowledge that we call science. In making this claim, I merely reflect the brilliant insight that Albert Einstein had when he made his famous statement, "Science without religion is lame, religion without science is blind." Or, as another religious teacher put it,

Science and religion are the two wings of one bird. Both must be equally strong for the bird to fly: "Religion and science are the two wings upon which man's intelligence can soar into the heights, with which the human soul can progress. It is not possible to fly with one wing alone!"<sup>1</sup>

One certainly finds interpretations of the scientific project in the history of science that are less than noble. Some philosophers of science have said that science exists merely to

"save the appearances," that is, to find patterns in the data, but without making any truth claims. The positivists limited science to observation statements without broader theoretical validity, and some contemporary philosophers of science deny that any scientific theory should be interpreted in a realistic fashion. But it's interesting that the interpretations of science that really inspire us are those which claim for science a status and comprehensiveness that is similar to the comprehensive worldviews that theologians have defended.

On the other hand, religious thinkers have something to learn from science as well. Without the inspiration of science, it is too easy to see the pronouncements of our religious leaders as merely political statements, defending a particular group within a religion as right while castigating all other groups within that religion as wrong. Religious thinkers have sometimes seemed more inspired to crush rival positions within their own religious tradition than to struggle, however humbly, to say something helpful about the nature of the eternal God. At least in the Christian tradition, the most noble forms of reflection have been those that have turned their eyes beyond the provincial theological battles raging at a

particular time and that seek to achieve some knowledge (*gnōsis*, *scientia*, *Wissenschaft*) of God and God's revelation. Interestingly, each of these three italicized terms described a more general quest for knowledge that could also be called "science."

(5) *The study of the natural world and the study of God's revelation through his prophets offer two forms of knowledge of the one ultimate reality. When we see both as means to divine understanding, we better understand the nature of religion.* In a sense, this statement is the natural extension of the previous point. Holy Qur'an teaches that the quest for knowledge is something that everyone should pursue. But knowledge requires us to use the best of the rational faculties that God has given us: "And He has subjected to you (man), from Him, all that is in the heavens and on earth: behold, in that are signs indeed for those who reflect." (45:13). Clearly, the Prophet expects from us the work of reflection.

In the West, Galileo Galilei became famous for distinguishing between the Book of Nature and the Book of Scripture. He spoke of science as natural philosophy:

[Natural] philosophy is written in that great book which ever lies before our eyes — I mean the universe — but we cannot

understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language, and the symbols are triangles, circles and other geometrical figures, without whose help it is impossible to comprehend a single word of it; without which one wanders in vain through a dark labyrinth.<sup>2</sup>

But God has also made the divine nature and divine will known through a second book, the Book of Revelation. Both books offer knowledge of truth, but they offer this knowledge in different forms, through different sources, in different languages, and for different purposes. Sometimes it takes the scientific quest for knowledge to remind religious believers that we are expected to reflect, to work for knowledge, not only in everyday life but also in the realm of our religious belief and practice. As the New Testament puts it, "My brethren, do not be children in your intellects, but be infants in evil and be fully mature in your intellects" (1 Cor. 14:20, Aramaic Bible in Plain English).

### III.

As very young children, we knew one family, one culture, and one religion. Soon we encountered other families and formed



friendships with children not genetically related to us. Then we encountered multiple cultures, with their startlingly different ways of organizing the world and living within it. At some point, we began to have close encounters with members of other religious traditions. Those of us fortunate enough to engage in constructive interfaith dialogue have found deep friendships among the rich and diverse children of Abraham.

Interfaith dialogue does not undercut one's own belief and practice; it intensifies it. My argument in these few pages is that science can do the same. Just as we once saw members of other religions as threats and only gradually discovered that they could be our allies, so also it is with

science. What once seemed like a threatening and "secular" way to study the world can gradually become an opportunity for us to deepen our knowledge and grow in our faith. The five points that we have explored here are means to that end.

Of course there are dangers; one must not portray the dialogue with science as always easy and friendly. But it is equally misleading to paint the dialogue as always dangerous and destructive. Believers have much to learn from science, this other great means of acquiring knowledge. Science and religion are indeed two wings which, working together, can lift the human spirit above the trivialities of everyday life and point it again to its ultimate Origin.

### Notes

<sup>1</sup> `Abdu'l-Bahá, *Paris Talks*, p. 143, quoted recently in the *Huffington Post* by Stephen R. Friberg; see [http://www.huffingtonpost.com/stephen-r-friberg/science-religion-and-the-bahai-faith\\_b\\_1598473.html](http://www.huffingtonpost.com/stephen-r-friberg/science-religion-and-the-bahai-faith_b_1598473.html), accessed June 2, 2013.

<sup>2</sup> Galileo, 1623 [1661], *The Assayer*, Thomas Salusbury (trans.) p. 178; quoted in Edwin Arthur Burtt, 1964, *The Metaphysical Foundations of Modern Physical Science*, London: Routledge & Kegan Paul.