

Overview:

Science and Spirituality East and West¹

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The foregoing volume is rich and provocative. Those who have worked their way through its broad array of topics, positions, and authorial viewpoints will already know that no single author's conclusion can pretend to do justice to all the pieces. Indeed, perhaps this volume comes closer to the truth *because* it encompasses a wider range of reflection on the topic than most books contain. To retain the balance of perspectives, one should read these words in conjunction with the opening introduction by Roddam Narasimha, which effectively summarizes the diverse insights concerning Indic perspectives on cosmology, consciousness and technology.

If this final chapter is to make some humble contribution to the volume as a whole, it must come to the topic from a comparative perspective. During the last seven years, I have had the privilege to organize conferences and private consultations on science and spirituality in a number of different countries under the auspices of the Science and the Spiritual Quest (SSQ) programme. Between 1995 and 2003 SSQ held 16 private three-day workshops on two continents, involving 123 leading scientists in constructive dialogue at the intersections of science and spirituality. The programme then organized 17 public events in nine countries on four continents. Taken together, these events reached close to 12,000 audience members firsthand and many millions more through the media — some 250 million, according to the official estimates of one media research firm. Six books covering the research output of SSQ have been published or are currently in production on four different continents. The organization's website, www.ssq.net, lists four full-length video products and contains a large amount of supplementary material; further excerpts from the SSQ programme are available through the Counterbalance Foundation (www.counterbalance.org). In all, 48 different organizations, institutions and financial supporters became allies in fostering these conversations. We were especially privileged to be able to work with the National Institute of Advanced Studies in Bangalore in arranging the events which produced this volume.

Participating in these meetings with scholars of great minds (and hearts) from around the world, watching them struggle to relate their philosophical and spiritual commitments to each other's commitments and to science, was without doubt one of the most intellectually stimulating

and rewarding experiences of my life. If the present chapter can offer anything to rival the insight of the chapters that precede this one, it must lie in an appreciation of the contributions of the Indic traditions in their similarities to and in their differences from the world's other great philosophical and spiritual traditions. It is to this task that I now turn.

Comparing Cultures, Comparing Religions

One of the unique strengths of the present volume is that it approaches the question of science and spirituality (or science and “the Beyond”) from the perspectives of both East and West. Could it be that the authors' diverse interpretations of the East-West dialogue offer some hints of the diverse ways that science and spirituality might be related?

Consider the following three paradigms for relating East and West. First, for those who write from the mystical perspective, East and West seem in many ways to be conveying the same truth. Thus Bruno Guiderdoni finds no tension between Western and Eastern approaches; he incorporates elements of both in his Sufi understanding of the science-religion relationship. Others who write in a more mystical vein, or who summarize teaching from the mystical traditions, express a similar standpoint. K. Ramakrishna Rao takes a second, somewhat different approach in his chapter, looking at the differences between mystical and rational perspectives. In the course of his conceptual analysis of consciousness he finds sharp differences between Eastern and Western approaches. In the end of his analysis, however, Dr. Rao accepts a “complementarity” of East and West, a complementarity of logical and intuitive or mystical approaches. A third paradigm is represented by Rajiv Malhotra, who among the authors draws perhaps the sharpest contrasts between East and West. Malhotra gives voice to the Indic viewpoint as raising a series of “challenges” to Western approaches to the science-religion dialogue. By focusing on the (sometimes sharp) contrasts between East and West, Malhotra emphasizes the dangers of what he calls “history centrism” and “My-Theism,” criticizing these Western tendencies in light of insights drawn from the Indic traditions.

Interestingly, these same three options — unity, complementarity, and incompatibility — can be seen to characterize not only the East-West relation, but also the relation between science and spirituality more generally. C. S. Unnikrishnan defends the unity hypothesis. Thus he looks for the possibility of “spiritual experience within the process of rational scientific inquiry.” And he concludes by noting how “rational critical enquiry within the domain of science itself can be a potential source of personal as well as collective realisations akin to spiritual experience.” Swami Bodhananda Sarasvati seems to hold a similar position when he writes, “We believe that science and whatever it deals with — the objective world — and spirituality — the subjective world — are two aspects of the same phenomenon,” just as *paravidya* and *aparavidya* “are considered to be two aspects of the same phenomenon.” The second option, complementarity, is most prominently represented by Nobel laureate Charles

Townes, who describes a series of ways in which science and religion serve similar functions without becoming identical. The complementarity view is also explicitly defended by D. K. Karthikeyan and implicitly by a number of other authors. The author who takes the strongest stand for the third option, the incompatibility of science and spirituality, is Vidyanand Nanjundaiah. On his view, only the pursuit of scientific explanations is rational. Thus Nanjundaiah speaks dismissively of prayer along with “any other similarly irrational exercise,” and he explicitly links religion with superstition and “primitive” cultures.

Science’s Different Discussion Partners

It is not the place of an overview to attempt to resolve the dispute between these three options, though in other contexts I have offered some suggestions toward a resolution.² It is interesting, however, to note how what this book’s authors have to say on science and spirituality parallels what they have to say on the relations between Eastern and Western thought. One would hope for the opportunity to explore these parallels more fully at future conferences.

The next question that arises is, are the results different depending on what one compares science *to*? I suggest that the contrasts are sharpest when one considers science and religion, less sharp when one looks at science and spirituality, and least sharp when one considers science and “the Beyond.”

Whatever else they are, religions are *also* institutions involving persons and practices. Clearly, no religious institution is identical to the institution of science; science has its distinctive participants, practices, disciplines and theories, educational system, meetings, and formal publications.³ Viewed institutionally, the two confront us with rather distinct worlds. Moreover, the various institutionalized religions have *different* stances toward science. Many of them have traditionally been hostile to science (this is of course less true of the classic Indic traditions), and some have been engaged in outright intellectual warfare with science. It may well be that some bridges can be built between religion and science, and some sort of complementarity can be established. But, as the metaphor itself suggests, this must be a bridging between two distinct land masses — the *creation* of a complementarity which is not primordially given.

The matter is different when it comes to the second sort of discussion, science and spirituality. Here the two distinct sets of practices may be experienced as one in a deeper sense. Thus the Indian physicist George Sudarshan writes, “In the Hindu tradition ... the spiritual quest is in fact not distinct from the scientific, aesthetic or, for that matter, any academic pursuit.” He adds, “In my own life, I have been privileged to experience the joy and ecstasy of discovery in both the scientific and spiritual domains. In such moments, the distinction between scientific and spiritual paths vanishes for me. In fact, the feeling is identical for both.” To support this view, Sudarshan appeals to a set of spiritual beliefs and practices:

The Hinduism of Central and South Asia believes instead that God manifests Himself, or Herself, in many ways and in many contexts. My tradition affirms that any spiritual search, whether academic or not, is bound to lead to God. Within Hinduism, there is nothing which is not sacred. God is not an isolated event, something separate from the universe. God is the universe.”⁴

This same standpoint is voiced by a number of authors in this book. The human scientific quest and the human spiritual quest can admittedly be defined as separate, and they often manifest themselves in separate sorts of activities that use different tools and methods. *But they are not at heart different.* The point of cooperative projects like the present volume is to begin with the separateness of these two activities, and then to show that, at a more fundamental level, they can be seen as complementary. The one quest needs the other, and together they offer deeper insights than either one could on its own.

This brings us to the third discussion. The relationship between science and “the Beyond” is even more intimate. Science and spirituality begin as different, although one may *come to see* their complementarity. But science and the Beyond are intrinsically linked to each other from the outset. As Sundar Sarukkai writes, “Science may want to have an unfettered, infinite horizon, but at any given moment there is some sense of a boundary beyond which science is not able to intervene, describe or articulate.”

That human activity which we call science always involves the attempt to extend the domain of what we know. Science *just is* the activity of chipping away at the Beyond. Were there no Beyond, there would be no scientific activity: if a god had given humans all knowledge and all Enlightenment, science would never have been born. Nor is there a danger that science will ever absorb, and hence abolish, the Beyond. The 20th century represented one extended lesson in the truth that the more humans know, the more remains to be known. From Gödel’s Incompleteness theorem, to the measurement problem (the collapse of the wave function) in quantum mechanics, to the challenges of relativity theory, to the singularities of the Big Bang and black holes, to the discovery of “dark matter” and “dark energy,” to the study of consciousness and its neural correlates — over and over again scientists have found that, even as they dramatically push forward the frontiers of knowledge, they faced ever deepening mysteries. The relationship of science and what currently (or forever) lies beyond science is not external or extrinsic; it is as intimate as body and soul, bone and marrow. As Sangeetha Menon has perceptively noted, “Perhaps it is important to see the *beyond* as something *beside*.... What we consider as ‘beyondness’, perhaps, is not something which exists in a hierarchical order but ... which actually co-exists.”

Three different perspectives, three different results. Relating science and religion means relating a series of beliefs and practices with an eye toward their institutional context and their

rational grounding. Many differences arise here, even if “incompatibility” is too strong a word. Relating science and spirituality means relating two different quests of the human spirit. Here one can make a stronger case for the fundamental unity that binds the two activities together as diverse aspects of a single, deeper quest. It would be very difficult to show that the scientific and spiritual quests are inherently incompatible. Finally, relating science and the Beyond, unlike the first two comparisons, does not mean bridging two different institutions or finding similarities between two initially different types of activity. Instead, it involves pointing out two co-dependent aspects of a single activity or quest. To pursue science is to recognize that we have partially domesticated the Beyond, while being forced to humility before that which, forever Beyond, will forever elude our grasp.

Sundar Sarukkai asks, “How do we recognise the boundary of the infinite?” Presumably he presents a *koan* rather than the outlines of a philosophical project. As the great German philosopher G. W. F. Hegel showed, only a “bad infinite” would exclude anything — even the finite itself! — from its presence. For an infinite that excludes the finite is not truly infinite; it is limited by that which still lies outside of it. The “truly infinite” (*das wahrhaft Unendliche*) is that infinite which includes all finites within it, for it alone is limited by nothing whatsoever outside itself. This insight holds also for the Beyond. The Beyond, in the deepest sense which pertains to both science and spirituality, is not the Transcendent, the Totally Other. It is that which we know because we are contained within it (in this sense, we *are* it), even while it forever eludes our quest to know and understand. Looked at one way, the Beyond is that which always accompanies the scientific quest, gives rise to it, guides it. Looked at another way, the Beyond represents the spiritual dimension in any human activity. For it is spiritual persons who know themselves as a part of the Beyond while always understanding — much more deeply than the others around them — that the Beyond is much deeper and more profound than anything they will ever fully grasp or comprehend. To know oneself as part of the Beyond is Grace; to know reality as always (in part) Beyond is the source of all humility.

Spirituality East and West

With these distinctions and reflections in place, we can now pose the unsettling but unavoidable question: Should one come to different conclusions about the relationship between science and spirituality depending on whether one is considering the Eastern religious-philosophical traditions or the Western religious-philosophical traditions?

Clearly there are a number of respects in which the Western religious traditions *can be made compatible* with contemporary science. I list just three. One can argue, as present-day Thomists do⁵, that scientific explanations merely provide humanity with an account of the network of “secondary causes.” Yet alongside every secondary cause is a primary cause, which is God; and no event ever takes place without the action of this divine cause underlying the chain of

mundane, physical cause. Second, one can argue that the world of natural causes as we know it is bracketed by a divine Source and a divine telos. No natural science can extend its knowledge beyond the singularity that lies at the beginning of this physical universe, and no scientist can extrapolate beyond the singularity (if there should be one) at the end of this universe. Hence no scientist can rule out an essential role for a divine Creator nor the possibility of a final consummation of history brought about by its divine Telos. Finally, one can argue, as do the “process theologians” in the tradition of A. N. Whitehead⁶, that every entity and every moment in the history of the universe is actually a perceiving agent, a discrete unit of experience. What natural science can comprehend only as electrons, cells, or organisms are really “actual occasions” which experience (or “prehend”) the world and form their own unique syntheses of their experiences. And if the world is pervasively conscious (or at least aware) in this sense, then it is possible that the divine influence has an effect on each moment of experience, offering its initial “aim” or “lure” in the direction of the divine nature and values. Science cannot falsify any of these three claims (or the dozens of others one finds in the Western philosophical literature); hence Western religion is not obviously incompatible with science.

Admittedly, then it is *possible* to reconcile Western theism with contemporary science. Nevertheless, I think it is true that the task is harder, the stretch is longer, and the costs are greater for the Western traditions than for (most of) the Eastern ones. After all, theism, at least in its most common forms, represents a *supernatural* metaphysic. Even liberal Christian theologians will generally admit that, at the end of the day, theirs is a theologically dualistic position: on the one hand, there is the finite natural world; on the other, there is its infinite, eternal Creator. Few Indic traditions are dualistic in this sense, and the dualistic traditions that exist are generally formulated in a less radical fashion. (Of course, it does not follow from the fact that traditional Western theism is harder to reconcile with science that it is false.)

The point leads to an important insight. All non-dualisms share something fundamental in common: all assert that the dualisms in which humans are imprisoned (whatever they may be) are not ultimately real; in the end dualities of all stripes are left behind in the experience of non-dual reality. By contrast, there are many ways in which one can be a dualist — in fact, as many ways as there are ways of describing the distinctions within reality (and this is a very large number!). Among this wealth of dualisms, some are more radically dualistic and others less so. It is more radically dualistic to set an infinite personal God over against a finite, contingent world than it is to distinguish between finite objects and their ultimate Ground. After all, the ground is a part of that which it grounds; it is not separate from, but represents what is most essential or basic to, an object. Most of the Indic traditions which resist *Advaita* and which affirm the existence of a personal god (*Isvara*) are less radically dualistic than (many versions of) Western theism. For example, it is standard to attribute certain impersonal qualities to the personal god.

Since (roughly) 1800, but with increasing urgency in recent decades, Western theologians have begun to reconceive theism in the direction of ultimate Ground or all-inclusive infinity. The view is most often presented under the heading of *panentheism*, the view that the world exists within the Divine, although God is also more than the world. On this approach, the world does not exist outside of God; rather the Divine is the One “in whom we live and move and have our being” (St. Paul in Acts 17:28).⁷ God is viewed not as a separate personal being standing over against the world, but as the Ground of Being that exists “in, with and under” all things in the world. Although something of God transcends the finite world as a whole, the physical world in its lawfulness is still a manifestation of the divine agency. Those familiar with the Indic traditions will recognize the great debt that panentheistic theologians owe to Vedantic philosophy in reformulating the Western traditions in this manner. A theism understood within the context of panentheism is somewhat easier to reconcile with modern science than is classical Western theism.

Up to this point we have been focusing on religious understandings of reality, trying to assess which are easier and which are harder to reconcile with contemporary science. But this volume is much broader than metaphysics alone; many of the authors are concerned with personal, ethical and applied issues. To do justice to the full panoply of chapters require a more subtle set of categories than merely “Eastern *versus* Western” or “theistic *versus* non-dualist metaphysics.” In closing, then, let us then expand our typology to include as many as possible of the contributions included in this volume. I list them in order of the difficulty of reconciling them with contemporary science, from hardest to easiest:

(1) *Classical Western personalist theism*. God stands outside the natural order and creates it out of nothing (*ex nihilo*). Yet He also occasionally intervenes into the created order to bring about His purposes. Miracles — God’s suspending natural law to directly bring about desired outcomes in the world — are possible.⁸

(2) *The Ground of the empirical or perceived world*. The world as ordinary persons perceive it, or as science measures it, is not the ultimate level of reality. Underlying the world of appearances is its divine Ground. Authors differ in how they describe this Ground, and some hold that it cannot be described at all. In the Western traditions it is often spoken of as Being Itself; in Vedantic traditions, it is described as Consciousness or *Brahman*. Positions of this type do not deny the reality of empirical things; but they do maintain that the ultimate essence or ground or reality of these things lies at this deeper level of reality.⁹

(3) *Aspects of natural reality unknown to science*. Views of this type do not commit themselves to an ultimate metaphysical theory of *any* type. But they do insist that there are dimensions to this natural world that we inhabit which science has not yet grasped. For example, it is widely believed that practiced yogis are able to sense connections, perceive dimensions, and

exercise powers that most people do not know about and science has not yet grasped. As a sign of the compatibility of this view with science, practitioners and their followers often call for a more thorough scientific examination of the most honoured yogis, their brain states, their breathing rate, their causal powers, and other physiological features. Now these claims about the capacities that humans can potentially exercise are not identical with scientific conclusions, yet nor do they represent metaphysical assertions that contradict science. According to the adherents, scientists may some day be able at least to verify the existence of such powers, even if they cannot understand them.

(4) *A dimension of significance to the natural world.* For some of the authors, spirituality does not require belief in *any* special powers or special metaphysical entities. It means only that people can come to experience, perhaps through meditation, a sense of unity within themselves, a sense of the significance of all things, or a sense of the connectedness of their lives within the whole of the natural order. Even a strict naturalist such as E. O. Wilson is willing to grant such feelings of significance, since they do not necessarily make any knowledge claims about reality that go beyond or contradict science.¹⁰ Of course, if one draws metaphysical conclusions from the feeling of significance, then one steps outside of this view. But many find a “reconciliation” between spirituality and science to lie in this more humble, yet still significant, inner spiritual response to the world as it exists and as science reveals it to us.

(5) *The attempt to live ethically or to make the world a better place.* Those who formulate a set of fundamental values and who are actively involved in attempting to live out those values in the world are in a similar position to those in the preceding category. For nothing in science denies that humans have beliefs about right and wrong, that they seek to live according to those values, or that they work to transform the world according to their vision of how things ought to be. Of course, if one holds that Good and Evil are built into the very fabric of the universe, then one has made a metaphysical claim similar to those made in the first two positions listed above. For example, those who hold that the world is really determined by karmic forces espouse a metaphysical view of this sort. But those who quietly — or boldly — live by certain self-chosen values need not experience any conflict with science. Nor does the situation change if one chooses to use metaphors drawn from sacred scriptures or from the world’s religious traditions in describing his fundamental values. It is only when one takes these religious terms and stories as literally true of the world — that is, when one interprets them metaphysically — that one faces resistance from scientists. No such resistance is raised by using religious metaphors that help one to describe the values he or she holds. (Of course, again, the fact that a metaphysical theory of values is harder to reconcile with science does not make it false.)

Should we group Western discussions of science and “the Beyond” at the top of this list and Eastern discussions toward the bottom? I admit that I began my seven-year involvement with SSQ with something like this common stereotype of East and West. Eastern philosophies, I had

been taught, would always affirm the unity behind diverse conceptual approaches, including the ultimate unity of science and philosophy or spirituality; Western religious philosophies, I believed, would struggle continually with the dualism of supernatural God and natural world, either rejecting one pole or holding the two in an uneasy tension. Behind these stereotypes, it turned out, is both truth and falsehood. As this volume reveals, the range of viewpoints among scholars of the Indic traditions is far greater than the stereotype suggests: some advocate mystical unity and downplay the status of science, whereas others encourage a more hard-minded scientific approach to the detriment of “primitive” religious philosophies. Still, in contrast to our conferences elsewhere in the world, the meetings in Bangalore conveyed a greater confidence in the possibility of finding an overarching unitary standpoint, a perspective from which the tensions between science and “the Beyond” would fall away. Where tensions did remain in the Bangalore discussions, they were gentler and less pronounced than in any of the other countries in which SSQ events were held. By contrast, Western thinkers *do* struggle with a deeper dualism. What was most encouraging over these last years, however, was to see how new schools of thought in the West (e.g., panentheism, religious naturalism) — often under the influence of Indian thinkers — have made major progress toward overcoming the sharp dualisms that once characterized Western thought.

Conclusion

As I noted in the closing words of the Science and the Spiritual Quest programme, speaking to the massive gathering at the Karnataka State Tennis Stadium in Bangalore in January 2003, it is fitting that Science and the Spiritual Quest would end in India and that it would culminate in a dialogue between the Indic traditions and science. Vedantic religious practices, and the belief system that grew up alongside them, represent some of the most ancient organized forms of spiritual practice in the history of civilization. As philosophers around the world know, they have also given birth to some of the most sophisticated philosophical reflection on the nature of ultimate reality ever to have been written. That the present collection should bring the Indic traditions into dialogue with Western religious-philosophical traditions, and should do this in the context of the current renaissance of discussion between science and spirituality, can only underscore one’s sense of the continuing importance of the Indic traditions for today’s world.

Those who grasp the pluralism of the Indic philosophical traditions will not be surprised that, when it comes to the end, among the contributions to this volume no simple unity can be discerned. Inevitably, the results of our enquiry will be diverse, open-ended, and hypothetical. Discerning readers will discern with their intuition and with their hearts the deep commonalities which bind together the authors in this volume, tying their work together into a common statement on this crucial theme. Yet as soon as any one attempts to formulate that fundamental unity, his voice immediately becomes just one more perspective among the others. It is appropriate, then, to conclude by gesturing with appreciation toward the gentle unity of spirit

which permeates most of the contributions to this volume. As one of our Western mystics has said, “It is only with the heart that one can see rightly. What is essential is invisible to the eye” (*Voici mon secret. Il est très simple: on ne voit bien qu’avec le coeur. L’essentiel est invisible pour les yeux*).”¹¹

Endnotes

1. I am grateful to the volume’s three other editors for constructive comments and criticisms of an earlier draft of this Overview, which have helped to increase the clarity and accuracy of the final product.
2. See Clayton, *God and Contemporary Science* (Grand Rapids, Michigan: Eerdmans Publishing House, 1997).
3. See T. S. Kuhn, *The Essential Tension: Selected Studies in Scientific Tradition and Change* (Chicago: University of Chicago Press, 1977).
4. See George Sudarshan, “One Quest, One Knowledge,” in W. Mark Richardson *et al.*, eds., *Science and the Spiritual Quest: New Essays by Leading Scientists* (London: Routledge, 2002), pp. 252, 251, 250.
5. See especially Austin Farrer, *Finite and Infinite: A Philosophical Essay* (Westminster [London]: Dacre Press, 1943). “Thomists” are those who stand in the tradition of the 13th-century Catholic theologian Thomas Aquinas.
6. See A. N. Whitehead, *Process and Reality*, Corrected Edition (New York: Free Press, 1978). For an excellent recent example see David Ray Griffin, *Reenchantment without Supernaturalism: A Process Philosophy of Religion* (Cornell University Press, 2001).
7. For a recent collection on this topic, see Philip Clayton and Arthur Peacocke, eds., *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God’s Presence in a Scientific World* (Grand Rapids: Eerdmans, 2004).
8. Thomas Aquinas, *Summa contra Gentiles*, Book III, QQ. 100-103.
9. One would at first think that non-dualist positions — positions which assert that the world of empirical experience does not really exist — are *harder* to reconcile with science than positions of type (2). But I do not think this conclusion is accurate. Science can stand unchallenged in its ability to make predictions about the so-called world of ordinary experience; it’s just that the non-dualist holds that the “world” which science so well explains is in the end illusory. Since this is a metaphysical (or mystical or spiritual) claim, it does not need to contradict science as we know it any more than do positions of type (2).

10. See E. O. Wilson, *Concilience: The Unity of Knowledge* (New York: Knopf, 1998).
11. Antoine-Marie-Roger de Saint-Exupery, *The Little Prince* (San Diego: Harcourt, 2000).