Reviews on Religion and Science around the World

with Nidhal Guessoum, "Islam and Science: The Next Phase of the Debates"; and Anindita Niyogi Balslev, "'Science–Religion Samvada' and the Indian Cultural Heritage".

"SCIENCE–RELIGION SAMVADA" AND THE INDIAN CULTURAL HERITAGE

by Anindita Niyogi Balslev

Abstract. This article seeks to delineate some of the fundamental philosophical traits that are special characteristics of the Indian cultural soil. Tracing these from the Vedic period, it is shown that this heritage is still alive and gives a distinctive flavor to the science–religion dialogue in the Indian context. The prevalent attitude is not to view science and religion as antagonistic, but rather as forces that together could create a world where the persistent epistemological and ethical problems can get resolved to the benefit of humanity. In Indian thought rationality and spirituality are not viewed as opposed categories. The notion of "evidence" has played a crucial role in all enquiries for legitimizing the sources of knowledge and the criteria by which any claim to knowledge can be tested. References to investigations pertaining to such areas as cosmology, ecology, ethics, study of consciousness, and so on are made in order to bring out their relevance for science–religion dialogue today.

Keywords: ethics; Hinduism; Indian heritage; interdisciplinarity; naturalism; philosophy

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A common awareness of contending civilizational paradigms that we must choose from is a characteristic of our times across the boundaries of culture. One aspect of this intricate challenge consists in our knowing that, no matter how invincible any of these paradigms may appear to be, none is really impervious to forces that are not yet detected, or even predicted with any amount of certainty, that could cause it to collapse. Despite what is shared among these paradigms—and certainly much is shared—a closer look seems to lay bare the variations in the deeper perceptions and

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aspirations embedded in the conceptual worlds that are projected. However, as each of these today seeks to rearrange the present social organizations in the global context by altering those structures that are likely to obstruct its fulfillment or contest its desirability, the interrelationship of science and religion invariably seems to become a subject matter of concern for all.

It is indeed thought-provoking to watch how variously the relationship between science and religion has been conceived in the recent past by thinkers and scholars interested in the topic. This scenario is particularly significant from a cross-cultural perspective, as it provides a variety of interpretations of the cognitive processes that are involved in the scientific and religious endeavors, along with their eventual implications for both theory and practice. In the sphere of intellection, we find that there are some who do not consider these enterprises to be in any sense opposed to each other, since both are seen as aiming to uncover various aspects of the mysteries of our own existence, and of our habitat, encompassing both the living and nonliving. Enquirers who hold such a view have been earnestly asking for greater interaction between science and religion. However, others disagree that religion and science can coexist and they strongly advocate either total avoidance or suggest a minimal exchange between them. Then there are those who seek to construe a "theology of science" or recommend a "scientific study of religion," clearly showing their penchants for one or the other. Interestingly, these attitudes do not seem to depend merely on the distinctive temper of diverse cultural traditions. Records show that these views are more present in one historical epoch than in another, or more prevalent in a specific culture than in another, or even can co-exist in the same cultural soil.

Today, in an age of easy technological communication across cultures, the inter-relationship between science and religion has assumed special significance. This has, understandably, provoked much intellectual curiosity about the kind of queries as well as responses there are in diverse cultures with regard to this intricate topic. Surely, it is fruitful to be aware of the ways in which various themes and subthemes have actually developed, especially in such places where ancient and articulate cultural traditions prevail, as in India, and that is the focus of this article.

Even though at present none of the above-mentioned views are totally absent in India or in the West, it is worth mentioning at the outset that some recent surveys have shown that attitudes of Indian scientists toward religion are generally more positive than in the West. Reference to one such study will be made later on in this article.

Also, recall in this connection the view voiced by Sarvepalli Radhakrishnan (a philosopher, who was the first Vice-President and the second President of India). He observed that "when people speak of conflict between science and religion, they do not appreciate the spiritual character

of science and the rational character of religion." This remark seems to me to represent a sentiment that is shared by many in India.

As *Zygon* is celebrating its fiftieth anniversary this year, the editor in his letter to the contributors to this special issue has explicitly mentioned the "global aspiration" that the journal now has. With this in view, he has rightly noted that one needs to have a certain amount of "sensitivity" to specific cultural contexts. Indeed, while standing at the frontier of unprecedented advancement of science and technology, there is a strong feeling that along with the newly obtained capabilities that we have today there also arise profound ethico-religious challenges. Today there is an eagerness to find out what options are available to us in such a scenario. As a consequence many people are curious to know how the diverse religions of the world would respond, to give one example, if modern-day biotechnologists engaged in cloning of living things, including human beings. Would any form of cross-fertilization between science and religion be shunned or welcomed in the face of such capabilities? These questions call for serious reflection.

This is a vast area of investigation where one is confronted with a range of questions, some of which seem to be perennial, while others astonishingly new. It feels that we have traversed a long way with confidence, only to find ourselves standing precariously at the crossroads of cultures and disciplines, needing to re-examine our trajectory. In any case, while dealing with these intricate concerns, and having struggled hard to keep the Forum CCC (Cross Cultural Conversation) alive over the decades through a chain of vicissitudes, it does seem to the present author that whole-hearted congratulations are due to *Zygon* for wishing not to remain confined to an exclusively Anglo-American context. Certainly, some effort has been made earlier to create such events, and it is perhaps worth reminding ourselves that we need more events aimed at transcending the practice of cultural exclusivity in these interdisciplinary efforts.

Secondly, let me express my appreciation for the phrasing in the editor's letter that "interaction of religion and science" may "perhaps be better understood as the interplay of science and human values." Indeed, it is a suggestion that makes it a bit easier to face this daunting task, at least for those of us who participate in this endeavor outside monocultural parameters, and who are working to highlight that intellectual space where differences and overlapping concerns in the search for values in the global context need to remain visible.

It is particularly relevant to keep this in mind since, as observed earlier, our present situation seems to be one in which we are increasingly adopting the same advanced scientific technology, irrespective of cultural diversity, but not doing enough to emphasize our shared values, which are embedded in diverse cultural traditions and inspired by the religions of the world. It is crucial to acknowledge this lack, as the fast pace of human interactions and exchanges, aided by the fantastic strides of technology, are also contributing

to an enlargement of our common public space, where norms for guiding our conduct and actions seem to be missing in multiple contexts. If we are now seeking to engage in a conversation, where both science and religion are of concern, it is certainly because our contemporary life amply demonstrates that we simply cannot ignore the question of values as we pursue various genres of collective projects, or even for the sake of our survival. It may be emphasized here that, in the contemporary urban cultural scenario, there is not so much of a sense of conflict between science and religion, as with regard to what our shared values actually are. The questions concerning how to implement those values in our lives, in our thought, speech, and action (*kaya-mano-vakya*)—as deep and urgent as these are—seem to be remote from the center of our attention.

As it stands, there is an obvious lack of awareness on our part that we are living in a system of violence, empowered by technology. Ideologies in favor of marginalization and exploitation of "others" (using any criterion, be that of nationality, ethnicity, gender, race, etc.) seem to be able to draw support in the name of either science or religion in an ingenious manner. We seem to be ignoring the significant nexus with the question of "value" only to our peril. A re-assessment of the current situation—where traditions and modernity are often seen as counter-forces, or where religion and science are often in turn falsely accused of being propellers of conflict—is urgently required.

Ancient Insights

As I begin to reflect specifically on issues pertaining to the science–religion dialogue in the contemporary Indian cultural context, an overview of the conceptual scene that draws inspiration from the remote past is indispensable. It is important, first, because despite all vicissitudes of history the Indian tradition is continuously changing, but not in a way that seriously breaks with its past; and secondly, for the sake of comprehending the kind of philosophical as well as ideological framework within which "science–religion dialogue" takes place in India.

Generally speaking, in the domain of the modern higher education system in India, adopted since the colonial period, there is a felt need to create more space in departmental structures for academic offerings that allow fuller discussion of issues that cut across the boundaries of science, religion, and philosophy. Indeed, not unlike in the West, along with the demand for multidisciplinary approaches for exploring certain themes of basic concerns, it is also increasingly recognized that there is a necessity for the formation of a community of enquirers, coming not only from multiple disciplines, but also from multicultural backgrounds. These are indeed prerequisites for setting up a forum that may help ensure a public discourse where all the available resources can be properly utilized. I have

been pleading for some time that an authentic understanding of knowledge systems—stemming from different cultures—cannot be promoted without engaging in a vigorous "cross-cultural conversation"—the existing customary "monologue" about the "otherness of others" just does not work for promoting science–religion dialogue.

Ethos of the Indian Conceptual World

As we direct our gaze to one of the very early queries recorded in what is considered to be the earliest document in Indo-European history, we see the question of the origin of the cosmos. This query may be said to belong to an epoch when the disciplinary demarcations between science and religion did not exist. Similar queries seem to be part of the universal philosophical wonderings across cultures, and in a sense can be said to have a perennial character. In the well-known "creation hymn," the Vedic seer asks: "Where from this creation?" (*Kutah ayam visrsti*)?

The distinct ethos of the Indian conceptual world can be traced back to these very early texts, where one also comes across the notion of *Ṛta* or order. This signifies not only that there is a law of uniformity of nature but also that there is a moral order, leading to the idea of Karma. This idea of "order" has bearing on how the occurrence of a phenomenon is to be explained. It is held that no event—either in the natural or moral spheres—is possible without dependence on some other factor. While reflecting on this idea, A. L. Basham observed "We cannot escape the law of Karma any more than we can escape the law of gravity" (Basham 1967[1954], 325).

With the rise of the schools of philosophy, one finds that the idea of causality comes to play a central role in the Indian philosophical tradition. Indeed, in the Upanisadic tradition—still the major tradition in India —it is said, from nonbeing, being cannot arise (*nasato vidyate bhavo*). In other words, there is a steadfast adherence to the principle *ex nihilo nihil fit*. Note, even the theists did not hold a view like "creation ex nihilo," but it was principally because that would make the Creator responsible for all disparities (*vaisamya*) that are evidently witnessed right from birth itself. There are ideas of cosmological cycles, each spanning billions of years, along with notions of repeated creation and repeated dissolution. Philosophers of different schools have propounded various views on time, such as the notion of absolute time, time as a relational concept, or space-time-matter as aspects of the same dynamic principle of Nature, and so on (Balslev 2010a).

In this connection, it is noteworthy that in cross-cultural comparative studies, it was commonplace to project the Indo-Hellenic view of time as "cyclic," as opposed to the Judeo-Christian understanding of "linear" time. In cultural studies many misunderstandings arose as these metaphorical designations gradually got associated with such concepts as that of history, of progress, even that of salvation (Balslev 2014a).

Indian epics and mythology weave colorful stories dealing with notions of vastness of time and world-cycles conceived in terms of billions of human years. There are even ideas of "many worlds," some of which are said to be inhabited. What is amazing is that none of these ideas was seen as being antithetical to religious quest, or as that which renders this world to be characterized as "pointless." In relevant literature one finds that all these notions are incorporated within a soteriological framework.

Perhaps one may initiate a conversation between science and religion by probing into the age-old question about the relationship between cosmos and telos, and by noticing the distinctiveness of the contending conceptual frameworks within which responses are offered. An overall survey seems to show that one cannot ignore or underplay the search for meaning and purpose simply by labeling modern people's involvement with cosmology and cosmogony as "scientific," and imposing on it a materialistic or naturalistic conceptual framework. The expression "scientific" here is itself a value-laden term. Consider, for example, Steven Weinberg's remark that "the more the universe seems comprehensible, the more it also seems pointless" and his reading of human existence as a "farcical outcome" (1977, 144).[1]

Upanisads: Higher and Lower Knowledge

In the ancient Indian tradition, our habitat is viewed with religious reverence. It is seen as an abode of experience (*bhogasthana*). Nature (*Prakrti*) provides this physical and biological setting that all sentient beings use, hence it is not to be ruthlessly exploited. Most importantly, it is here that we humans strive to further our insights into the hitherto unexplored dimensions of the natural world, and even aspire to undertake, as eloquently expressed in the Upanisads, a spiritual journey from "Non-being to Being, from Darkness to Light, from Death to Deathlessness" (see Radhakrishnan 1953).

In order to appreciate science–religion "samvada" (communication/conversation) in the Indian context, it is crucial to know the distinction between what is described in the Upanisads as "higher knowledge" (*para-vidya*) and lower knowledge (*apara-vidya*). The "higher" entails a direct, nondiscursive mode of knowing (*saksatkara*) "by knowing which everything else is known"—the Imperishable. What is remarkable is that the category of "lower knowledge" (*apara-vidya*) includes not only all subjects like phonetics, grammar, etymology, astronomy, astrology, and all other sciences, but even the Vedas and the Vedangas, which are held as the most sacred, as revealed knowledge.

Already the Upanisads mention that the three stages entailed in the knowing process consist of hearing [*sravana*], intellection [*manana*], and contemplation [*nididhyasana*]. These generally precede the

dawning of nondiscursive "higher knowledge," representing first, the phase of reception of knowledge (hearing); second, the phase of questioning/doubting/analyzing (intellection) what has been "received"—a legitimate process until intellectual conviction arises—and third, dwelling on it (contemplation) until consciousness is immersed into it. This is what finally prepares an aspirant to embark on the path of direct awareness/experience, described as higher knowledge.

In other words, both science and religion—as conventionally understood—belong to the category of "lower forms of knowledge." This is the stage in which an aspirant is expected to be engaged in "Manana" (intellection)—where questioning, doubting, and challenging what is received are fully accepted as a valid mode of enquiry. It is tempting to observe here that the Indian cultural heritage being what it is, the debate of "science versus religion" is bound to be considered pretty much a useless endeavor if reasoning, logic, observation, thought-experiment, and so on are taken to be exclusively part of scientific methodology, whereas religion is seen as based on mere dogmas, belief, or even blind faith that cannot be questioned. A science–religion dialogue will miss out on something very important in the Indian cultural context if we assume that "Religion is a culture of faith; science is a culture of doubt" (Richard P. Feynman). This is a stance that simply does not fit within the Indian ethos.

Indeed, there are an enormous number of philosophical documents that display rich diversity of thinking in the exploration of "Reality" in the Indian philosophical traditions. However, one major thrust of inquiry from very ancient times that deserves special mention is the notion of *Pramana*, or evidence. It plays an important role in discerning between rational claims and knowledge. Consequently, a variety of views emerged on the notion of "evidence" itself that led to debate and discussion. Interestingly, even in the expository literature dealing with "revealed" texts, reflections on "evidence" remain central; it is acknowledged by all the partisans to be indispensable for the legitimization of any claim to knowledge.

Evidently, the intent of this kind of approach is not to create any "gap" between faith and reason. Thus, this sense of gap, which has historically assumed significant proportions, and has become a prominent feature elsewhere, generating enormous problems for a dialogue between science and religion, does not have a place in the dynamics of the Indian culture. The philosophical demand for "evidence" remains of capital importance in both the religious and scientific discourse, leading to deliberations over what can be legitimately recognized as sources of knowledge. In short, if we are to look at the cognitive scenario with the intention of detecting whether the theme of science–religion dialogue in India has any distinct cultural flavor of its own, it is crucially important to obtain an overall picture of the intricate and profound philosophical thinking that has permeated the entire culture from very early times, and which continues

to exert influence on the minds of the adherents—overtly or covertly—to this day.

Attitude toward Religious Diversity

It is also helpful for readers to understand how diversity of religious traditions is viewed in India. It is well known that the Indian cultural soil has been supportive of a variety of religious experience from very early times. Today India is the home of practically all the major world religions—some of which were persecuted in their lands of origin, such as Judaism, Zoroastrianism, and more recently Tibetan Buddhism and Bahai. It is indeed striking to notice that already in the Rgveda itself—considered to be the oldest of all Vedas—we come across the statement: *"Real is One, sages call it by different names."* This remarkable attitude to diversity is not born of political prudence or expediency, but is integral to the philosophical self-understanding of the Upanisadic tradition itself. Undoubtedly, this reading has exerted a vital influence on the majority of the inhabitants who share this tradition and has set the tone in favor of religious pluralism. Despite occasional lapses, this way of thinking is largely respected by the insiders, and has served as an inspiration for many outsiders who have come in contact with the Indian conceptual world, where there is no room for the idea of a "state religion" or for the idea of religious exclusivism.

The habit of argumentation inherited from the past undoubtedly has a tangible impact on the present as well. Historical records include not only the philosophical reflections of the votaries of "revealed truth" (as in Hinduism), but also of those who defy (such as in Buddhism and Jainism) the very idea of "revelation" (*sruti*) as a source of knowledge. The latter supported their philosophical positions on the strength of prolonged critical reflections that gave rise to powerful logical and epistemological thinking, minute observations, and profound contemplation. It is fascinating to note that in all of these folds, there are examples of nontheistic modes of soteriology, as well as support for an ascertainment of nondiscursive intuitions of certitude.

Moreover, there are carefully documented views of the materialists, atheists, skeptics, and agnostics who debated at length with the philosophers belonging to the Upanisadic, Buddhist, and Jaina traditions. All these controversies helped to develop epistemology, logic, and philosophy of language to a remarkably high standard. Indeed, open public debates on a variety of topics were a part of cultural life, indicative of the presence of a rich intellectual tradition that in today's parlance can be described as a cognitive demand for a standard of rationality, applicable to philosophical and religious as well as scientific theory-making endeavors. The full story of this shared intellectual life needs to be appreciated in order to understand why the conflict between science and religion has never assumed the kind of aggressive stance in India that it has elsewhere.

Records are available of major developments, especially in the domains of mathematics, astronomy, linguistics, medicine, and metallurgy in ancient India (Bose, Sen, and Sabbarayappa 2009). India has a rich tradition of classical music and dance along with a variety of arts and crafts that are often inspired by the religions of the land. The richness of Indian mythology is awe-inspiring. Indeed, the Indian spiritual journey has never been adverse to rationality or supportive of dogmatic faith. As is known, Hinduism is not a centrally organized religion in any rigid sense. There is no principal authoritative body to fix the exact meaning of scriptural words. The texts are open to interpretation even when accepted as "revealed." This is a part of the ethos of the tradition.

The Question of Intellectual Legacy

I have attempted here not merely to recount history, but to delineate some of the basic features that characterize the Indian conceptual world, depicting the way India's cultural heritage can be relevant today. It would now be appropriate to make a few observations about the historical and political forces that have shaped the intellectual discourse in the recent past including the interaction between science and religion. This calls for an understanding of the mechanisms dealing with knowledge and power issues, whose operations are perhaps not yet fully understood. Globally viewed, there have been phases of oppression, suppression, rebellion, and compromise in the interaction and communication between "science and religion." Given that the politics of knowledge has played out differently in diverse parts of the globe during different epochs, the stories vary from culture to culture. Surely, one question that has been raised by many in recent times concerns the manner in which a global history of science has been written by selectively choosing or ignoring the contributions of specific groups of people. The time is now ripe for surmounting petty culture politics and making some serious effort to put on record the contributions from various sources, which have cumulatively brought human civilization to its present point. The process of "give and take" in the march of civilization is ongoing—whether in the area of material prosperity, scientific innovation, or spiritual development. The view that we continuously learn from each other has, fortunately, become preponderant since the plummet of Eurocentrism and the rise of pluralism as an ideology in the cultural, and especially religious, sphere. Those who are genuine participants in the science–religion dialogue must avoid distorting the history of ideas, and must appropriately attribute the intellectual legacy without monopolizing credit for the same.

Perhaps, if the different religious identities of the authors of important scientific works are openly mentioned, it would benefit the members of the "science–religion" community for sociological reasons. A historical retelling of how science developed at an impressive pace, in a given cultural soil, and

inspired by a specific religion during a certain epoch, as well as a retelling of how science has been stifled in the name of the very same religion in several places until the present time, will be useful since these are all stories that throw light on the dynamics of science–religion dialogue. A balanced account of cross-cultural experience in this area is to be welcomed. Scholars who are adherents of Islam, for example, are now particularly conscious of this phenomenon in general. There are Muslim scholars who have also discussed the situation of Indian Muslims in this regard (Habib 2012).

Another question that may be considered in this connection is whether such tags as "Hindu science," "Islamic science," "Christian science," and so on really inform us about the nature of scientific endeavor itself—or are these labels merely of sociological interest, and indicative of success of some in a given domain at a specific time and place that eventually came to be shared by "others," whose religious affiliations are different? Responses to these questions vary. Since there are scientists who boast of their own religious traditions as a source of success in science even today, these claims need to be examined.

The divisiveness created by specific religious identities of scientists, no less than that of ethnicity, sometimes does pose a problem. It is amusing that nowadays, when all appear to be equally eager to declare themselves cosharers of the modern scientific spirit, and are even ready to join the debate about what a process of secularization of the state should or should not entail, that clashes of ethnicity and religious identity still exist.

This is precisely why attitudes toward religious diversity in different parts of the globe equally deserve careful study. A probe into the history of ideas may well disclose why religious wars have dominated some cultural scenes more than others, or why the intensity of dogmatic, fundamentalist attitudes varies from tradition to tradition, or from epoch to epoch, even in a culture that generally prohibits these. The role that other factors (economic/political) play under the guise of religious identity—as has been noted during the partition of India—needs further probing. Some collaborative thinking is necessary in order to arrive at a consensus with regard to what religious quest is really all about, and what religious identity actually signifies. These are all of consequence for discerning whether we need to reexamine the assumptions that propel science–religion dialogue in our contemporary context.

The drama of animosity among diverse denominations of the same religion, or between adherents of science and religion as recorded in a certain phase of European history, is not shared in the same way in the history of the Indian culture. The attitude of Indian scientists to religion—as mentioned earlier—is said to vary from those in the United Kingdom. Let me here refer to one recent study carried out by RASIC (Religion among Scientists in International Context) in 2014. According to the survey done by the principal investigator, Elaine H. Ecklund of Rice University, only

6% of Indian scientists identify themselves as nonreligious, compared to 65% of scientists in United Kingdom. This led her to observe: "There is a vastly different character of religion among scientists in the U.K. than in India—potentially overturning the view that scientists are universal carriers of secularization."

Indeed, a few studies (based on questionnaires and interviews) have been made with the intent of illustrating the attitudes of modern Indian scientists toward their own religious traditions. These works seek to lay bare whether the study of science has strengthened or weakened their understanding of their own traditions, and in what way. Undoubtedly, such studies are informative and illuminating in many ways, but are by no means exhaustive (Gosling 2007).[2]

It seems to me that the complexity as well as the distinctiveness of the Indian conceptual situation can be grasped only by capturing the philosophical ethos of the Indian culture, which regards both science and religion as lower knowledge, or *apara-vidya*. The very fact that knowledge of the Vedas, considered to be "revealed," is categorized as "lower knowledge"—since it is "received"—even when supported by reasoning, whereas direct, nondiscursive knowledge is said to be "higher knowledge"—since this alone can lead to Moksa (liberation, salvation)—means that this categorization may be described as a way of distinguishing conventional religion from spirituality par excellence.

This is precisely why it seems to me that, in the case of India, it is not really viable to simply review the science–religion scenario of the last fifty years, as suggested, without also looking back at the writings of a much earlier time that have created a continuous intellectual tradition of critical reflection, argumentation, and articulation, forming a cultural soil that is supportive of religious diversity.

This overall picture is necessary even for evaluating which specific form of questions and concerns are perhaps more typically Indian, and which are those that the Indian mind undoubtedly shares with others, especially in the West, given the important role that Western culture has played in the modernization of India over the last several hundred years. In any case, there is no lack of secondary literature for those who are nonspecialists and not familiar with the works of such famous Indian scientists as J. C. Bose, P. C. Roy, M. Saha, and S. N. Bose. These secondary sources not only throw light on these scientists' special contributions in their respective fields, but also on their perceptions of religious matters.

Traditional and Modern Science

It may be noted that "modern science" in India is often seen in conjunction with the era of colonialism, and in that context a distinction is drawn between "traditional" science and "modern" science. Although, by and large,

many belonging to the Indian elite see no problem in pursuing this style of description, a small number remain critical and skeptical. What was earlier denoted by the word "traditional" is often nowadays replaced by "alternative." One such field is biomedical science, which concerns itself with human well-being—both physical and mental. Here, the indigenous practice of medicine is dubbed as "alternative science of healing." Interestingly, many—also in the West—are favorably disposed toward these "alternative" practices. It is said that this is especially so because here one comes across ways of defining "disease" and "wellness" differently. This trend is particularly exemplified by the popularity of Ayurvedic treatment at present. Despite the spectacular achievements that have taken place during the last century in the field and the promise of modern scientific medicine, medical tourism is on the rise in India and other countries of the East.

In the field of agriculture as well, some of the local practices geared to preservation of bio diversity are now increasingly being globally recognized as crucially important. However, attempts to discern to what extent these practices can be officially designated as "scientific" is as much a cognitive challenge as it is a question of assessing the balance between "power and knowledge." All these issues are part of the broader overall framework for the science–religion dialogue today.

It is pertinent to note here that some studies have drawn attention to the fact that nowadays the image of science in public perception has virtually become coterminous with technology. This is not unrelated to the fact that, today, the number of scientists engaged in applied fields far outnumbers the number of scientists involved in "pure science." The practical payoff is so huge that the number of scientists who are engaged in military research is considerably higher than those engaged in pure science. The idea of pure science as a pursuit of truth, as nothing but a doorway to knowledge untouched by violence and greed, uncontaminated by power and politics, is a vision that has begun to seem a bit unreal to many. Indeed, some think that in the course of science–religion dialogue, one of the most important concerns that needs attention is the way scientific research and technology are put in the service of violence, greed, and power.

Consequently, some investigators hold the view that there is a need for critically looking at the nature of the scientific establishment everywhere, including in India since independence (i.e., 1947). A review of the kind of politics that guides research and the source of funding that supports it calls for careful scrutiny. The multidimensional theme of violence is seen as being closely linked to cutting-edge scientific research. Protests against a ruthless exploitation of the nonhuman or the nonliving aspects of Nature without any trace of responsibility or accountability are strongly voiced. Some attribute this kind of aggressive violence against Nature to "reductionist science" that has led to ecological crises all over the world (Nandy 1988).[3] Such reviews also give important clues with regard to the

direction that the current interrelationship of science and religion must take in India today.

Search for Values

The present era is a time when conquest and subjugation need not be a marker of validation of human presence any longer. The religions of the world, if we attend carefully, have the potential to set before us goals that are far more worthy. In the face of violence, also when supported by certain powerful political ideologies, there is an obligation to set the parameters of science and religion in a way so that none support ruthless exploitation of any kind. More awareness needs to be created for a change of mindset through the employment of various sociopolitical mechanisms available to us, especially via educational channels. We come back again to the question of values. This is inevitable if we are to raise the status and importance of the "science–religion dialogue" in the agenda of public discourse across the globe. Then we can share the rich cultural heritage of different parts of the world, instead of perpetuating clichés and stereotypes about "other" cultures in general, and "other" thought-traditions in particular.

During the colonial period in India, it was common (for cultural and political reasons) not to say much regarding the significant developments that had taken place in India, be that in the domain of science or that of philosophy (Guha 1987). The practice of projecting the Indian mind as "nonscientific," "ahistorical," and "nonrational" was largely due to the visibly existing hegemony in the way knowledge used to be disseminated. However, much material is now easily accessible to interested investigators (Balslev 1997).[4]

Today in India among educated circles, there is a general awareness about how the story of colonialism interlinked with the politics of knowledge and how it affected traditional scientific enterprise, as well as what it did for the spread of modern science and scientific technology, and the cumulative effect of all these forces on Indian culture. Various scholarly studies focus on the network of concepts, such as the role of science in relation to Indian modernity and spirituality. Given that much still remains to be understood, these studies throw light on some of the hitherto unexplored areas of these complex issues (Paranjape and the Dalai Lama 2008).

Indeed, the mutual borrowings of modern science and indigenous forms of knowledge touch upon a number of common areas, from cosmology to ecology, medicinal and healing practices, to a profound study of consciousness and more. The main objective of science–religion in our time needs to take account of the fact that humanity is at a crossroads today, and that there is a felt need for a civilizational paradigm that can strike a balance between our worldly goals and our "ultimate concerns."

In conclusion, it is pertinent to recall that the story of science in India is not confined only to the two hundred years of assimilation of the Western system of knowledge. India has experience with centuries-old knowledge systems that we all need to tap into. Some of these knowledge traditions in various domains have been continuously utilized, and some are waiting to be revitalized, as these are seen to be able to provide alternatives to the current hegemony of mainstream science. However, how this rich and complex cognitive capital that we have as a part of our global heritage can give rise to a new vision, drawing from ancient and modern systems of knowledge, still remains to be seen.

The history of Indian thought discloses before us how a battle of ideas is to be waged, and why eventually a holistic approach seems to be essential. Already many centuries ago, with the advent of schools of philosophy within the Upanisadic, Buddhist, and Jaina traditions, one not only comes across alternative views of space and time, of origin and destruction, of causality and motion, or even about elements or atoms as a part of the query concerning the external world; there is also an intense exploration of consciousness, of subjectivity. The ontological assumptions that guided these enquiries vary from system to system. Metaphysical schemes may be pluralistic, dualistic, monistic, or nondualistic. However, it is of crucial importance to note why mainstream Indian thought did not accept a naturalistic explanation of "consciousness." Apart from these, the presence of the advocates of atheism, materialism, agnosticism, and skepticism also led to many stimulating debates in Indian philosophical circles, and it can be seen that concerns for ethics and soteriology could not be glossed over despite all opposition.

The Theme of Consciousness

It is of great significance for a multi-religious world to seek to capture what makes it possible to hold together the awesome diversity of religious traditions in the Indian cultural soil, and why human rationality need not simply ignore the category of spirituality. The theme of consciousness has been highlighted in Indian thought throughout its history. This was once considered to be a pet theme of certain genres of philosophy and theology only and seen as an elusive subject that by no means could be a matter of scientific study; however, it is now considered a major theme for multidisciplinary investigation such as cognitive science, psychology, artificial intelligence, neurophysiology, and so on. The sharp line that was used as a marker for distinguishing metaphysics from physics is now gradually becoming blurred. Scientific thinking on consciousness has in turn stimulated vigorous reflections among scientists, philosophers, and theologians, leading to new efforts to demystify consciousness.

A deeper acquaintance with Indian thought discloses how the postulation of a materialistic/reductionist/naturalistic model of consciousness meets with unexpected challenges and resistance. This topic, I like to believe, will now attract even more attention from investigators involved in science–religion dialogue and will call for cross-cultural involvement where the contributions of the Indian philosophical traditions will be greatly appreciated (Balslev 2011, 2013).

Science and spirituality, as an integral part of the Indian cultural heritage, did indeed meet with serious challenges during the colonial era. However, no matter how it has been perceived previously, changes are on the way. It seems that from the late nineteenth century onward, the Indian mind has been engaged in an intellectual movement seeking, on the one hand, to synthesize what came from "outside," but was considered to be absolutely worth preserving, and on the other hand, what needed to be rejected for the benefit of India. A subtle evaluation of what makes India "India" is an ongoing task to be effectuated by insiders, not merely in socio political terms, but also in cultural terms, where India's "debts to the sages" (*Rishirin*) must be duly recognized.

At the same time, it is now also to be seen whether or not the large number of Indians skilled in information technology can actually make the information age accessible to all in local Indian languages, and help to preserve the cultural rootedness. However steep the climb before a sustainable standard can be reached for all people in India, there is hope in the air. Today India has the world's third largest mass of scientific manpower.

The influence of India's contribution to global spiritual and religious life, especially since Swami Vivekananda's visit to the United States in 1893 to attend the first Parliament of the Religions of the World held in Chicago, is well known (Balslev 2014b). What is interesting to notice is that the oft-used distinction between "tradition and modernity" does not seem to be of much concern in this context. The modern version, by and large, is seen as a continuation—perhaps with some minor alterations and adjustments—of the self-understanding of the religious and spiritual tradition of India as it has always been. "International Yoga Day" is a recent marker of global recognition of a holistic spiritual aspiration that all wish to share.

It is not possible to delve into, or even to cite, the utterances of the stalwarts within the short compass of this article, but interested readers may profitably look into the writings of Swami Vivekananda, Sri Aurobindo, J. C. Bose, and others (apart from originals, significant secondary sources are available in English and Bengali). It is worthwhile watching why all of them think—each being respectful toward both science and religion—that neither a religious nor a scientific community must insist on being the sole repository of knowledge and wisdom, that science and religion together

undoubtedly are the forces that can bring about major transformation in our collective life, transcending all borders—geographical and cultural. It is only when these "two disparate areas" (academically speaking) of human pursuit engage each other seriously that perhaps some of our persistent epistemological and ethical problems are likely to get resolved to the benefit of our global sociopolitical life.

Notes

1. For further comments on this, cf. Balslev (2001).
2. Also see my introductory essay to Gosling's book (Balslev 2010b), International Society for Science and Religion Library Project.
3. For a detailed study of these issues, see Nandy (1988).
4. See my Balslev (1997), drawing attention to the East–West asymmetry in philosophical exchanges and used in the philosophy curriculum in the West up to the present day.

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