COSMOLOGY AND HINDU THOUGHT

by Anindita Niyogi Balslev

Abstract. This paper outlines some major ideas concerning cosmogony and cosmology that pervade the Hindu conceptual world. The basic source for this discussion is the philosophical literature of some of the principal schools of Hindu thought, such as Vaiśeṣika, Sāṅkhya, and Advaita Vedānta, focusing on the themes of cosmology, time, and soteriology. The core of Hindu philosophical thinking regarding these issues is traced back to the Ṛk Vedic cosmogonical speculations, analyzed, and contrasted with the "views of the opponent." The relevance of the Hindu worldview for overcoming the conflict between science and religion is pointed out.

Keywords: cosmological cycles; creation; dissolution, Hindu cosmology and soteriology; time.

In the Hindu conceptual world the quest for the meaning of human existence and a deep interest in the universe go hand in hand. There is ample evidence in the classical Sanskrit literature to show that the ancient Hindu thinkers did not underplay the importance of the question of the origin and nature of the universe. They did not regard this inquiry as insignificant or treat it as an obstacle for spiritual quest. Indeed, the history of the Hindu philosophical tradition is that of a gradual development of a network of ideas, giving rise to alternative conceptual frameworks, where sustained cosmological speculations were carried out in harmony with other intellectual and spiritual concerns. Of these, the concern for *mokṣa* (or salvation) was of sovereign importance, as becomes evident as one considers the philosophical schemes proposed by the principal schools of Hindu

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[*Zygon*, vol. 25, no. 1 (March 1990).]
 ISSN 0591-2385

thought, such as Sānkhya and Vaiśeṣika. A distinct feature of the Brahmanical/Hindu[1] tradition is that its preoccupation with soteriology was not designed to hinder investigations into cosmology.

THE BRAHMANICAL TRADITION ON COSMOLOGY

Before we consider some examples, it will be useful (as background) to outline features that are characteristic of the Brahmanical tradition. An account of all Hindu views on cosmology, as they developed through the different phases of its history, would be vast. The origin of these ideas is shrouded in mystery, but the initial formulations can be traced at least to the very beginning of the Vedic period (around 1500 B.C.). The notion of an ordered universe is already present in the Ṛk Veda, which is the oldest of the four Vedas. The idea of Ṛta is particularly interesting: it not only indicates an awareness of a cosmic order or a principle of uniformity of nature, understood in terms of regular alternations of natural events, but it also signifies a moral order. The cosmogony of the Ṛk Veda is expressed in various hymns, which are perhaps some of humankind's earliest documents of intellectual groping with the mystery of the cosmos. Some hymns express deep longing to know what everything arises from; others express philosophical doubts that the question can be answered. One of the famous hymns, the "Nasadiya" (Ṛk x129), begins as follows:

> Then even nothingness was not, nor existence,
> There was no air then, nor the heavens beyond it.
> What covered it? Where was it? In whose keeping?
> Was there then cosmic water, in depths unfathomed?

And it ends:

> Whence all creation had its origin
> he, whether he fashioned it or whether he did not,
> he, who surveys it all from highest heaven,
> he knows—or maybe even he does not know.[2]

There is in the early sources a variety of creation stories and allegories prior to the stage of philosophical growth that saw the rise of distinct schools of Hindu philosophy. Scattered in this literature are various ideas—such as those in the well-known stories of the cosmic egg (*Brahmāṇḍa*) and the golden germ (*Hiraṇyagarbha*)—concerning deities who are creators and progenitors such as Brahmā and Viśvakarmā. There were also attempts to discern a material principle, such as water, earth, or fire, as the basic stuff of all creation, as well as endeavors to identify a principle that could act as a

catalyst in the universal process—for example, time (*kāla*) and eros (*kāma*).

The Upaniṣads, besides being important sources of ideas concerning creation, contain speculations about the fundamental principle that creates, regulates, and controls all that there is.

It is noteworthy, in this connection, that records of a number of views, which did not find approval from the Upaniṣadic seers, indicate the rich diversity of viewpoints, even at that time, regarding this basic question. Ancient India knew of materialism, agnosticism, skepticism, and naturalism of various sorts; each had its understanding of humanity and the universe. It is illuminating to note how—in opposition to what were considered to be the "views of the opponent" (*purvapakṣa*)—a body of ideas developed that came to determine the philosophical core of the Brahmanic/Hindu tradition.

What were these opposing views? Reference to them can be found in the authentic text of the *Śvetāśvatara Upaniṣad*: *yadṛcchavāda* (haphazard happenings), *svabhāvavāda* (naturalism), and *niyativāda* (a theory of predestination). What these otherwise diverse views have in common is that they deny, in one way or another, the idea that there is ordered succession of events that can be understood in terms of any invariable, necessary, causal dependence of one event on another. The Brahmanic schools unanimously rejected such a position. Thus, in the philosophical literature of the orthodox Hindu schools, one can find elaborate discussions on why that form of thinking is fallacious. Consistently, the orthodox position is that the occurrence of an event can never be without a cause (however divergent the Brahmanic views on causality may be). It is pointed out that only that which is ever-present, or that which is never-present, can be uncaused.

Again, the Brahmanical tradition strictly adheres to the idea that being cannot come out of nothing. Hindu philosophers of different schools have taken pains to show the absurdities that transgression of the principle *ex nihilo nihil fit* would involve. A classical formulation of this idea, which is widely known, can be found in the *Bhagavad Gītā* (2/16): (Nāsato vidyate bhāvo . . .).

It may be noted that, whether in the context of theological symbolism or in cosmological speculations, this principle is respected in even divergent schemes of Hindu philosophy. This brings us to an important concept, namely, that Hindu thought does not ascribe an absolute beginning to creation, as a beginning out of nothing. Despite all the variations of Hindu cosmological models, the tradition adheres to the notion of *anādi-sṛṣṭi*, which indicates that the world-process is beginningless. Whereas no absolute beginning of the world-process is admitted, the notion of repeated creation and

dissolution is a very familiar feature of Hindu cosmology. This idea is very ancient and is expressed in the *Ṛk veda samhitā* (10–190–3): "The Lord created the sun and the moon like what existed before" (surya-candra-asaudhātā-yathā-purvam-akalpayat).

These oft-cited words emphasize that creation presupposes a prior state of dissolution, or *pralaya*. This idea is accepted largely by the major schools of Indian philosophy (such as the Vaiśeṣika and the Sānkhya). A notable exception, however, was the school of Pūrva-Mīmāmṣā. In any case, the idea of repeated creation and dissolution is so widespread that it may be taken as characteristic of the Hindu conceptual world. The epic *Mahābhārata*, the *Bhagavad Gītā*, the *Purāṇas*—all accept this view. In the grand cosmological model that emerges, each world cycle is measured in astronomical figures; a world cycle (*kalpa*) is said to be 4,320 million years. Huge time scales are used, and each world cycle is divided and subdivided into periods called *manvantara*, *mahāyuga*, and so on. The *Bhagavad Gītā* describes each world cycle metaphorically as a "day" of Brahmā, symbolizing cosmic activity, followed by the state of *pralaya* (dissolution) as his night, the state of cosmic rest. It is important to understand how the Hindu mind uses this cosmological model in a soteriological framework.

Time and Cosmological Cycles

It may be noted in connection with this notion of cosmological cycles that, in an intercultural and interreligious context, it is commonplace to maintain that a predominant feature of Hindu (as well as Hellenic) thought is the notion of cyclic time. This oft-used notion and term, however, is fraught with difficulties.

A philosophy of time, pronounced or implicit, forms an integral part of a worldview. Recall, in this connection, the insightful words of Paul Tillich: "In every religious interpretation of history philosophical elements are implied—first of all a philosophy of time—and in every philosophical interpretation of history religious elements are implied, first of all an interpretation of the meaning (or meaninglessness) of existence. Wherever existence itself is to be interpreted, the difference between philosophy and theology decreases, and both meet in the realm of myth and symbol" (1948, 17).

Perhaps some of the stereotypes about Indian thought in an intercultural context, such as the cliché that the Indian view of time is cyclic, are due to not seeing these large interconnections between philosophical concepts, soteriological ideas, myths, and symbols. Let me attempt a brief review of the Indian philosophical situation

concerning time, an issue important both for cosmology and soteriology. Lack of a correct understanding of this important question has been, without doubt, a serious impediment for a meeting of cultures, especially in the context of world religions.

At the outset it may be observed that the theme of time has been a much-discussed-and-debated issue among philosophers of different traditions across various cultures. A review of this battle of ideas shows that no major philosophical tradition has a unanimous view on the subject. Just as a cursory glance at western philosophy discloses a wide range of views (such as a notion of absolute time, time as a relational concept, time as process), it is possible to identify several models of time that emerged in Indian thought. (See Balslev 1983).

One can trace ideas about time from the very early sources of the Indian tradition, as in the *Atharva Veda*, the epic *Mahābhārata*, the *Purāṇas*—at the level of myths and allegories. Some of these sources are impregnated with suggestions anticipating later theories. Theories of time were developed at the stage of philosophical growth that saw the rise of distinct schools of Indian philosophy. The contrast of conceptual patterns regarding their understandings of time has played a decisive role in the overall schemes of the various schools of thought. Particular views about time can be seen intertwined with ideas of being and nonbeing, change and becoming, space and causality. A wide range developed in the Brahmanical tradition. Important contributions were also made by Buddhists and Jains. Note the diversity of views: Time is appearance for some, but others maintain the reality of absolute time. Among those who regard time as objectively real, some say it is discrete and regard continuity as a mental construction—a position that others deny. Still others emphasize that the distinction between time as instant and being as instantaneous is not ontological but merely linguistic and conventional. There is a vast polemical literature in which debates concerning different aspects of time are recorded. This diversity of views can be ignored only at the expense of projecting a distorted image of the rich philosophical culture of India. Careful reexamination of the cliché is needed, as it has led astray even some notable historians and theologians, who have attempted to classify and appraise the major views concerning time and history in a global frame.

For example, we find so perceptive a historian as Arnold Toynbee ascribing to the Indian mind the philosophy of sheer recurrence. On this view, Toynbee says, "We are the perpetual victims of an everlasting cosmic practical joke which condemns us to endure our sufferings and to overcome our difficulties and to purify ourselves of

our sins—only to know in advance that the automatic and inevitable lapse of a certain meaningless measure of time cannot fail to stultify all our human exertion by reproducing the same situation again and again ad infinitum just as if we had never exerted ourselves at all" (1972, 157–58).

This is an incorrect appraisal of the Indian understanding of history, as though it claims that events merely happen and keep recurring, and human action plays an insignificant part. To think of history in terms of happenings that are predestined is to deny the importance of action (*Karma*), a concept that, however difficult and subtle in its implications, has an irrevocable place in Indian thought. Countless times the mythologies, instead of suggesting a theory of predestination, point to the law of *Karma*, the efficacy of human action.

It is noteworthy that the idea of cyclic time has never been a topic for debate between the schools, nor can it be identified as the views of any particular school of Indian thought. The necessity of probing into its meaning arises only in the intercultural context. The appellation *circular time*,[2] which carries the implication of mechanical recurrence, not only of the cosmological process but also of individual destinies (where there cannot possibly be room for salvation), is not to be found within classical Indian thought. As mentioned, the idea of cyclic cosmological process, with the notion of repeated creation and dissolution, is accepted by several schools of Indian philosophy that, it needs to be emphasized, esprouse different views of time. In other words, the idea of cosmological cycles should not be confused with the idea of cyclic time.

This misconception needs to be corrected, as it can be found even in the writings of such thinkers as Tillich. In *The Protestant Era* (Tillich 1948) he makes a sharp distinction between the historical and nonhistorical ways of interpreting history. From his summary of the characteristics of the "nonhistorical type" which includes Indian thought among similar worldviews, Tillich notes that in this position "time is considered to be circular or repeating itself infinitely" (Tillich 1948, 20). It is evident that a deeper understanding of the various views of time, which has a bearing on cosmology and soteriology, need to be carefully appraised in an interreligious and cross-cultural setting.[3]

It is relevant, in this connection, to observe that cycles and arrows are major time-metaphors. They appear and reappear, not only in every discourse but also in certain disciplines (such as physics and cosmology), assuming a technical significance of high order. To deprive a discipline of any of these major metaphors is to impoverish

its cognitive experience. While recognizing the arrow as the major metaphor of Western culture, Stephen Jay Gould reclaims the place of time's cycle, citing from the Book of Ecclesiastes to show that the idea has a religious foundation. Cycles and arrows, he writes, are "so central to intellectual (and practical) life that Western people who hope to understand history must wrestle intimately with both" (1987, 16).

Cosmology and Soteriology

It is important not only to be aware of the variety of views of time in the Hindu conceptual world for understanding how the ideas of repeated creation and dissolution operate in different Hindu metaphysical systems, it is absolutely vital to situate these ideas in the soteriological frameworks of the different schools of thought.

The Hindu schools, as a survey of the literature shows, speculated about cosmology quite freely, rejecting and refuting conceptual models put forward by opponents, and favored a specific view as advocated by a particular school. The significance of a specific view is to be grasped within the soteriological scheme where it appears. Consider, for example, the controversy whether it is possible to conceive of a state of final dissolution (or *mahapralaya*) or whether there will be a perpetually fresh recreation after a cosmic rest. A strong note of soteriological concern is evident: when a scheme admits the possibility of *mahā-pralaya*, it makes room for the notion of universal salvation (or *sarvamukti*), as in Advaita Vedānta. On the other hand, if a school does not propound *sarvamukti*, it may accept the idea of interim dissolution (*avantara pralaya*) but not the notion of final dissolution. Thus cosmological speculation and soteriological considerations go hand in hand.

Differences among Brahmanical Schools

The Brahmanical tradition has witnessed the unfolding of a complex network of ideas. Despite their common allegiance to the Upanisadic idea of an abiding *atman* or self, the various Brahmanical schools held various and contending views regarding creation, causality, time, and so on. There are also important differences regarding the metaphysical status of the physical world. Here is a brief description of some representative examples. The Vaiśeṣika school, advocating metaphysical pluralism, operates with *ārambhavāda* as a theory of creation and *asatkāryavāda* as a theory of causality. This school views an effect as a new beginning (*ārambha*) that was nonexistent (*asat*)

prior to the causal operation. It upholds a view of absolute space and time. The physical world is said to be composed of atoms (*aṇu*) and is granted a metaphysical reality. Ideas about salvation are worked out in this structure. (For more information, consult *Vaiseksia Sutra of Kaṇāda* [1961]).

However, in Sānkhya, a form of a metaphysical dualism, there is no absolute space and time. The effect, unlike in Vaiśesika, is not conceived as a new beginning but as a manifestation (*abhivyakti*) of what was potentially present (*sat*) prior to the causal operation. Thus the theory of creation is termed *abhivyaktivada* and that of causality, *satkāryavāda*. The two ultimate principles of matter and consciousness are termed *puruṣa* and *prakṛti*, with male and female symbolism. *Puruṣa*, the conscious principle, remains constant and is not composite, whereas *prakṛti* is conceived as the ever-changing material principle, complex in constitution (technically, composed of three *guṇas*). (For more information, consult *The Tattvakamudi* [1969] and below.)

Cosmic evolution (i.e., *pariṇāma* of *prakṛti*) presupposes a state of equipoise (sāmyavasthā). When this original state of equilibrium is broken (symbolically, due to the transcendental influence of *puruṣa*), the break gives rise to differentiation and heterogeneity. Sānkhya soteriology emphasizes that a discriminatory knowledge of these two principles is essential for salvation, since the universe is nothing but an interplay of *puruṣa* and *prakṛti*. Thus the reality of the physical world remains an indispensable philosophical contention of such orthodox Brahmanical schools as Sānkhya (also Yoga) and Vaiśesika (also Nyāya).

Cosmology in the ontology of Advaita Vedānta has merely an epistemic status. (See *Brahmasutrabhasya of Sankara* [1948].) The empirical world, unlike that in Sānkhya and Vaiśeṣika, is *mayic* in the Advaita vocabulary. This description discloses the world as neither an independent reality—as the realists hold—nor a mere projection of consciousness—as a subjective idealist may insist. The philosophy of Advaita may be described as a form of phenomological soteriology in which the world including the ego, is perceived as constituted (*adhyaṣtha*) and as having for its ground [*adhiṣṭhāna*] the nondual, unchangeable consciousness to which no beginning or end can be ascribed. This, therefore, is a conceptual scheme in which questions of cosmogony and cosmology are concerns from the empirical standpoint (*vyavahārika*): the world is neither ultimate (*pāramārthika*) nor nothing (*alika*).

An interesting question in this connection is whether this beginningless world-process (or *anadi samsāra*) can be said to have a purpose. A classical answer, in the Sānkhya school, is that the insentient world cannot be said to *have* but to *serve* a purpose (*samghāta parārthatvāt*). What purpose does it serve? Hindus generally agree that the purpose is twofold: *bhoga* and *apavarga* or *moksa*. In other words, the world provides the appropriate conditions that make possible both the enjoyment of mundane experience and the striving for salvation from the bonds of *samsara*. Thus the world can be seen as a stage where an individual can pursue worldly goals, or as providing an opportunity for striving for salvation. Thus the Hindu worldview reveals the world not only as an abode of worldliness but as a chance for pursuing what is not "of this world."

Hindu mythology is a very important source of ideas for appreciation of the Hindu worldview. The mythologies of the Puranas are powerful devices for rendering, with moral and soteriological fervor, an intimate story of human singificance in a spectacular cosmological setting. The vastness of the cosmological cycles, spanning billions of human years, is not bereft of theological meaning. In fact, failure to appreciate the ultimate meaning, in the light of these stories, is a serious shortcoming. Hindu mythology sought to attain integration of the scientific, metaphysical, and religious interpretations of humanity and the universe. We find in a unified vision dramatic employment of doctrines of creation, theories of space and time, portrayals of cosmological cycles, and notions of salvation woven with the story of human achievement and arrogance, failure and repentance, and finally the dawn of spiritual insight. Thus the stories of the Puranas render a valuable service by combining insights derived from cosmology, ethics, and soteriology in a mythology that makes them accessible to everybody.

Soteriological interpretations of cosmological models abound in religious traditions across cultures, although the conceptual patterns vary. In this connection, we note that sometimes objections have been raised against the tenability of religious insights because, thanks to our extensive present-day cosmology, we have been forced to forego our "narrow" view of the universe. We very much doubt that such an observation could be made by anyone who knows about the cosmological speculations of the ancient Hindu world. Indeed, it is remarkable to what extent the sense of vast time spans, the idea of cosmological cycles, and the notion of many worlds are part and parcel of Hindu religious discourse.

The *Gospel of Sri Ramakrishna*, for example, records a conversation of this modern Hindu saint in which he compares the countless worlds to the innumerable crabs on the sandy beach in a rainy season. He does this to awaken in the mind of a visitor a sense of humility regarding the task that life sets and to inspire a spiritual longing in him. The moral that may be derived from this is that the spiritual quest of humanity is not prompted by ignorance of the immensity of the universe, as a consideration of certain other religious traditions might suggest to the secular mind. A sense of vast space and time forms the backdrop of Hindu religious consciousness. It is a fitting attitude, which lends support to both scientific and religious enterprises. This may be regarded as one of the most important contributions of Hindu thought.

SCIENCE AND RELIGION

Examining the merits and demerits of different cosmological models, Weinberg observes in the epilogue of his much-read book, *The First Three Minutes* (1976), that eventually, "whichever cosmological model proves correct, there is not much comfort in any of these. It is almost irresistible for the human to believe that we have some special relation to the universe, that human life is not just a more or less farcical outcome of a chain of accidents reaching back to the first three minutes, but that we were somehow built in from the beginning." He further remarks, almost despondently (which perhaps reflects a prevalent attitude), that "*the more the universe seems comprehensible, the more it also seems pointless*" (154; italics mine).

All religious traditions, across all cultures, have insisted that there is a point that needs to be grasped, to be understood, and to be appreciated—and soteriology makes room for a theology of nature. The human effort to understand the universe cannot end with scientific facts that, in Weinberg's words, "gives it some of the grace of tragedy" (154). If there is a demand to explore and capture the ultimate significance of human existence in this universe and not to accept it as a "farcical outcome," the legitimacy of the intellectual and spiritual struggle, highly pronounced in religious traditions across cultures, cannot be questioned.

The cosmos, as the global history of ideas bears witness, has been a mystery to the human mind since time immemorial. In the search to unravel this mystery, predominantly scientific or predominantly religious approaches need not be seen as conflicting enterprises. It is not for religion to set the limit or inhibit the inquiries that a modern cosmologist has the means to undertake; neither is it for the latter to

advocate that a religious understanding of the cosmos is totally redundant.

Perhaps a new conceptual strategy is required that can do justice to the cumulative effort of the human mind to understand the universe by taking into consideration the various perspectives of the issue. Today, we are aware that prejudice or arrogance is not the prerogative of any specific discipline. We ignore this insight only at our peril. We also know that exploration and exploitation of the physical universe that ignores the presence of life is disastrous on many planes. How we look upon nature is not a matter of benign indifference. For example, we are becoming conscious that treating nature only as a resource for egoistic ends leads to ecological crisis and that lack of a sense of harmony between nature and human presence can easily lend itself to self-defeating and self-destructive policies on a collective plane. Perhaps there is something we can learn from a religious interpretation of the universe, using Hindu thought as an important example. The universe, in this scenario, is tied to the drama of human life. It is here that the human drama is enacted, its meaning understood, and its destiny fulfilled. This religious perspective acts as a corrective to the attitude that intervention or interference with the natural order is possible with no repercussions for human beings.

What is needed is a philosophical review of various responses in the context of human inquiry, which seeks to make sense of the human situation in its relation to nature and culture. Accordingly, we have outlined the Hindu response.

If we turn to a religious tradition and try to comprehend its vision of the cosmos, it is not to seek answers that science can provide but to situate the present-day understanding of the universe in an attitude that responds to the call of religious consciousness. There is today a sharp awareness of an unprecedented danger, which can best be described as a spiritual crisis. At the peak of the prestige of science and technology, public awareness of the threat they hold for us is also growing. In an age of science, we are conscious of the possibility that the unleashing of massive destructive forces could destroy this planet. As we face extinction, our quest for the meaning of human existence in a universe about which our knowledge and anxiety are steadily increasing reasserts itself with a sense of urgency as never before. The contemporary human situation, with all its tension, calls for reappraisal of the fundamental policies and programs that guide our collective life. The hierarchy of values prompted by religious consciousness will stand once more before us as an important source in need of reexamination.

NOTES

1. In this paper the terms *Brahamical* and *Hindu* are used synonymously.

2. An early document, highly important for this purpose, is Augustine's *City of God*. Arguing against the Greek view of "circular time," Augustine describes that view (which he repudiates in the name of Christ): "[A]s those others think, the same measure of time and the same events of time are repeated in circular fashion. On the basis of this cyclic theory, it is argued, for example, that just as in a certain age the philosopher Plato taught his student in the city of Athens and in the school called the Academy, so during countless past ages, the same Plato, the city, the same student had existed again and again" (bk 12, chap 14).

I have discussed this question at greater length elsewhere (see Balslev 1983 and Balslev 1986). It is recapitulated here at the request of the editor of *Zygon*.

3. It does not seem unusual to underplay the concept of time in one tradition in contrast with another. Arnaldo Momigliano observed, in an essay titled "Time in Ancient Historiography," that "in some cases they oppose Indo-European to Semitic, in other cases Greek to Hebrew, in others still Greek to Jewish-Christian or to Christian alone" (1969, 17). "Many students of historiography, and especially the theologically minded among them, appear to assume that theirs are neat and mutually exclusive views about time: the Jews had one, the Greeks another. To judge from experience, this is not so; and one would suspect that philosophers would have an easier task if it were so" (39).

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