

# Vaiṣṇava Metaphysics or a Science of Consciousness

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There are two spirits in the world: the perishable and the imperishable. Perishable are all beings; the unchanging is the imperishable. But the highest spirit is another; it is called the supreme self, who, entering the three worlds as the eternal lord, supports them.

–Bhagavad-Gītā 15.16-17

The world exists because consciousness is, and the world is the body of consciousness. There is no division, no difference, no distinction. Hence the universe can be said to be both real and unreal: real because of the reality of consciousness which is its own reality, and unreal because the universe does not exist as universe, independent of consciousness.

–Yoga-Vāsiṣṭha, Chapter 3

## Science and self

Mainstream science deals with the exploration of the large and the small. Over the last few centuries, two fundamental theories have emerged: (i) classical physics, which describes the properties of gross matter; and (ii) quantum physics, which deals with the microworld. Between the classical and the quantum worlds lies metaphysics (Figure 1), the domain of philosophers and religious adepts for centuries. This domain has shrunk as science has investigated new fields. Some scientists believe that all of metaphysics would eventually yield to scientific logic.

Scientific theories leave no room for free will. How do we have the capacity to make choices? How does awareness, or consciousness, emerge out of inert matter? If free will is not merely an epiphenomenon, then how does the circle of causality get broken by consciousness? If the brain-machine is conscious, why can't silicon-machines be likewise conscious? These and other questions in neurophysiology, physics, and computer science have brought the issue of the nature of the observer centre-stage in the discussions of modern science<sup>1</sup>.

Will the development of a theory of consciousness only rearrange the relative placement of the three circles of Figure 1? Or will it require a fundamental revolution in science? The question of the relative placement of the three circles is an important one, because there is a significant difference between classical logic and quantum logic. According to

classical logic we can only speak in terms of presence or absence of attributes; this is the familiar common-sensical logic of the material world. On the other hand, quantum logic is non-binary; according to it we can speak in terms of a *superposition* of attributes. Thus a photon can be simultaneously polarized in two different directions, or an electron can be simultaneously present in a variety of places!

This is what Richard Feynman, one of the great quantum physicists of our times, had to say about the foundations of his subject:

There was a time when the newspapers said that only twelve men understood the theory of relativity. I do not believe there ever was such a time. There might have been a time when only one man did, because he was the only guy who caught on, before he wrote his paper. But after people read the paper, a lot of people understood the theory of relativity in some way or other, certainly more than twelve. On the other hand, I think I can safely say that nobody understands quantum mechanics.<sup>2</sup>

The difficulty in understanding quantum mechanics arises when interpretations based on classical logic are used. So if we must abandon old-fashioned either/or logic and the resultant or accompanying materialism in visualizing the physical world, why do we insist on using such an interpretation in examining phenomena of the mind?

It is important to recognize that quantum or *simultaneous* logic did not first arise in the human imagination with the development of quantum physics. Much of the ancient mystical writings are informed by it. For example, the story of Kṛṣṇa dancing *simultaneously* with the gopīs is in accordance with such a logic.

There are three main views on the nature of metaphysics:

1. *Metaphysics = classical logic.* Human behaviour will turn out to be completely describable by classical logic. Consciousness will be seen as an emergent phenomenon, somehow related to the complexity of the human brain. This is the orthodox view of reductionist science, but recent research mitigates against this view.
2. *Metaphysics = quantum/classical logic.* The neural activity in the brain is held together by a quantum field that endows consciousness with a unity. This makes the brain a hybrid quantum/classical machine. It also suggests that computers will never have consciousness since they do not work on quantum logic. “The heart of metaphysics is quantum logic” is the view that has been espoused by many prominent contemporary scientists.
3. *Metaphysics cannot be reduced.* Current science cannot explain consciousness. Because, if it could, then consciousness would be reduced to a “mechanical” response and we would all be zombies! Reality is fundamentally paradoxical. In order to include consciousness, a new science will have to be created.

Although, current scientific research on consciousness comprises of programs on each of the above three views, new experimental findings seem to rule out the first view.<sup>3</sup>

Consciousness may be a recent concern of modern science, but it is described as the ultimate mystery in ancient Indian texts and its study is lauded as the highest science. Books such as *Yoga-Vāsiṣṭha* and *Tripurā-Rahasya* claim to describe the nature of consciousness. Similar claims are made by various works on Yoga, the Upaniṣads, and the earlier Vedic texts. It is fascinating that the concerns of the ancient and the most modern appear to converge.

We have mentioned that intriguing parallels between the insights of the early Vedic theory of consciousness and those of quantum mechanics. One way to view this is in terms of Figure 2 where the mind is informed by quantum logic but can only express itself in terms of classical logic. This would explain why it was possible for the Vedic sages to have intuitively grasped the quantum aspects of reality and yet they could only speak about it in hints, suggestions and paradoxes, for ordinary language is inadequate for this purpose. According to the Vedic view, awareness is the reflection that the brain provides to an underlying illuminating or awareness principle that is the self. This approach allows one to separate questions of the tools of awareness, such as vision, hearing and the mind, from the subject who obtains this awareness. The subject is the conscious self, who is taken to be a reservoir of infinite potential. But the actual capabilities of the subject are determined by the physical organization of the brain. The brain may be compared to a mirror. Self-awareness is an emergent phenomenon that is grounded on the self and the associations stored in the brain. This is why people are enjoined to cultivate detachment so that they can get closer to the self.

The reality of consciousness is evident not only from the fact that responses are different in sleepwalking and awake states but from the considerable experimentation with split-brain patients. Recent results in neuroscience indicate that it takes about eight-tenths of a second for the readiness potential to build up in the brain before voluntary action begins. Other research suggests that the mind extrapolates back in time by about half a second the occurrence of certain events. Consciousness is definitely not an epiphenomenon.

It is well known that Schrödinger's development of quantum mechanics was inspired, in part, by Vedānta. His debt to the Vedic views is expressed in an essay he wrote in 1925 *before* he created his quantum theory:

This life of yours which you are living is not merely a piece of this entire existence, but is in a certain sense the “whole”; only this whole is not so constituted that it can be surveyed in one single glance. This, as we know, is what the Brahmins express in that sacred, mystic formula which is yet really so simple and so clear: *tat tvam asi*, this is you. Or, again, in such words as “I am in the east and the west. I am above and below, *I am this entire world*<sup>A</sup>.

Schrödinger used Vedic ideas also in his immensely influential book *What is Life?* (1965) that played a significant role in the development of modern biology. According to his biographer Walter Moore, there is a clear continuity between Schrödinger's understanding of Vedānta and his research:

The unity and continuity of Vedānta are reflected in the unity and continuity of wave mechanics. In 1925, the world view of physics was a model of a great

machine composed of separable interacting material particles. During the next few years, Schrödinger and Heisenberg and their followers created a universe based on superimposed inseparable waves of probability amplitudes. This new view would be entirely consistent with the Vedantic concept of All in One<sup>5</sup>.

Although the quantum revolution in science took place more than seventy years ago, its ideas, as mentioned before, are not well understood by psychologists or scholars of religion who continue to use classical logic almost exclusively.

But such an approach had led to a state of crisis in psychology. Oliver Sacks in his book *The Man Who Mistook his Wife for a Hat* and other works has shown how it is essential to take into account the notion of self to explain many puzzling aspects of neuroscience. According to the distinguished Canadian psychologist Melzack<sup>6</sup>:

The field of psychology is in a state of crisis. We are no closer now to understanding the most fundamental problems of psychology than we were when psychology became a science a hundred years ago. Each of us is aware of being a unique “self”, different from other people and the world around us. But the nature of the “self”, which is central to all psychology, has no physiological basis in any contemporary theory and continues to elude us. The concept of “mind” is as perplexing as ever... There is a profusion of little theories—theories of vision, pain, behaviour-modification, and so forth—but no broad unifying concepts... Cognitive psychology has recently been proclaimed as the revolutionary concept which will lead us away from the sterility of behaviourism. The freedom to talk about major psychological topics such as awareness and perceptual illusions does, indeed, represent a great advance over behaviourism. But on closer examination, cognitive psychology turns out to be little more than the psychology of William James published in 1890; some neuroscience and computer technology have been stirred in with the old psychological ingredients, but there have been no important conceptual advances... We are adrift, without the anchor of neuropsychological theory, in a sea of facts—and practically drowning in them. We desperately need new concepts, new approaches.

Psychologists like Melzack believe that the reductionist approaches to the mind do not work. This is another reason why quantum theories of the mind have been examined by psychologists also.<sup>7</sup>Owing to the similarities of the new ideas with the old Vedic views on consciousness, scientists are wondering if the Vedic tradition can provide clues on how to proceed beyond the current difficulties. Since the Vedic ideas on consciousness were developed greatly in the Śaiva tradition, an examination of the Śaiva texts from this perspective has begun. But consciousness was also a fundamental part of Vaiṣṇava thought although this fact is not very widely known. In this paper, I review some main points of the “science of consciousness” in the Vedas and the later Vaiṣṇava literature. My review includes a discussion of Pañcarātra and Acintya Bhedābheda of Śrī Caitanya.

## Vedic Cosmology

Vedic science is based on a theory of *bandhu* (equivalences) between the *ādhidāivika*, the *ādhibhautika*, and the *ādhyātmika*, or the astronomical, the terrestrial, and the cognitive<sup>8</sup>. The modern field of biological cycles has established that the astronomical periods get expressed in a variety of biological processes. Similarly, it is being argued that the only reason we can make sense of the universe is because our cognitive systems are “programmed” to do so!

What is remarkable about Vedic science is that it goes beyond an examination of the outer reality (*aparā*) and examines the cognitive process and consciousness. We see this in the early emphasis on *parā*, or the knowledge of the self. However, *parā* knowledge, by its very nature, lies beyond ordinary discourse and so symbols and metaphors (*pratīka*) were used for it. The overarching entity was named *brahman*.

Chāndogya Upaniṣad speaks of *prāṇa*, *manas*, *āditya*, *ākāśa* and so on as symbols of *brahman*. Kauṣītaki Upaniṣad 3 says that *brahman* is to be sought in consciousness (*prajñā*) and presents the equation: *prāṇa = prajñā*. Chāndogya Upaniṣad 4.10.5 presents *prāṇa = ka (ānanda) = kha (ākāśa)*. Bṛhadāraṇyaka Upaniṣad 2.3 presents two forms of *brahman*: One material and the other immaterial. In the outer world, the sky and the (cosmic) wind are immaterial whereas in the body *prāṇa* and *ākāśa* (luminous space) are immaterial. The essence of what is immaterial in the space is the *puruṣa* in the sun whereas what is immaterial in the body is the *puruṣa* in the right eye. *Brahman* is defined as *neti neti*, not this nor that, and as *satyasya satyam*, the essence of existence.

Elsewhere *brahman* is defined as truth, knowledge, and bliss (*satyam*, *prajñā*, *ānanda*) or as *saccidānanda (sat, cit, ānanda)*, meaning existence, consciousness, and bliss. *Brahman* is also defined in terms of opposites such as *sat* and *asat*, or existence and non-existence and so on, or in negatives as being timefree, spacefree, and independent of causality. In other words, the principle of *brahman* is used to denote an essential unity of things.

Since the physical universe is apprehended by consciousness the latter is rooted in unity. Muṇḍaka Upaniṣad 1.1.3 says that the ātman “is that with the knowledge of which the entire universe becomes known.” Further on *brahman* is defined as being beyond all descriptions, as “that which cannot be seen, nor seized, which has no family and no class, no eyes no ears, no hands no feet, the eternal, the omnipresent and imperishable.” This provides justification for the axiom: “*ahaṃ brahma asmi*.” (Bṛhadāraṇyaka Upaniṣad 1.4.10).

Beyond such a broad identification of *puruṣa* or *brahman* as the essence of reality, one needs to look at Tantra to provide us a structural framework for cognition. For example, the Vedic gods are cognitive centers and Vedic myths define relationships between these centers.

## Tantra in Vedic Texts

Tantra may be viewed as a theory of the structure of consciousness. We encounter details of such a theory only in the literature from the medieval times. These medieval texts speak of a continuity with early traditions and we find evidence for the existence of Tantra in the Vedic books, if the earliest interpretations of the Brāhmaṇas and of Yāska are used.

The theory of the equivalences *bandhu*- implies that the structure of consciousness is

synchronized with the outer reality. It appears certain that Vedic Tantra used planets, the sun, and the moon as internal categories to describe the nature of the mind. But the task of interpreting the Vedic texts from this point of view has just begun.

Below is a quick summary of the Tantric or yogic concepts that we come across in early Vedic texts.

The Ṛgveda places great emphasis on Vāc, the Word. Thus hymn 10.71 is dedicated to Br̥haspati, the lord of the sacred *mantra*, where the knowledge of the origin and secrets of Vāc is described. What is significant here is the comparison with Br̥haspati who likewise guides the planets and the sun and the moon on their divine courses. In hymn 10.125 Vāc is glorified as the supreme power that supports Varuṇa and Mitra, bears Indra and Agni, and pervades heaven and earth. Elsewhere “the gods created Vāc, which all kinds of animals speak” (8.100.11); “*Brahman* expanded as large as the Word” (10.114.8). Aitareya Br̥hmaṇa 4.21.1 proclaims: *brahma vai vāk*, *brahman* is the Word. Atharvaveda 4.1.5 divinizes Vāc as Br̥haspati; in 19.9.3 Vāc is called “most exalted goddess, sharpened by *brahman*.”

Says Chāndogya Upaniṣad 2.23 says: “Prajāpati brooded over the worlds. From the worlds issued forth the three-fold knowledge. Brooding on it arose the syllables: *bhūr*, *bhuvah*, *sva*. He brooded over them; therefrom arose the name *om*, (*omkāra*). As leaves are held together by the stalk, so all the words merge into *omkāra*. The sound *om* is the whole universe.” Ch. Upaniṣad 2.22 says that the inner nature of the vowels (*svara*) is Indra, that of sibilants (*uṣman*) is Prajāpati, and that of the consonants (*sparśa*) is Mr̥tyu.

Taittirīya Upaniṣad 1.8 says that “*om* is *brahman*.” Māṇḍūkya Upaniṣad begins by saying: “Hari is *om*. This syllable is this whole. The past, the present, the future—everything is just the phoneme *om*.”

Maitrāyaṇa Upaniṣad speaks of a six-limbed *ṣaḍāṅga-yoga*. In 6.18 these are called *prāṇāyāma*, *pratyāhāra*, *dhyāna*, *dhāraṇā*, *tarka*, and *samādhi*. In 6.21 is explained how *suṣumṇā*, going upward from the heart to the *brahmarandhra*, serving as the passage of the *prāṇa*, is divided at the palate.

Śaunaka’s Ṛgvidhāna describes tapas and yoga.

Thus during Upaniṣadic times, not only was an equivalence of the universe and the body, in its structural forms, proclaimed but that the details of the structural equivalence were also described.

## A Recursive System of Knowledge

Once one sees that the Vedic knowledge was defined in a recursive fashion, it becomes easy to see Vedānta, Tantra and Yoga, as well as Vedic ritual as different aspects of the same system. In this system the equivalences are sometimes defined only by number, as in the equivalences of 360 days of the civil year to the 360 bones of the body. The equivalences between the 72,000 nāḍīs in the human body and one third the number of muhūrtas in twenty years, or that of 21 organs in the middle body and the number signifying the earth are of a similar nature. At other times the equivalences are more metaphorical: the eyes are the sun and the moon, likewise one can speak of the planets (*graha*) inside the body; nevertheless, here a numerical connection in terms of planet periods and body processes might have been meant. This recursion worked for other concepts as well.

The recursion was also seen in abstract terms. Thus *agnihotra*, the fire ritual, was replaced by *prāṇa-agnihotra*. The fires of the altar have the parallel in the fires inside the body. The Chandogya Upaniṣad 3.17 describes how this abstraction was taught by Ghora Āṅgīrasa to Devakīputra Kṛṣṇa.

A sacrifice *yajña* is a recursive system: any given level is based on a transcendence of the lower level. This is to be seen not only in life but also within the mind, which was viewed as a hierarchical system with systems of the the gross body, *prāṇa*, *manas*, *vijñāna*, and *ānanda*.

In analysis a dynamic balance between three fundamental categories was postulated. Śvetāśvatara Upaniṣad 4.5 speaks of a balance between red, white, and black made conscious by the *puruṣa*; this is repeated in the *rajas*, *sattva*, and *tamas* of *prakṛti* in Sāṃkhya. Clearly, the regions of atmosphere, sky, and earth correspond to these three. In Vedic society also there is mention of an original single class that divides into the three class of *brāhmaṇa*, *rājanya*, and *vaiśya*. The altars are made in five layers to represent the three regions and the two intermediate spaces where atmosphere and earth and also atmosphere and sky meet. Paralleling this later a fourth class of *śūdra* was added to the societal classes to represent the new “foundation” against which the other classes were defined; the fifth class of “sages,” who transcend all class categories, was described only indirectly. The texts themselves do not speak with this directness about the parallels but these are easy enough to infer.

The Bṛhadāraṇyak Upaniṣad 1.2.2 speaks of three primary constituents. Later, as with the expansion of the altar from three to five layers, we come across five primary elements (*pañcabhūtas*) earth, water, fire, air, and ether. The three humors (*dośas* or *dhātus*), viz. *vāta*, *pitta*, and *kapha* in the human body likewise define a basic tripartite model. But each of these *dhātus* is taken to have five types.

The equivalence between the *ādhidaivika*, the *ādhibhautika*, and the *ādhyātmika* are represented in terms of the designs of the fire altars.<sup>9</sup>This is the reason the Vedic gods could represent either the stars and the planets as well as the psycho-physiological centers within the body, or even the bricks in the altar. The correct interpretation can only be obtained from the context. As a description of the psycho-physiological structure, Vedic knowledge could be of relevance to the emerging science of consciousness. New theories propose that consciousness is characterized by oscillations of 40 cycles per second inside the brain. But oscillations in themselves do not explain how consciousness arises and even if this theory were correct, the oscillations might just be a result rather than the cause. Oscillation is represented in the later Tantras represented as *śakti* or as *spanda*.

The philosophical systems that arose in India early on were meant to help one to find clues to the nature of consciousness. It was recognized that a complementarity existed between different approaches to reality, presenting contradictory perspectives. That is why philosophies of logic (Nyāya) and physics (Vaiśeṣika), cosmology and self (Sāṃkhya) and psychology (Yoga), and language (Mīmāṃsā) and reality (Vedānta) were grouped together in pairs. The system of Sāṃkhya considered a representation of matter and mind in different enumerative categories. The actual analysis of the physical world was continued outside of the cognitive tradition of Sāṃkhya in the sister system of Vaiśeṣika, which deals with further characteristics of the gross elements. The atomic doctrine of Vaiśeṣika can be seen to be an extension of the method of counting in terms of categories and relationships. The reality

in itself was taken to be complex, continuous and beyond logical explanation. However, its representation in terms of the gross elements like space, mass (earth), energy (fire) and so on that are cognitively apprehendable, can be analyzed in discrete categories leading to atomicity. The cosmology of Sāṃkhya is really a reflection of the development of the mind, represented in cognitive categories.

## The Vedic Model of the Mind

One Vedic model of the mind is expressed by the famous metaphor of the chariot in the Kaṭha Upaniṣad and the Bhagavad-Gītā. A person is compared to a chariot that is pulled in different directions by the horses yoked to it; with the horses representing the senses. The mind is the driver who holds the reins; but next to the mind sits the master of the chariot—the true observer, the self, who represents a universal unity. Without this self no coherent behavior is possible.

In the Taittirīya Upaniṣad 2.7 an individual is represented in terms of five different sheaths or levels that enclose the individual's self (Figure 3). These levels, shown in an ascending order, are:

- The physical body (*annamaya kośa*)
- Energy sheath (*prāṇamaya kośa*)
- Mental sheath (*manomaya kośa*)
- Intellect sheath (*vijñānamaya kośa*)
- Bliss sheath (*ānandamaya kośa*)

These sheaths are defined at increasingly finer levels. At the highest level is the Self. It is significant that *ānanda* is placed higher than the intellect. This is a recognition of the fact that eventually meaning is communicated by associations which are extra-logical.

The energy that underlies physical and mental processes is *prāṇa*. One may look at an individual at three different levels. At the lowest level is the physical body, at the next higher level is the energy system at work, and at the next higher level are the thoughts. Since the three levels are interrelated, the energy situation may be changed by inputs either at the physical level or at the mental level. When the energy state is agitated and restless, it is characterized by *rajas*; when it is dull and lethargic, it is characterized by *tamas*. The state of equilibrium and balance is termed *sattva*.

Prāṇa, or energy, is described as the currency, or the medium of exchange, of the psychophysiological system. The higher three levels are often lumped together and called the mind.

The key notion is that each higher level represents characteristics that are emergent on the ground of the previous level. In this theory mind is an emergent entity, but this emergence requires the presence of the Self.

The mind may be viewed to be constituted by five basic components: manas, ahaṃkāra, citta, buddhi, and ātman (Figure 4) which cannot be reduced to gross elements.

Manas is the lower mind which collects sense impressions. Its perceptions shift from moment to moment. This sensory-motor mind obtains its inputs from the senses of hearing, touch, sight, taste, and smell. Each of these senses may be taken to be governed by a separate agent.

Ahaṁkāra is the sense of I-ness that associates perceptions to a subjective center and thus creates “personal” experiences.

Once sensory impressions have been related to I-ness by ahaṁkāra, their evaluation and resulting decisions are arrived at by buddhi, the intellect. Manas, ahaṁkāra, and buddhi are collectively called the “internal instruments” (*antaḥkaraṇa*) of the mind.

Next we come to citta, which is the memory bank of the mind. These memories constitute the foundation on which the rest of the mind operates. But citta is not merely a passive depository. The organization of the new impressions throws up instinctual or primitive urges that create diverse emotional states.

This mental complex surrounds the innermost aspect of consciousness which is called ātman; it is of course the same as the self or the *brahman*. Ātman is considered to be beyond a finite enumeration of categories.

## Hierarchical Levels

As we have said before, the state of mind is mediated by the praṇic energy. This energy, at its highest level, is concentrated at certain points in the body. In the Tantras seven, eight, or nine primary points of focus, which are called cakras, are described. It has been argued by some that the beginnings of this system go right back to Vedic times, as the Atharvaveda 10.2.31-2 describes the body as being eight-wheeled and nine-doored (aṣṭācakrā navadvārā devānām pūryodhyā). Their positions appear to be areas in the brain, which map to different points on the spinal cord. The lowest one is located at the bottom of the vertebral column (mūlādhāra cakra). The next cakra is a few inches higher at the reproductive organs (svādhiṣṭhāna cakra). The third cakra (maṇipūra cakra) is at the solar plexus. The heart region is the anāhata cakra. The throat has the fifth locus called the viśuddhi cakra. Between the eyebrows is the ājñā cakra. At the crown of the head is the sahasrāra cakra.

It may be assumed that the stimulation of these cakras in a proper way leads to the development of certain connections in the brain that make it easier for the I-ness to experience the Self. In other words, the cakras are points of basic focus inside the brain that lead to the explication of the cognitive process.

## Universal Categories

If the categories of the mind are taken to arise from recognition of shadow mental images, then how are these categories associated with a single “agent”, and how does the mind bootstrap these shadow categories to find the nature of reality?

Answers to these questions were developed within the frameworks of Vaiṣṇavism as well as Śaivism.

For example, the twenty five categories of Sāṁkhya form the substratum of the classification in Śaivism. Sāṁkhya assumes that non-material entities have their own existence.

The material elements (bhūta) are represented by earth, water, fire, air, and ether. Paralleling them are five subtle elements (tanmātra), represented by smell, taste, form, touch, and sound; five organs of action (karmendriya), represented by reproduction, excretion, locomotion, grasping, and speech; five organs of cognition (jñanendriya), related to smell, taste, vision, touch, and hearing; the inner instrument (antaḥkaraṇa) being mind, ego, and intellect; inherent nature (*prakṛti*); and consciousness (*puruṣa*).

These categories define the structure of the physical world and of conscious agents and their minds. Śaivism enumerates further categories related to consciousness but we shall not speak of them here.

The Vedic theory of consciousness may also be taken to suggest a process of evolution. In this evolutionary model, the higher animals have a greater capacity to grasp the nature of the universe. The urge to evolve into higher forms is taken to be inherent in nature. A system of an evolution from inanimate to progressively higher life is clearly spelt out in the system of Sāṃkhya. At the mythological level this is represented by an ascent of Viṣṇu through the forms of fish, tortoise, boar, man-lion, the dwarf into man.

## Pañcarātra

Sattva, rajas, and tamas are the three original attributes. These act and dwell in the bodies of all creatures. The jīvātman, called *kṣetrajña*, enjoys and endorses the actions of these three attributes. He, however, transcends them and they cannot touch him. Having created them himself, he is above them all. At dissolution, earth, which is the refuge of the universe, merges into water, water disappears into light, light into wind, wind into space, and space into mind. Mind is a great being, and it disappears into unmanifest *prakṛti*. Unmanifest *prakṛti* disappears into inactive *puruṣa*. There is nothing higher than *puruṣa* which is eternal. There is nothing among mobile and immobile things in the universe that is immutable, except Vāsudeva, the eternal *puruṣa*. Endued with great power, Vāsudeva is the soul of all creatures.

–*Mahābhārata, Śānti Parva, 340*

A Vaiṣṇava enlargement of the Vedic theory of the mind is provided by the Pañcarātra tradition. Here Vāsudeva or Kṛṣṇa represent the ground-stuff of reality. Vāsudeva is also called *kṣetrajña*, the knower of the field.

*kṣetrajñaṃ cāpi māṃ viddhi  
sarvakṣetreṣu bhārata  
kṣetrakṣetrajñayor jñānaṃ  
yat taj jñānaṃ mataṃ mama*

Know also that I am the knower in all fields, O Bhārata;  
and only the knowledge of the field and its knower do I regard as true knowledge.

–*BG 13.2*

From Vāsudeva develops Saṅkarṣana at the beginning of time; this is identified with Śeṣa and with *prakṛti*. Next arises Pradyumna, who is identified with *manas*, or mind. Lastly, we have Aniruddha, who is *ahaṅkāra* (Figure 5). Thence evolve the three guṇas.

This model makes an interesting departure from the *kośa* model. Each intermediate levels is identified with a god. Saṅkarṣana is the same as Balarāma, Kṛṣṇa’s brother while Pradyumna is his son and Aniruddha is his grandson. The idea is to suggest an individuality to each of the stages of the expansion of the mind.

Actually, the idea of multiplicity, as emerging from a fundamental unity, permeates the entire Vedic literature. This is how the Vedic gods emerge in the Ṛgveda. Bhagavad Gītā 15.16-17 speaks of the three-fold *puruṣa*. In the words of Sri Aurobindo:

Kshara Purusha is the Self reflecting the changes and movements of Nature, participating in them, immersed in the consciousness of the movement and seeming in it to be born and die, increase and diminish, progress and change. Atman, as the Kshara, enjoys change and division and duality; controls secretly its own changes but seems to be controlled by them; enjoys the oppositions of pleasure and pain, good and bad, but appears to be their victim; possesses and upholds the action of Nature, by which it seems to be created. For, always and inalienably, the Self is Ishwara, the Lord.

Akshara Purusha is the Self, standing back from the changes and movements of Nature, calm, pure, impartial, indifferent, watching them and not participating, above them as on a summit, not immersed in these Waters. This calm Self is the sky that never moves and changes looking down upon the waters that are never at rest. The Akshara is the hidden freedom of the Kshara.

Para Purusha or Purushottama is the Self containing and enjoying both the stillness and the movement, but conditioned and limited by neither of them. It is the Lord, Brahman, the All, the Indefinable and Unknowable.<sup>10</sup>

## Consciousness and imagination

We have spoken of the interconnectedness between the observer and the observed based on a tripartite approach to the universe. Beyond the three categories lies the transcendental “fourth”. Three kinds of motion are alluded to in the Vedic books: these are the translational motion, sound, and light which are taken to be “equivalent” to earth, air, and sky. The fourth motion is assigned to consciousness; and this is considered to be infinite in speed.

It is most interesting that the books in the Indian tradition speak about the relativity of time and space in a variety of ways. The medieval Purāṇas speak of countless universes, time flowing at different rates for different observers and so on.

The Mahābhārata speaks of an embryo being divided into one hundred parts each becoming, after maturation in a separate pot, a healthy baby; this is how the Kaurava brothers were born. There is also mention of an embryo, conceived in one womb, being transferred to the womb of another woman from where it was born; the transferred embryo was Balarāma,

which explains why he was a brother to Kṛṣṇa although he was born to Rohiṇī and not to Devakī.

There is a mention of space travellers wearing airtight suits in the Mahābhārata which may be classified as an early form of science fiction. According to the Sanskritist J.A.B. van Buitenen, in the accounts in Book 3 called “The Razing of Saubha” and “The War of the Yakṣas”:

the aerial city is nothing but an armed camp with flame-throwers and thundering cannon, no doubt a spaceship. The name of the demons is also revealing: they were Nivātakavacas, “clad in airtight armor,” which can hardly be anything but space suits.<sup>11</sup>

The context of modern science fiction books is clear: it is the liberation of the earlier modes of thought by the revolutionary developments of the twentieth-century science and technology. But how did the imagination of the Indian texts emerge? Can it be viewed as arising from consciousness reflecting upon itself?

Universes defined recursively are described in the famous episode of Indra and the ants in the Brahmavaivarta Purāṇa 4.47.100-160. These flights of imagination are to be traced to more than a straightforward generalization of the motions of the planets into a cyclic universe. They must be viewed in the background of an amazingly sophisticated tradition of cognitive and analytical thought.

The Yoga-Vāsiṣṭha (YV) is a Vaiṣṇava text, over 29,000 verses long, traditionally attributed to Vālmiki. He is the author of the Rāmāyaṇa, which is over two thousand years old. But the internal evidence of the YV indicates that it was authored or compiled later. It has been dated variously as early as the sixth century CE or as late as the 13th or even the 14th century. Dasgupta dated it about the sixth century CE on the basis that one of its verses appears to be copied from one of Kālidāsa’s plays considering Kālidāsa to have lived around the fifth century. The traditional date of Kālidāsa is 50 BC and new arguments support this earlier date so that the estimates regarding the age of YV are further muddled.

YV may be viewed as a book of philosophy or as a philosophical novel. It describes the instruction given by Vasiṣṭha to Rāma, the hero of the Rāmāyaṇa. Its premise may be termed radical idealism, and it is couched in a fashion that has many parallels with the notion of a participatory universe argued by Wheeler and others. Its most interesting passages from the scientific point of view relate to the description of the nature of space, time, matter, and consciousness. It should be emphasized that the ideas of the YV do not stand in isolation. At its deepest level the Vedic conception is to view reality in a non-dualist manner; at the next level one may speak of the dichotomy of mind and matter. Ideas similar to those found in YV are also encountered in the Purāṇic and Tantric literature.

The Yoga-Vāsiṣṭha has sometimes been taken to present an idealistic view of reality after the fashion of the Buddhist Vijñānavādins, who do not believe in the reality of the objective world. But this view is not really correct. We have seen how the Pañcarātra takes the ground-stuff of reality to be Vāsudeva, who is both mind and matter. Thus, we have the following assertions in the YV:<sup>12</sup>

- The same infinite Self conceives within itself the duality of oneself and the other.<sup>13</sup>

- The body can neither enjoy nor suffer. It is the mind alone that experiences.<sup>14</sup>
- The intelligence which is other than Self-knowledge is what constitutes the mind.<sup>15</sup>
- The absolute alone exists now and for ever. When one thinks of it as a void, it is because of the feeling one has that it is not void; when one thinks of it as not-void, it is because there is a feeling that it is void.<sup>16</sup>
- All fundamental elements continue to act on one another—as experiencer and experience—and the entire creation came into being like ripples on the surface of the ocean. And, they are interwoven and mixed up so effectively that they cannot be extricated from one another till cosmic dissolution.<sup>17</sup>
- The entire universe is forever the same as the Consciousness that dwells in every atom.<sup>18</sup>
- The five elements are the seed of which the world is the tree; and the eternal consciousness is the seed of the elements.<sup>19</sup>
- Cosmic consciousness alone exists now and ever; in it are no worlds, no created beings. That consciousness reflected in itself appears to be creation.<sup>20</sup>
- This consciousness is not knowable: when it wishes to become the knowable, it is known as the universe. Mind, intellect, egotism, the five great elements, and the world—the innumerable names and forms are all consciousness alone.<sup>21</sup>
- Consciousness is pure, eternal and infinite: it does not arise nor cease to be. It is ever there in moving and unmoving creatures, in the sky, on the mountain and in fire and air.<sup>22</sup>
- Millions of universes appear in the infinite consciousness like specks of dust in a beam of light. In one small atom all the three worlds appear to be, with all their components like space, time, action, substance, day and night.<sup>23</sup>
- The universe exists in infinite consciousness. Infinite consciousness is unmanifest, though omnipresent, even as space, existing everywhere, is manifest.<sup>24</sup>
- The manifestation of the omnipotence of infinite consciousness enters into an alliance with time, space and causation. Thence arise infinite names and forms.<sup>25</sup>
- The Lord who is infinite consciousness is the silent but alert witness of this cosmic dance. He is not different from the dancer (the cosmic natural order) and the dance (the happenings).<sup>26</sup>

The paradox of the separation and yet the identity of the observer and the observed were later expressed as the *bhedābheda* doctrine of Bhāskara of the tenth century, who held that the *brahman* and the world, the principles of unity and multiplicity, were both eternal and metaphysical truths. Caitanya’s metaphysics goes somewhat beyond it and has been called *acintya bhedābheda* by Jīva Goswāmī.

According to it, Kṛṣṇa is inconceivably (*acintya*) and simultaneously one with *and* different from his manifestations. The inconceivability of this metaphysics is in the concept of simultaneous union and separation, but it is so only if classical logic is used. A beautiful representation of this subtle logic is the *rāsa-līlā*.

In the *rāsa* dance, the jewel-like gopīs link their arms together, forming a necklace of pearls around the sapphire of Kṛṣṇa, who is dancing in the middle of the group with Rādhā. In order to share himself with all the gopīs, Kṛṣṇa produces expansions of his own form, such that a Kṛṣṇa-sapphire becomes faceted between each gopī-pearl of this necklace of love, the *rāsa-maṇḍala*.

“Kṛṣṇa is *rasa*. aesthetic experience, and he is *rasika*, the greatest connoisseur of aesthetic experience. Rādhā is the outpouring of this internal unity of *rasa* and *rasika*... In the eternal function of *līlā*, or divine play, Kṛṣṇa fully tastes himself through his primal energy, Rādhā. Rādhā gives life to Kṛṣṇa as energy brings the energetic source to life. As sugarcane cannot taste itself, similarly the tasting of the Absolute (*rasa*) necessitates such a dynamic, non-dual Absolute. The effect of the Absolute tasting itself through its essential *śaktis* is the creation of the phenomenal world and all souls’ apparent relationship with it. When the Absolute (Kṛṣṇa) relates with the phenomenal world, this act of grace attracts all souls to unite with him, enter his divine play, and experience *rasa* beyond the confines of the phenomenal world.”<sup>27</sup>

## Concluding Remarks

Let us return to mainstream science. Quantum mechanics has thrown up a multitude of paradoxes that cannot be understood in the framework of reductionist physics. For example, we have nonlocal effects that can propagate instantaneously over enormous distances. Another famous example is the Wheeler delayed-choice experiment according to which our decisions now can alter the remote past!<sup>28</sup> These effects establish that the idea of an objective reality, visualized in terms of material objects, is invalid. What we need is a theory that incorporates the subjective and the objective in a comprehensive whole. Current research suggests that such a theory will be based fundamentally on quantum physics but it will go beyond it in its comprehensiveness.

Vaiṣṇava metaphysics confronts the question of objective and subjective reality directly. It presents its resolution in terms of a paradoxical unity between consciousness and the material world. The details of the cognitive structure, which may be termed Vaiṣṇava Tantra, belong to esoteric traditions and are not well known in the academic world. Let it also be said that Śaiva metaphysics is similar to Vaiṣṇava metaphysics, although there are some differences in emphasis. Śaiva Tantra, likewise, has parallels with Vaiṣṇava Tantra. The image of Harihara symbolizes this identity.

An important corollary of the notion that consciousness has an existence of its own is that creativity need not be a result of only “mechanical” thought. Artists and scientists speak of flashes of intuition where, mysteriously, without conscious thought a previous problem is surmounted. Likewise, students of scientific creativity accept that conceptual advances do not appear in any rational manner. Might not then one accept the claim of the great, self-taught, mathematician, Srinivasa Ramanujan (1887-1920), that his theorems were revealed to

him in his dreams by the goddess Nāmagiri? This claim, so persistently made by Ramanujan, has generally been dismissed by his biographers.<sup>29</sup> Were Ramanujan's astonishing discoveries instrumented by the autonomously creative potential of consciousness represented to him by the image of Nāmagiri? If that be the case then the marvellous imagination shown in the Yoga-Vāsiṣṭha and other Indian texts becomes easier to comprehend.

To conclude, the Vaiṣṇava approach to reality is a systematic analysis that distinguishes the domain of the material from that of the agent, who is Vāsudeva. It is in complete opposition to the materialist position which regards consciousness as emerging from the material ground. But the materialist position cannot explain how this emergent entity, mysteriously, makes a break in the cycle of cause and effect. Why do we suddenly obtain the sentient from the insentient? On the other hand, the Vaiṣṇava position declares the universe, in the form of Vāsudeva, to be sentient and considers the materiality of the *kṣara puruṣa* to be a part of the divine play (*līlā*) of Kṛṣṇa.

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