

## Consciousness in Ancient India

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The Vedic texts from ancient India (approx. 3000–1000 BCE) claim to be *ātmavidyā*, “science of self” or “consciousness science.” The most ancient of these is the cryptic *Ṛgveda*. But prose commentaries, called the *Brāhmanas* and the *Upanishads* that appeared in the centuries following the *Vedas*, provide a framework to decode its narrative, establishing its central concern with consciousness.

Until recently, the question of consciousness was considered to lie outside of the scope of science and, consequently, the Indian texts on the subject were not properly examined. Scientific attitudes toward consciousness have changed due to the recent advances in neuroscience and because modern physics and computer science must confront the question of the observer.

In the Vedic view, reality is unitary at the deepest level since otherwise there would be chaos. This reality is called *Brahman* (neuter gender). Brahman engenders and, paradoxically, transcends the mind/matter split. It is identical to consciousness at the cosmic scale and it informs individual minds. Turning focus to the very nature of the mind provides insight about consciousness.

### Limitations of Language

Since language is linear, whereas the unfolding of the universe takes place in a multitude of dimensions, language is limited in its ability to describe reality. Because of this limitation, reality can only be experienced and never described fully. All descriptions of the universe lead to logical paradox, and Brahman is the category transcending all oppositions. Vedic ritual is a symbolic retelling of this worldview.

Knowledge is classified in two ways: the higher or unified, and the lower or dual. The higher knowledge concerns the perceiving subject (consciousness), whereas the lower knowledge concerns objects. The higher knowledge can be arrived at only through intuition and meditation on the paradoxes of the outer

world. The lower knowledge is analytical and it represents standard sciences (*śāstra*) with its many branches. In addition, *darśana* represents philosophy where the problem of self is taken together with some aspect of outer reality. There is a complementarity between the higher and the lower, each being necessary to define the other. This complementarity mirrors the one between mind and body.

### Recursive Reality and Mind

The Vedic texts present a tripartite and recursive view of the world. The universe, viewed as three regions of earth, space, and sky, is mirrored in the physical body, the breath (*prāna*), and mind. This connection is a consequence of a binding (*bandhu*) between various inner and outer phenomena.

The universe is understood to be a living organism and therefore subject to cycles of life and death. The universe evolves according to cosmic law. Since it cannot arise out of nothing, the universe must be infinitely old. Since it must evolve, there are cycles of chaos and order or creation and destruction.

In the Vedic discourse, the cognitive centers are called the *devas*, deities or gods, or luminous loci. Thus the *Atharvaveda* calls the human body the city of the *devas*. Each *deva* reflects primordial consciousness and one can access the mystery of consciousness through any of these.

### Mind in Indian Philosophy (*Darśana*)

The six systems of Indian philosophy are paired together in three complementary groups: logic (*Nyāya*) and physics (*Vaiśeshika*); cosmology (*Sāṃkhya*) and psychology (*Yoga*); and language (*Mīmāṃsā*) and reality (*Vedānta*). Although these philosophical schools were formalized in the post-Vedic age, we find the basis of these ideas in the Vedic texts. In each of these, the question of the experiencing self is included.

The objective of the *Nyāya* is *anvīkshiki*, or critical inquiry. Its beginnings go into the Vedic period, but its first systematic elucidation is given by Gautama in his *Nyāya Sūtra* (third century BCE). The text begins with the nature of doubt and the means of proof, considering the nature of self, body, senses and their objects,

cognition, and mind. The Nyāya is also called *pramāna śāstra* or the science of correct knowledge. Knowing is based on four conditions:

1. The subject or the *pramātri*
2. The object or the *prameya* to which the process of cognition is directed
3. The cognition or the *pramiti*
4. The nature of knowledge or the *pramāna*

Gautama mentions that four factors are involved in direct perception: the senses (*indriyas*), their objects (*artha*), the contact of the senses and the objects (*sannikarsha*), and the cognition produced by this contact (*jnāna*). The five sense organs – eye, ear, nose, tongue, and skin – have the five elements – light, ether, earth, water, and air – as their field, with corresponding qualities of color, sound, smell, taste, and touch.

*Manas* or mind mediates between the self and the senses. When the *manas* is in contact with one sense organ, it cannot be so with another. It is therefore said to be atomic in dimension. It is because of the nature of the mind that our experiences are essentially linear, although the quick succession of impressions may give the appearance of simultaneity.

Objects have qualities which do not have their own existence. The color and class associated with an object are secondary to the substance. According to Gautama, direct perception is inexpressible. Things are not perceived as bearing a name. The conception of an object on hearing a name is not direct perception but verbal cognition.

According to the atomic doctrine of Vaiśeshika ascribed to Kanāda, there are nine classes of substances: ether, space, and time that are continuous; four elementary substances (or particles) called earth, air, water, and fire that are atomic; and two kinds of mind, one omnipresent and another which is the individual. The conscious subject is separate from the material reality but he is, nevertheless, able to direct its evolution.

The Sāṃkhya and the Yoga systems take the mind as consisting of five components: *manas*, *ahamkāra*, *chitta*, *buddhi*, and *ātman*. *Manas* is the lower mind which collects sense impressions. *Ahamkāra* is the sense of I-ness that associates some perceptions to a subjective and personal experience. Once sensory impressions have been related to I-ness by *ahamkāra*, their evaluation and resulting decisions are arrived at by *buddhi*, the intellect. *Chitta* is the memory bank of the mind. These memories constitute the foundation on which the rest of the mind operates. But *chitta* is not merely a passive instrument. The organization of the new impressions throws up instinctual or primitive urges which create different emotional states. This

mental complex surrounds the innermost aspect of consciousness, which is *ātman*, the self.

Yoga psychology of Patanjali is a very sophisticated description of the nature of the human mind and its capacity. It makes a distinction between memory, states of awareness, and the fundamental entity of consciousness. It puts the analytical searchlight on mind processes with clarity and originality.

Mīmāṃsā and Vedānta consider the analysis of language and reality, respectively. Mīmāṃsā ideas became a part of the grammatical tradition and Vedānta became a vehicle to consider consciousness in the most abstract sense.

### Parallels with Cognitive Science

There are intriguing parallels between the insights of the early Vedic theory of consciousness and those of quantum mechanics and neuroscience. To express Vedic ideas in modern terms, one might say that individual minds emerge out of the reflection that the brain provides to the underlying illuminating consciousness. Therefore, senses of awareness, such as vision and hearing, may be separated from the person who obtains this awareness.

The human brain represents the clearest structure to focus the self, which is why humans are able to perform in ways that other animals cannot. Self-awareness is an emergent phenomenon which is grounded on the self and the associations stored in the brain.

From a modern scientific viewpoint, living systems are dynamic structures, defined by their interaction with their environment. Living systems may also be defined recursively in terms of living subsystems. Thus, for ants, one may consider their society, an ant colony, as a living superorganism; in turn, the ant's subsystems are also living. Such a recursive definition appears basic to all life. Machines, on the other hand, are based on networking of elements that create a well-defined computing procedure, but they lack a recursive self-definition.

The Vedic system, which was an earlier attempt to unify knowledge, was confronted by paradoxes similar to that of contemporary science. It is noteworthy that Schrödinger, the co-creator of quantum theory, admitted to having been inspired by the Vedic texts. 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 (Moore 1989: 173).

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The similarity between the Vedic system and quantum mechanics and the fact that quantum mechanical models of consciousness are being attempted leads us to ask how far the Vedic thinkers took their classificatory models of consciousness. We find both hierarchical and distributed cognitive centers listed in the Vedic texts.

### Further Universal Categories

If the categories of the mind arise from pattern 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?

These questions are examined in the later Vedic tradition both within the frameworks of Vaishnavism and Shaivism. Of the latter tradition, the later Kashmir Shaivism of Vasugupta (AD 800) has in recent years received considerable attention (Shiva is the name for the absolute consciousness).

According to Sāmkhya, reality may be represented in terms of 25 categories. These categories form the substratum of the classification in Kashmir Shaivism. The Sāmkhya categories are:

1. Five elements of materiality, represented by earth, water, fire, air, and ether
2. Five subtle elements, represented by smell, taste, form, touch, and sound
3. Five organs of action, represented by reproduction, excretion, locomotion, grasping, and speech
4. Five organs of cognition, related to smell, taste, vision, touch, and hearing
5. Three internal organs, mind, ego, and intellect
6. Inherent nature (*prakriti*) and consciousness (*purusha*)

These categories define the structure of the physical world and of agents and their minds.

Kashmir Shaivism enumerates further characteristics of consciousness:

7. Sheaths or limitations of consciousness, being time (*kāla*), space (*niyati*), selectivity (*rāga*), awareness (*vidyā*), creativity (*kalā*), and self-forgetting (*māyā*)
8. Five principles of the universal experience, which are correlation in the universal experience (*sadvidyā*, *śuddhavidyā*), identification of the universal (*īśvara*), the principle of being (*sādākhya*), the principle of negation and potentialization (*śakti*), and pure awareness by itself (*śiva*)

The first 25 categories relate to an everyday classification of reality. The next 11 categories characterize different aspects of consciousness that are to be understood in a sense different to that of mental capacities (categories 21–23). One of these mental capacities is akin to artificial intelligence, which is geared to finding patterns and deciding between hypotheses. On the other hand, categories 26–36 deal with interrelationships in space and time between these patterns and deeper levels of comprehension and awareness.

Deterministic science cannot explain free will. If consciousness is seen as emerging from the ground of the classical world, then scientific laws again remain incomplete. On the other hand, we do not know why the brain-machine has awareness whereas computers never will. Nor do we understand the mechanisms behind psychoneuroimmunology or the astonishing abilities of savants.

The Indian approaches to consciousness seem to have anticipated many difficulties of contemporary science. The classificatory systems developed in the Indian tradition define categories, such as that of universal experience, that can be seen to explain the “complementary” nature of human experience. These categories clearly assign a central role to selectivity, or context, and change. The Vedic system takes the mind to be emergent on the ground of the brain, but this emergence is contingent on the principle of consciousness.

The ancient Indian texts of consciousness were long limited to philosophical analysis alone, remaining an unexplored frontier in the history of science. Further advances in a scientific understanding of mind will lead to a better appreciation of these texts.

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