

## Vedāntic View on Evolution of Different Forms of Matter (pañcikaṛaṇa) After A.B.N. Seal

Bhupendra Chandra Das

**Abstract:** 'The Positive Sciences of the Ancient Hindus' is one of the greatest contributions of Acharya Brajendranath Seal in the field of philosophy. A. B. N. Seal raised Indian philosophy in the estimation of Europeans and Indians also. In the first chapter of 'The Positive Sciences of the Ancient Hindus', we find an illuminating interpretation of the Vedantic view on evolution of different forms of matter (*pañcikaṛaṇa*). In this paper an attempt has been made to explicate this view from my own standpoint. A. B. N. Seal points out that the rudiments of matter must be compounded in various ways to evolve the gross constituent matter of the world. These forms of gross matter are called *Mahābhūtas*. There are five kinds of *Mahābhūtas* or gross matter (*Ākāśa* or sky, *Vāyu* or air, *Teja* or fire, *Ap* or water and *pṛthivī* or earth) corresponding to the five *Sūkṣma Bhūtas* or subtle matter. Here the process by which a *Mahābhūta* is produced from the *Sūkṣma Bhūtas* or subtle matter is called *pañcikaṛaṇa* (quintuplication). All the five *Sūkṣma Bhūtas* are present as ingredients, though in different proportions, in each *Mahābhūta*.

The gross element of *Ākāśa* is produced by the combination of the five subtle elements in the proportion, four parts of *Ākāśa* and one part of each of the other four subtle elements. In like manner, each of the other four gross elements is evolved by the combination of the subtle elements in the proportion, four parts of that element and one part of each of the other four and here the four parts of the element to be produced becomes radical in each case. This process by which a gross element is produced out of the subtle elements is called *pañcikaṛaṇa* or quintuplication.

Professor Seal explicated the theory *pañcikaṛaṇa* in his own way following *Vidvanmanorañjinī* and *Pañcadasi*. We have compared his theory of *pañcikaṛaṇa* with that of Dharmaraja Adhvarindra's *Vedānta-Paribhāsā*. If we compare the view on *pañcikaṛaṇa*, *Caturuṭkaraṇa*, *Trivṛtkaraṇa* after *Vidvanmanoranjinī* accepted by Professor Brajendra Nath Seal and Dharmaraja Adhvarindra's views on *pañcikaṛaṇa*, *Trivṛtkaraṇa* in his *Vedānta-Paribhāsā*, then we find a difference with regard to the proportion of the parts of elements at the time of their combination for the evolution of different *Mahābhūtas*. Therefore, we shall have to investigate which one (among the different views mentioned above) of the proportion of the elements is the correct. If *Caturuṭkaraṇa*, and *Trivṛtkaraṇa*

according to Professor Seal, means *pañcikaraṇa*, like the view of Dharmaraja, where it has been stated that *pañcikaraṇa* is meant by *Trivṛtkaraṇa*, then we can conclude that *pañcikaraṇa* is the correct view.

**Keywords:** *Māyā, pañcikaraṇa, Ākāśa, Vāyu, Teja, Ap, pṛthivi, Mahavhutas, Sūkṣma Bhūtas, Caturvṛtkaraṇa, Trivṛtkaraṇa, Vidvanmanoranjinī, Vedānta-Paribhāṣā*

Acharya Brajendra Nath Seal possessed versatile qualities of several spheres. He was born on 3rd September, 1864 and breathed his last on 3rd December, 1938. He was contemporary of and closely related to Vivekananda, Rabindranath, Prafulla Chandra Roy, Jagadish Chandra Bose and many other great men of India of that period. We know him as the great encyclopedist of India. In order to introduce A. B. N. Seal, Dr. Viswanath Prasad Varma says, "... his solid contributions to the explication of the concepts of Hindu philosophy, the scientific method in Indian thought and the romantic currents in the history of European literature, and his philosophic comprehension and the goals of human civilization entitle him to an honored place in the history of modern Indian thought. As a scholar his encyclopedism derived inspiration from the old notion, 'I have taken all knowledge of research scholars and teachers for conducting researches in Hindu philosophy, Indian History, anthropology, sociology, statistics, economics and other branches of learning. By his personality, his philosophic efforts and creativism and his *The Positive Sciences of the Ancient Hindus*, he has strengthened the currents of *Hindu revivalism*. But he was an emancipated mind who adhered to the goals of cosmic humanism and the comprehensive liberation of human spirit."<sup>1</sup>

A. B. N. Seal composed three important books. His first book was an epic entitled "*The Quest Eternal*". His second book was "*New Essays in Criticism*." The third one is his best book entitled "*The Positive Sciences of the Ancient Hindus*."

All the papers written by him were not related to philosophy, most of his papers were related to the subjects other than philosophy, like literature, Mathematics, Anthropology, Science, Indian Ship Management, Education policy. Comparatively his papers related to philosophy were only a few in number; for example, *Comparative Studies in Vaishnavism and Christianity* (1899), *Hindur Prakṛta Hindutva* (1914), *Indian Theistic Movement and Its Problem* (1915), *Rammohun Roy: The Universal Man* (1924), *The Gītā: A Synthetic Interpretation* (1930), *Rammohun's Universal Humanism* (1933), and *Paramahaṣa*

Ramakrishna: *Saint, Mystic and Seer* (1937).

*The Positive Sciences of the Ancient Hindus* is one of the greatest contribution of Acharya Brajendranath Seal in the field of philosophy. This book is the proof of his profound expertise in Indian Philosophy, Science and Western Philosophy. This is a proper guide book of the studies of comparative philosophy. Perhaps none has written this type of comparative book on Eastern and Western philosophy before Brajendra Nath Seal. This type of information and important book, perhaps, is not published after Brajendra Nath also. This is his original research book. Brajendra Nath wrote an autobiography in the concluding part of his life but it is not yet published.

We find his own philosophical thinking in the following books: (i) Acharya Brajendra Nath Seal: Birth Centenary Commemoration Volume (1965) (ii) Radhakrishnan and Murhead (ed.), *Contemporary Indian Philosophy* (1985) and (iii) Dr. V. P. Verma, *Modern Indian Political Thought* (2002). Again we find in his book (iv) '*Nandantattva*' i.e. *Theory of Aesthetics* (1996), Sri Sudhir Kumar Nandi properly discussed, in detail, Brajendra Nath Seal's theory of aesthetics.

Acharya Brajendra Nath Seal raised Indian Philosophy in the estimation of Europeans and Indians also. At an early time Indians could only listen to the messages from the Western country on the dogmatic and mythological feature of Indian philosophy. The objection is often heard against Indian philosophy that theories of it do not depend on independent reasoning but on authority. So they are dogmatic but not critical. Sometimes it is stated that Indian philosophy asserts but does not prove that it is positive throughout but not argumentative. In this way Indian philosophy would be disregarded and discredited by many uninformed critics in India and abroad.

In this situation, our sincere and complete study of any of the great systems of Indian philosophy would make us present how unfair the charges mentioned above are. In each of the systems, epistemology and the logical conditions of knowledge have a valuable place. A philosophical theory is not allowed to stand unless it satisfies these conditions. Each of the systems tried its best to meet the objections raised against it by the others. We know that criticism makes a system developed. It may be stated that the Indian systems of philosophy are based on independent logical thinking. Same type of logical thinking is found in the West even in this modern age.

So it is required to secure an honorable place for Indian philosophy in the history of the World's philosophy is to make it better known to the world especially the Western countries. Every competent Indian scholar should undertake this noble task.

Such scholar must have an adequate knowledge of Indian philosophy on the one hand and a profound or adequate knowledge of Western philosophy on the other. Acharya Brajendra Nath Seal was properly fit for the honorable task of making our Indian philosophy better known to the world at large, especially to the West. Perhaps he at first undertook the task and performed it partly and successfully. Therefore, he is a best person in the field of comparative studies in philosophy. His best book, *'The Positive Sciences of the Ancient Hindus'*, is his great contribution for this purpose.

*"The Positive Sciences of the Ancient Hindus"* is a series of monographs on the scientific concepts and methods formulated by the ancient Hindus, including the Jainas and the Buddhists. It may, therefore, be said to be a study of ancient Indian scientific thought. This study is so conducted as to correlate the Indian scientific concepts and methods to parallel Western ideas and methods, and thereby bring out the contributions of the ancient Indians to the scientific thought of the world. Its direct aim is thus. "to furnish the historians of the special sciences with new material which will serve to widen the scope of their survey."<sup>2</sup>

In the First Chapter of *'The Positive Sciences of the Ancient Hindus'* firstly we find a nice interpretation of the *Sāṅkhya-Pātañjala* theory of *Prakṛti* and *Guṇas*.

Again, in this chapter we find an illuminating interpretation of the Vedantic view on evolution of different forms of matter (*pañcikarāṇa*). In this paper an attempt will be made to explicate this view from my own standpoint.

The Advaita Vedānta theory of Maya and the world's evolution or creation out of Brahman with Maya is regarded by many scholars as a philosophical question. I think that here 'Māyā' means Brahman along with Māyā because Māyā alone is an inert thing which cannot be a cause of evolution of the world. Māyā is regarded by the Vedāntins as the material cause (*Upādanakāraṇa*) of the world. The power of Māyā is the power to realise the unreal to impart practical reality or mediate existence to that which does not and cannot possess absolute Reality or self-existence. Māyā is at once real and unreal but Brahman (Self) is absolute Reality, absolute Intelligence and absolute Bliss. The world is created out of Māyā (*Māyāpariṇāma*),

so that *Māyā* in the Vedānta replaces the *Prakṛti* of the Sāṅkhya. But *Māyā* and by implication the world originate from Brahman, not by a process of evolution (*Pariṇāma*) but of *Vivarta* (self-alienation). At first the self-alienation of the Absolute, acting through *Māyā*, produces *Ākāśa* which is one, infinite, ubiquitous, imponderable, inert and all-pervasive. The world thus began goes on evolving in increasing complexity. The other *Sūkṣma Bhūtas*, the classes of subtmatters are produced from *Akasa* in an ascending linear order- from *Ākāśa* evolves *Vāyu*, (subtle radiant matter) from *Vāyu* evolves *Tejas* (Subtle viscous matter), from *Tejas* evolves *Ap*, subtleviscous matter, from *Ap* evolves Earth. One, infinite and all-pervasive *Ākāśa* has the capacity of sound. *Vāyu*, the subtle gaseous matter, evolves from the universal *Ākāśa* and is instinct with the potential of mechanical energy or impact or pressure *Tejas* (the subtle radiant matter) contains potentially the energy of light and heat. *Ap*, subtle viscous matter, is instinct with the energy that stimulates the nerve of taste. Earth, subtle hard matter, possesses the latent energy of smell.

A. B. N Seal points out that the subtle rudiments of matter must be compounded in various ways to evolve the gross constituent matter of the world. These forms of gross matter are called *Mahāvḥātas*. There are five kinds of *Mahāvḥātas* or gross matter (*Ākāśa* or sky, *Vāyu* or air, *Teja* or fire, *Ap* or water and *prithivi* or earth) corresponding to the five *Sūkṣma Bhūtas* or subtle matter. Here the process by which a *Mahāvḥātas* is produced from the *Sūkṣma Bhūtas* or subtle matter is called *Pañcīkaraṇa* (quintuplication). All the five *Sūkṣma Bhūtas* are present as ingredients, though in different proportions, in each *Mahābhūtas*.

The gross element of *Ākāśa* is produced by the combination of the five subtle elements in the proportion, four parts of *Ākāśa* and one part of each of the other four subtle elements. In like manner, each of the other four gross elements is evolved by the combination of the subtle elements in the proportion, four parts of that element and one part of each of the other four and here the four parts of the element to be produced becomes radical in each case. This process by which a gross element is produced out of the subtle elements is called *Pañcīkaraṇa* or *quintuplication*.

Let *ak*, *v*, *t*, *ap* and *e* be the five forms of subtle matter and *AK*, *V*, *T*, *AP* and *E* be the (quintuplication) corresponding *Mahābhūtas*. We may represent the constitution of the *mahābhūtas* in the following:<sup>3</sup>

$$AK = ak_4 (v_1, t_1, ap_1, e_1)$$

$$V = v_4 (ak_1, t_1, ap_1, e_1)$$

$$T = t_4 (ak_1, v_1, t_1, ap_1)$$

$$AP = ap_4 (ak_1, v_1, t_1, e_1)$$

$$E = e_4 (ak_1, v_1, t_1, ap_1)$$

Professor Seal have shown this proportion of the *Sūkṣma Bhūtas* following Vindvanmanoranjīfi.

Referring to *Pañcadāsī* Prof. Seal says, “The *Pañcadāsī* characterizes the different Mahabhutas by their typical sounds: e.g., *Ākāśa* by the (hollow booming sound); *Vāyu* (air) by a sibilant sound hissing, susurration (imitative symbol, *Visi*); *Tejas* (fire) by a puffing (or roaring) sound (imitative symbol, *Bhugubhugu*); *Ap* (water) by a liquid sound (imitative symbol, *Culuculu, gurgle, splash-splash, glut-glut*); and finally, Earth by a splitting or rattling sound, a crack or rattling sound, a crack or a thud (symbol, *Kad-kad*)”.<sup>4</sup>

Regarding quaternion (*Caturvṛtkaraṇa*) Prof. Seal mentions others’ view which is as follows: *Ākāśa* or ether never enters as a component part. It is always one and indivisible. According to this view, the four *Mahābhūtas* – *Vāyu, Tejas, Ap* and Earth only are supposed to be compound and by a process called quaternion or the Neo-Platonist quaternion.<sup>5</sup>

$$V = v_3 (t_1, ap_1, e_1)$$

$$V = 3/4v + 1/12t + 1/12ap + 1/12e$$

$$T = t_3 (v_1, ap_1, e_1)$$

$$T = 3/4t + 1/12v + 1/12ap + 1/12e$$

$$AP = ap_3 (v_1, t_1, e_1)$$

$$AP = 3/4ap + 1/12v + 1/12t + 1/12e$$

$$E = e_3 (v_1, t_1, ap_1)$$

$$E = 3/4e + 1/12v + 1/12t + 1/12ap$$

These compound forms like the former view, are considered to exercise their specific energies actively.

Others again point out that the *Mahābhūtas* *Tejas, Ap* and Earth alone are compounded by a process called *Trivṛt-Karaṇa* (triplication). This *Trivṛtkaraṇa* (triplication) is as follows:<sup>6</sup>

$$T = t_2 (ap_1, e_1)$$

$$T = 2/3t + 1/6ap + 1/6e$$

$$AP = ap_2 (t_1, e_1)$$

$$AP = 2/3ap + 1/6t + 1/6e$$

$$E = e_2 (t_1, ap_1)$$

$$E = 2/3e + 1/6t + 1/6ap$$

This *Trivṛtkaraṇa* is supported by the *Śruti* text (*Chhā. Upa.*) like “*tāsām trivṛtam trivṛtamekaikām karavānī*”.<sup>7</sup> Here *trivṛtkaraṇa* means combination of the three elements- Tejas, Ap and Earth but not that of five. But the *Taittirīya Upaniṣad* speaks of two more elements (*Ākāśa* and *Vāyu*) than the above three i.e., total five elements. So *Trivṛtkarana* of *Chhā. Upaniṣad* should mean *Pañcīkaraṇa* and in the same way, *Caturvṛtkarana* also should mean *Pancīkarana* and thus there will be no contradiction between the *Śrutis*.

The *Sūkṣma Bhūtas* are forms of homogeneous and continuous matter, without any atomicity of structure. The *Mahābhūtas* are composite. The *Vedānta* speaks of *Aṇu* or *Paramāṇu*, not as an ultimate discrete constituent of matter, but as the smallest conceivable quantum or measure of matter. In the *Sāṅkhya* doctrine the atomic structure is ordinarily accepted. The *Guṇas* are supposed to be bounded (*paricchinna*) and indefinitely small (*aṇu*) in size. Therefore, the *Tanmātras* and *Paramāṇus* must be conceived to have a different structure.

When the *Mahābhūtas* are once formed, the different kinds of substance are produced from them by the evolutionary process called *Parīṇāma*. Matter is constantly undergoing change of state. The effect is only the cause in a new collocation. Change is of two types:

- (i) Change by a spontaneous process, without pressure. Action from without is not always a condition of change of state, nor is it necessary that more than one substance should combine to generate another substance or variety of substances. For example, we find the formation of curds from milk or the formation of ice from water.
- (ii) Change due to combination with other substances. Such combination may produce (a) a compound substance possessing like qualities with the constituents or (b) unlike compounds with new qualities 'heteropathic effects'. Any new quality thus originated through chemical combination is called *Samhata-bhūta-dharma*, for example, the intoxicating power of fermented rice and molasses, which does not exist in the ingredients taken separately. This *Sambhuyakriyā* corresponds to chemical combination and the Vedantists like the *Sāṅkhyas*, explain this only as the evolution of the latent energy in a new collocation. But, unlike the *Sāṅkhya*, the Vedanta freely recognizes the combination of heterogeneous *Bhūtas*.<sup>8</sup>

Hence Earth, *Ap*, *Tejas* and *Vāyu*, freely combine in different proportions and groupings to produce the variety of substances in the world, e.g., the animal organism is a compound of all the five *Bhūtas*.

Many heterogeneous substances (or *Bhūtas*) may unite as “material causes” to produce a new substance.

The Vedantists resolve all physical, vital and psychical activities into modes of motion, subtlecosmic motion; but they give a separate substantive existence to the agents, the vital principle and the mind, though these are also evolutionary transformations of the *Sūkṣma Bhūtas* (forms of subtlematter). There is a common thing of the *Nyāya*, the *Vedānta* and the *Sāṃkhya*, which is Consciousness or Intelligence and it transcends Matter; but the *Naiyāyikas*, as pluralists, advocate that vital and psychical activities are also in material and cannot be resolved into motion. The *Vedāntists* resolve these activities into subtmotion, but ascribe them to a substantive quasi-material Life Principle and Mind, the all-mirroring Intelligence alone being immaterial and transcendent.

**Combination of the Elements after Dharmarāja Adhvarīndra, Vedānta-Paribhāṣā:** At the beginning of evolution or creation the Supreme Lord, aided by the past actions of beings, which are the causes of the variety of the universe that is about to be created, as also by the cosmic illusion (*Māyā*) which is endowed with an unlimited and unthinkable power, first conceives in his mind the entire universe having different names and forms and resolves, 'I shall do this'; for the Sruti says, 'I reflected: 'Let me Multiply', 'Let me be effectively born' (*Chhā. Up. VI.II.3*).

The process of combination of an element with the other four ones is as follows: Firstly, we shall divide the *Ākāśa* into two and again divide one of these halves into four, each one of these four parts is to be added to halves of the other four elements—*Vāyu*, *Tejas*, *Ap* and Earth. That is to say, each compound element will consist of half of itself and one-eighth of each of the other four. In like manner, we shall divide *Vāyu* into two and again divide one of these halves into four, each one of these parts is to be added to halves of the other four elements—*Ākāśa* and so forth. The same thing happens with *Tejas* also. In this way, half of each compound element consists, in the above-quoted way, of itself, and the other half of the remaining four elements.

Evolution of the *Mahābhūtas* (AK, V, T, AP and E) is to be done in the following way:

$$AK = \frac{1}{2} ak + \frac{1}{8} v + \frac{1}{8} t + \frac{1}{8} ap + \frac{1}{8} e$$

$$V = \frac{1}{2} v + \frac{1}{8} ak + \frac{1}{8} t + \frac{1}{8} ap + \frac{1}{8} e$$



$$T = \frac{1}{2} t + \frac{1}{8} ak + \frac{1}{8} v + \frac{1}{8} ap + \frac{1}{8} e$$

$$AP = \frac{1}{2} ap + \frac{1}{8} ak + \frac{1}{8} v + \frac{1}{8} t + \frac{1}{8} e$$

$$E = \frac{1}{2} e + \frac{1}{8} ak + \frac{1}{8} v + \frac{1}{8} t + \frac{1}{8} ap$$

So If we compare the view on *pañcikaṛaṇa*, *Caturuṛtkaraṇa*, *Trivṛtkaraṇa* after Vidvanmanoranjini accepted by Professor Brajendra Nath Seal and Dharmaraja Adhvarindra's views on *pañcikaṛaṇa*, *Trivṛtkaraṇa* in his *Vedānta-Paribhāṣā*, then we find a difference with regard to the proportion of the parts of elements at the time of their combination for the evolution of the different *Mahābhūtas*. Therefore, we shall have to investigate which one (among the different views mentioned above) of the proportion of the elements is the correct. If *Caturuṛtkaraṇa* and *Trivṛtkaraṇa*, according to Professor Seal, means *pañcikaṛaṇa*, like the view of Dharmaraja, where it has been stated that *pañcikaṛaṇa* is meant by *Trivṛtkaraṇa*, then we can conclude that *pañcikaṛaṇa* is the correct view.

#### Notes and References

1. Dr. Viswanath Prasad Varma, *Modern Indian Political Thought*, Laksmi Narain Agarwal Educational Publishers, Agra-3, 2002, p. 392.
2. Dr. Satischandra Chatterjee, "A Pionner of Studies in Comparative Philosophy", *Brajendra Nath Seal: A Tribute*, Ed. by Haripada Mondal, Pub. By Smt. Sumita Mondal, Kolkata-700150, 2008, pp. 41-61.
3. Brajendra Nath Seal: *The Positive Sciences of the Ancient Hindus*, Motilal Banrsidass, Delhi, 1991, p.87.
4. *Pañcadasī*, Chapter II, *Bhūtaviveka*, Sloka-3.
5. Brajendra Nath Seal: *The Positive Sciences of the Ancient Hindus*, Motilal Banrsidass, Delhi, 1991, p. 88.
6. Ibid.
7. *Chhāndogyopaniṣad*, VI.iii.3.
8. Śaṅkara, *Śārīraka-Bhāṣya* on *Brahmasūtra*, Sutra 7, *Pāda* III, *Adhyāya* 2.