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FABRIC OF LIFE: PARYĀPTI PRĀṆĀPANA IN JAINA AGAMA

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Biology is the science of living substances. The field of biological study of Prākrit texts differentiates the living from the non-living by using the word "*Jīvatthikāya*" (organism) to refer to any living thing, plant or animal just as modern biology does. So, it is relatively easy to see that a man, a *śāla* tree, a creeper and an earthworm are living, whereas pieces of matter, e.g. earth, stones, etc. are not so. But according to modern biology, "it is more difficult to decide whether such things as viruses are alive". Biological study of Prākrit texts reveals that the fabric of life of all plants and amimals is *paryāpti* (*śakti* = power = vital force) or *prāṇa* (life force) in another way, i.e. *paryāpti* (*pajjatti*) appears to be the actual living material of all plants and animals.

A study of different views on *prāṇa* or *vāyu* shows that *paryāpti* or *prāṇa* of Prākrit texts is neither a result of peculiar chemical combinations of non-living matters as advocated by the *Cārvākas*, nor a complex activity of the *Sāṁkhya*, but a sort of separate prinicple pervasive of the organism as defined by the *Vedānta*, an impelling force, the prime-mover of Caraka and Suśruta.

It appears to be the actual living material of all plants and animals like protoplasm of modern biology. *Paryāpti* and *prāṇa* of Prākrit texts, the two unique forces, not explainable in terms of physics and chemistry, are associated with and control life. The concept of these two forces may be called vitalism, which contains the view that the living and non-living systems are basically different and obey different laws.

It is reasonable to suppose that *parỹapti*, a mysterious aspect of life, although not identifiable with protoplasm, comes nearer to the latter because of its unique functions in the organisms.

Biological study of Prākrit texts reveals that the fabric of life of all plants and animals is *paryāpti*[1] (*śākti* = power = vital force) or *prāṇa*[2] (life force) in another way, i.e. *paryāpti* (*pajjatti*) appears to be the actual living material of all plants and animals. There are stated to be six kinds of *paryāpti* (*pajjatti*)[3], viz., *āhārapajjati* (vital force by which beings take, digest, absorb and transform molecules of food particles into *khala* (waste products) and *rasa* (chyle = molecules of nutrients or energy)[3], *śarīrapajjati* (vital force by which chyle or molecules of nutrients = (*rasībhūtamāhāram*) are utilized by beings for the release of energy, the building of blood. tissue, fat, bone marrow, semen, etc.[4], *iṁdiyapajjatti*[5] (vital force by which molecules of nutrients or chyle suitable for building senses are taken in and provided to the proper place, so that beings can have the perceptual knowledge of the desired sense objects by the sense-organs[6], *ucchvāsapajjatti*[6] (vital force by which particles of respiration are taken in, oxidized for energy and left out (as carbon dioxide and water), *bhāsāpajjatti*[7] (vital force by which beings, having taken proper particles of speech, emit them as speech) and *manapajjatti*[8] (vital force by which beings, having taken particles or dusts of mind,

transform them by the mental process and give vent to them as the mental force (i.e. thought).

It appears that this *paryāpti* (vital force) is not a single substance but varies considerably from organism to organism (i.e. one-sensed to five-sensed being), among the various parts of a single animal or a plant, and from one time to another[9] within a single organ or part of an animal or a plant. There are six *paryāptis*, but they share certain fundamental physical and chemical characteristics[10].

Prāṇa (Life Force)

It is stated that there are ten kinds of *prāṇa*[11] (life force or living material), viz., five *iṁdiyapāṇa* (*indriyaprāṇas* = life force of five senses), *ucchvāsapāṇa* (*ucchvāsaprāṇa* = life force of respiration), *āyupāṇa* (*āyuḥprāṇa* = life force of length of life), *manovākkāya pāṇa* (*manovākkāyaprāṇas* = life forces of mind, speech and body).

Actually speaking, these ten *prāṇas* are almost contained in six *paryāptis* (*pajjatti*), e.g. *indriya-paryāpti* contains five *indriyaprāṇas*, *ānaprāṇaparyāpti ucchvāsaprāṇa*, *śarīraparyāpti-kayaprāṇa*, *bhāṣā-paryāpti vākprāṇa*, *manaḥ-paryāpti*, *manaḥprāṇa*; only *auprāṇa* appears to be an addition.

Thus, it is found that most of the *paryāptis* and *prāṇas* have common names. So, the question is whether there is any difference between them. The *Gommaṭasāra*[12] explains the difference in this way that *paryāpti* is the attainment of the capacity of developing body, mind, speech and five senses, while *prāṇa* is the activity of those functionaries.

It is further explained that one-sensed beings possess four *prāṇas* or *balas* (life-forces), viz. sense of touch, respiration, length of life and body, two-sensed beings have six *prāṇas*, viz. senses of touch and taste, respiration, length of life, body and speech; three-sensed beings have seven *prāṇas*, viz. senses of touch, taste and smell, respiration, length of life, body and speech; four-sensed beings have eight *prāṇas*, viz. sense of touch, taste, smell and sight, respiration, length of life, body and speech.

In *asaṁjñī pañcendriyajīvas* (five-sensed beings having no physical mind) but psychical mind, there are nine *prāṇas*, viz. senses of touch, taste, smell, sight and hearing, respiration, length of life, body and speech, while there are ten *prāṇas* in *Saṁjñī pañcendriya Jīvas* (five-sensed beings having physical and psychical mind), viz. senses of touch, taste, smell, sight and hearing, respiration, length of life, body, speech and mind[13].

According to the *Cārvākas*, life as well as consciousness is a result of peculiar chemical combinations of non-living matter or the four elements in organic forms, just as the intoxicating property of spirituous liquor is the result of the fermentation of unintoxicating rice and molasses[14]. Similarly, the instinctive movements and

expressions of new-born babies (sucking, joy, grief, fear, etc.) take place mechanically as a result of external stimuli as much as the opening and closing of the lotus and other flowers at different times of the day and night[15], or the movement of iron under the influence of loadstone[16]. In the same way, the spontaneous reproduction of living organism occurs frequently, e.g. animalcules develop "in moisture of infusions, especially under the influence of gentle warmth (*svedaja, uṣmaja, daṁsamaśakādayah*[17]" or the maggots or other worms originate in the rainy season due to the atmospheric moisture in the constituent particles of curds and the like and begin to live and move in so short a time[18].

The *Śāstravārttāsamuccaya* of Haribhadra Sūri refuted *Bhūtacaitanyavāda* of the materialists long before the Sāṁkhya in the following manner.

It is the doctrine of the materialists that this world is formed of only five great elements (*pañca mahābhūtas*), viz. earth, water, fire, air and ether, and there is no existence of soul nor the unseen force anywhere in the world[19].

The other materialists maintain the view on the contrary that elements are non-conscious (*acetana*). Consciousness is not the character of elements nor the result of elements, while soul is the name of that *tattva* (reality) with which consciousness is related (as character or result[20]).

If consciousness had been the character (quality) of elements, then it should have been found in all elements at all times, just as the existence (or existentiality), etc. (general character), and hardness, etc. (particular character) are found in the elements at all times in which they are found[21].

Now Haribhadra refutes *Bhūtacaitanyavāda* in this way that consciousness exists in elements as force (*śakti*); for this reason it is not perceptible, but consciousness existing in elements as force cannot be said to be nonexisting in elements[22].

This force (*śakti*) and consciousness are either non-different by all means from each other or different by all means from each other. If they are non-different, then this force becomes consciousness and if they are different, consciousness should be related with something else[23].

Again, the point of non-manifestation of *cetanā* (consciousness) does not seem to be logical, because there is no other entity (*vastu*), covering consciousness and it is for this reason that the number of realities will go against the doctrine of the materialists on the admission of the existence of some such entity[24].

Haribhadra Sūri further advances the argument to refute the contention of the materialists that this thing is directly proved that the element has got the nature of these two qualities or characters — hardness and non-livingness — and when consciousness is not of the nature of these two characters (i.e. cannot exist with these two),then how can it be accepted that it was born out of elements[25]?

If consciousness does not exist in individual (i.e. uncombined elements), then it cannot exist in the combined elements, just as (like that) oil cannot exist in sand particles. And if consciousness exists in the combined elements, then it should exist also in individual elements[26] and so on.

In conclusion, Haribhadra Sūri maintains the view after refuting the doctrine of *Bhūtacaitanyavāda* of the materialists with his cogent arguments that the existence of force (*śakti*), etc. in soul, and of the unseen force (*adṛṣta*, which makes the possibility of *śakti*, etc. in soul) should be accepted and this unseen force, which is different from soul, is real and of many kinds and comes into relation with soul[27].

The Sāṁkhya makes the reply to the materialists' view on *caitanya* (consciousness) in the following manner: "the intoxicating power in liquor is a force, i.e. a tendency to motion. This force is the resultant of the subtle motions present in the particles of the fermented rice, molasses, etc. A motion or a tendency to motion can in this way be the result of several other motions or tendencies"[28].

"But *caitanya* (consciousness) is not a motion and cannot be the resultant of (unconscious) natural forces or motions. Neither can the consciousness of the self, or the organism as a whole, be supposed to be the resultant of innumerable constituent particles of the body. One central abiding intelligence is simpler and therefore a more legitimate hypothesis than an assemblage of consciousness latent in different particles".

The Sāṁkhya philosophy maintains the view that *prāṇa* (life) is not *vāyu* (bio-mechanical force), nor is it mere mechanical motion generated from the impulsion of *vāyu*[28].

The five vital forces, viz. *prāṇa, apāna, samāna, udāna* and *vyāna*[29] are stated to be *vāyu* in metaphorical way. *Prāṇa* (life) is in reality a reflex activity, a resultant force of the various concurrent activities of the *Antaḥkaraṇa*, i.e. "of the sensori-motor (*Jñānendriya Karmendriya*), the motive (*manaḥ*) and the apperceptive reactions of the organism"[30].

According to Vijñānabhikṣu, this explains the disturbing effect on the vitality of pleasurable or painful emotions (like love *Kāma*) of mind (*manas*), one of the internal senses involved in the reactions of the living organism[31].

The *prāṇa* of the Sāṁkhya is not a *vāyu*, nor is it evolved from the inorganic matters (*Bhūtas*), "But it is only a complex reflex activity (*Sambhūyaikā vṛttī*) generated from the operation of the psycho-physical forces in the organism"[32].

In agreement with the Saṁkhya, the Vedāntists hold the view that "*prāṇa* is neither a *vāyu* nor the operation of a *vāyu*"[33]. But they differ from the former's view that *prāṇa* is a mere reflex or resultant of concurrent sensori-motor, emotive and apperceptive reactions, of the organism. If eleven birds, put in a cage, concurrently and

continually strike against the bars of it in the same direction, it may move on under the impact of concerted action. But the sensory and motor activities cannot in this way produce the vital activity of the organism, because the loss of one or more of the senses does not result in the loss of life. This is above all the radical distinction between them. There is the sameness of kind (*samajātīyatva*) between the motions of the cage, but *prāṇa* is not explained by sensation; it is a separate principle (or force), just as the mind and *antaḥkaraṇas* generally are regarded in the Sāṁkhya. It is a sort of subtle "ether principle" (*adhyātmavāyu*) pervasive of the organism, not gross *vāyu*, all the same subtilized matter like the mind itself, as everything other than the soul (*ātmā*), according to the Vedānta, is material (*jaḍa*), *prāṇa* is *prāṇa* to the senses, for it regulates the development of the fertilized egg, "which would putrefy, if it were not living, and the senses with their apparatus originate subsequently from the fertilized egg[34]."

Caraka[35] explains *vāyu* as the impelling force, the prime mover, which sets in motion the organism, the organs including the senses and the mind, arranges the cells and tissues, unfolds or develops the foetal structure out of the fertilized ovum. According to Caraka and Suśruta[36], there are five chief *vāyus* with different functions for the maintenance of the animal life, viz. *prāṇa, udāna, samāna, vyāna* and *apāna*, as mentioned in the Sāṁkhya. Suśruta[37] describes *prāṇa* as having its course in the mouth and function in deglutition, hiccough, respiration, etc., *udāna* in articulation and singing, *samāna* as digesting the food substances in the stomach in conjunction with the animal heat; *vyāna* as causing the flow of blood and sweat; *apāna* with its seat in the intestinal region as throwing out the urino-genital secretions[38].

In the mediaeval philosophy[39], there is mention of 49 *vāyus* among which there are ten chief *vāyus*, viz. (1) *Prāṇa*, (2) *Apāna*, (3) *Vyāna*, (4) *Samāna*, (5) *Udāna*, (6) *Nāga*, (7) *Kūrma*, (8) *Kṛkara* or *Krākaro*, (9) *Devadatta* and (10) *Dhanañjaya*"[40].

Prāṇa has the function in the ideo-motor verbal mechanism and vocal apparatus, the respiratory system, the muscles in coughing, singing, etc., *Apāna* in ejecting the excretions and wastes, the urine, the feces, the sperm and germ-cells, etc., *Vyāna* in extension, contraction and flexion of the muscles, tendons, and ligaments, the stored up energy of the muscles, *Udāna* in maintaining the erect posture of the body, *Nāga* in involuntary retching, vomiting, *Kūrma* in the automatic movement of the eyelids, winkings, etc., *Kṛkara* in the appetites, hunger, and thirst, *Devadatta* in bringing about yawning, dozing, etc. and *Dhanañjaya* in causing coma, swooning and trance[41].

A study of different views on *prāṇa* or *vāyu* shows that *paryāpti* or *prāṇa* of Prākrit texts is neither a result of peculiar chemical combinations of non-living matters as advocated by the Cārvakas, nor a complex activity of the Sāṁkhya, but a sort of separate principle (*adhyātma vāyu*) pervasive of the organism as defined by the Vedānta, an impelling force, the prime-mover of Caraka and Suśruta.

It appears to be the actual living material of all plants and animals like protoplasm of modern biology, *paryāpti* and *prāṇa* of Prākrit texts, the two unique forces, not explainable in terms of physics and chemistry, are associated with and control life. The

concept of these forces may be called vitalism, which contains the view that living and non-living systems are basically different and obey different laws. Many of the phenomena of life that appear to be so mysterious in biological study of Prākrit texts may be explained by physical and chemical principles with the discovery made by future research in this field. So, it is reasonable to suppose that *paryāpti*, a mysterious aspect of life, although not identifiable with protoplasm, comes nearer to the latter because of its unique functions in the organisms.

According to modern biology, "protoplasm is the actual living material of all plants and animals. This is not a single substance but varies considerably from organism to organism, among the various parts of a single animal or plant, and from one time to another with a single organ or part of an animal or plant. There are many kinds of protoplasm, but they share certain fundamental physical and chemical characteristics"[42].

"The protoplasm of the human body and of all plants and animals exists in discrete portions known as cells. There are the microscopic units of structure of the body; each of them is an independent, functional unit, and the processes of the body are the sum of the co-ordinated function of its cells. These cellular units vary considerably in size, shape and function. Some of the smallest animals have bodies made of a single cell; others, such as a man or an oak tree, are made of countless billions of cells fitted together[42].

The major types of organic substances found in protoplasm are carbohydrates, proteins, lipids, nucleic acids and steroids[43]. "Some of these are required for the structural integrity of the cell, others to supply energy for its functioning and still others are of prime importance in regulating metabolism within the cell[43]".

Carbohydrates and fats (lipids) have only a small role in the structure of protoplasm, but are important as sources of fuel; carbohydrates are readily available fuel, fats are more permanently stored supplies of energy. Nucleic acids have a primary role in storing and transmitting information. Proteins are structural and functional constituents of protoplasm, but may serve as fuel after deanimation. The body can convert each of these substances into others to some extent. Protoplasm is a colloidal system with protein molecules and water forming the two phases, and many of the properties of protoplasm-muscle contraction amoeboid motion, and so on depend on the rapid change from sol (liquid condition) to gel (solid or semi-solid) state and back[44]."

Notes and References

1. *Navtvattva Prakaraṇaṁ* V.6; *Dharmavijaya*, p. 12; *Gommaṭasāra, Jīvakāṇḍa* VV. 118-119; *Lokaprakāśa, Vinayavijayaji*, Pt. 1, 3rd *Sarga*, VV. 15 ff.
2. *Jīvavicāra*; VV. 42, 43; *Gommaṭasāra*, Nimicandra, *Jīvakāṇḍa*, V. 129.
3. *Navatattva prakaraṇaṁ*, V. 6; *Gommaṭasāra, Jīvakāṇḍa*, V. 1. 19; See also *Lokaprakāśa*, Pt. 1, 3rd *Sarga*; VV. 15 ff., P. 65 ff.
4. *Ibid: Lokaprakāśa*, Pt. 1, 3rd Sarga 19, p. 65
5. *Ibid*, pp. 65, 66.

6. *Prajñāpanā Sūtra; Indriyapadaṁ; Jīvābhigama Sūtra; Pravacanasāroddhāra* (com), etc. the power by which the molecules of nutrients or chyles which are utilized for building of sense-organs, vide, *Ibid.*, p. 66.
7. *Ibid*, p. 67, V. 29.
8. *Ibid*, p. 30.
9. *Gommaṭasāra, Jīvakāṇḍa*, V. 120. The gaining of the capacities starts simultaneously, but the completion (of each of them) is effected gradually within the period of one *antar muhurta*, which increases in the case of each succeeding one. Yet their total period does not exceed one *antar muhurta*.
10. *Ibid*, V. 121.
11. *Jīvavicāra*, VV. 42, 43; *Gommaṭasāra, Jīvakāṇḍa*, V. 130.
12. *Gommaṭāsāra, Jivakāṇḍa*, p. 90.
13. *Jīvavicāra*, VV. 42; See also (Commentary).
14. *Nyāyamañjarī*, Jayanta Bhaṭṭa, *Āhnika* V. P. 437.
15. Gautama's *Nyāya Sūtra; Sūtra* 19, *Āhnik* I, Ch. III, P. 169,
16. *Ibid, Sūtra* 22, p. 17.
17. *Positive Science of the Ancient Hindus*, by B.N. Seal, p. 239.
18. *Nyāyāmañjarī, Āhnika* 7, *Bhūtacaitanyapakṣa*, p. 440; Vide the *Positive Science of the Ancient Hindus*, p. 240.
19. *Śaśtravarttāsamuccaya* by Haribhadra Sūri, Ist *stavak*, V. 30.
20. *Ibid*, V. 31.
21. *Ibid*, V. 32.
22. *Ibid*, V. 33.
23. *Ibid*, V. 33.
24. *Ibid*, V. 35.
25. *Ibid*, V. 43.
26. *Ibid*, V. 44.
27. *Ibid*, V. 106.
28. *Sāṁkhya Sūtra*, 22 Chapter III; *Sāṁkhya pravacana bhāsya, Vijñānaviksu*, p. 18; Gangadhara's *Jalpakalpatara* 1867, Calcutta; Vide the *Positive Sciences of the Ancient Hindus*, p. 241.
29. *Sāṁkhya Darsāna*, Ch. II, *Sūtra* 21; *Sāṃkhyakārikā, Īśvarakṛṣṇa*, 29.
30. The *Positive Science of the Ancient Hindus*, p. 241.
31. *Sāṁkhya Pravacanabhāṣya*, Ch. II, V. 31, p. 88.
32. *Brahmasūtra*, Ch. IIs *pāda*-4 *Sūtra* 9; *Sāṁkhya Kārikā*, Īśvarakṛsna, V. 29; See also *Sāṁkhyapravacanabhāsya* Ch. II, *Sūtra*, 31, 32.
33. *Brahmasūtra*, Ch. III, *Pāda*- 4, *Sūtra* - 9, See its *Bhāsya*.
34. See *Bhāmatīṭikā*, Vāscaspatimiśra; *Brahmasūtra*, Śāṁkarabhāṣya, Ch. II, *pada, Sūtra*-9.
35. *Caraka Saṁhitā, Sūtrasthāna*, Ch. XI.
36. *Caraka, Sūtrasthāna*, Ch. XII, and Suśruta: Nidānasthāna Ch. I.
37. *Susruta, Nidānasthāna*, Ch. I; *Sangītaratnākara*, Sarangadeva, VV. 60-68, Ch. I, Vol. I, pp. 41-42; cf. the summary in Raja Sourīndra Mohan Tagore's edition of the *Sangīta-darpana*; Uditācārya, 3. 3., p. 32.
38. Vide the *Positive Science of the Ancient Hindus*, p. 230.
39. *Bhagavatatikāyāṁ Śrīdharasvāmin*, Vide *Śabdakalpadruma* 4th *Kāṇda*, p. 342.
40. *Sangitaratnākara*, Ch. I, V. 59, p. 41, Vol. 1; *Sangitadarpanam* of Catura Damodara, Ch. I, V. 40.
41. *Saṁgītaratnākar*, Vol. I, Ch. I, VV. 60-67, pp. 41-42; *Saṁgītadarpana*, Ch. I, *Śloka*, 43-48; cf. the extract in Śānkarabhāṣya, *Śārīrakabhāṣya*, Ch. II, *pāda* 4, *sūtra* 2; Vide the *Positive Sciences of the Ancient Hindus*, pp. 230-231.
42. Villee, C.A., *Biology*, p. 16.
43. *Ibid*, pp. 25-26.
44. *Ibid*, p. 33.