

Scientific Principles In Indian Philosophy

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ABSTRACT

Through this present article, it is decided to present views related to the basic definitions for understanding the Gross elements stated in Sanskrit and compare them with the definitions given in Science texts about them. In my opinion the definitions stated in Sanskrit texts are very apt and easily understood even to the laymen. Let us investigate the few examples from both Science and Sanskrit with my limited scope of understanding. Science and Sanskrit teach differently about the same things. Though the different methodology of explaining the facts have been adopted it is necessary to know the essence out of it. Both deal with the theory of existence. Therefore, it is important for us that we should have the knowledge of both with clear understanding.

KEY WORDS

Philosophy – its origin –schools of Indian Philosoph – general definition of Science – definition of gross element by Aristotle – Vaiseshika Philosophy – definition of Pancabhutas as per Vaiseshika Philosophy –Akasa as Matter – Prana (energy) – Conclusion.

Human beings have been struggling, since time immemorial, to achieve the triple aims of life, namely, peace, happiness, and progress by utilizing their rational thinking. Each one of them had a different interpretation of, and approach to, these triple aims of life which may not be in harmony with those of the other person.¹In order to get fulfillment in life and peace of mind, the humans, strive for the acquisition of wealth, passion for recognition, alleviation of human suffering, prosperity in business, creation of a new piece of art or for discoveries in science etc., The ephemeral happiness is achieved by these pursuits, instead of permanent and everlasting one.² On the other hand, man uses his intellect to understand the conditions and meaning of the struggle and to execute various plans and instruments to find the right path of success. This very desire of man to achieve the goals for the successful life is termed as Philosophy.³

Philosophy in its original sense means 'love of knowledge.' It tries to know the things that directly or indirectly connected with man. The main aim of Philosophy is the knowledge of truth, i-e., 'the vision of truth', so it is termed as 'darsana'. Philosophy deals with problems which are agitating the human mind, viz, what is the nature of man? what is the purpose of this life? what is this world, in which he lives? Is the world created by anyone?⁴. As men started thinking on the different problems related to the world, its existence and the survival

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of human beings, various sciences came into existence. Thus, Philosophy began to inquire into these sciences for understanding the essential nature of this Universe such as Man, Nature and God.

The Indian Philosophy is divided into two broad divisions, namely, Orthodox (*astika*) and Heterodox (*nastika*). Nyaya, Vaisesika, Sankhya, Yoga, Mimamsa and Vedanta are called as Orthodox systems as they accept the existence of God and the authority of the Vedas. These are popularly known as *saddarsanas*. The other systems namely, Carvakas, Bauddhas and the Jainas are called Heterodox or *nastika* systems, as they do not believe in the existence of God and the authority of the Vedas.⁵

It is decided to present views related to the basic definitions for understanding the Gross elements stated in Sanskrit and compare them with the definitions given in science texts about them. In my opinion the definitions stated in Sanskrit texts are very apt and easily understood even to the laymen. Let us investigate the few examples from both Science and Sanskrit with my limited scope of understanding.

The systematic study of the structure and behaviour of the physical and natural world through observation and experimentation is known as Science. Whereas, technology is the application of scientific knowledge for practical purposes.⁶ Whenever there is an existence of new findings or discovery of new theories on any field, it is to be proved by the theories and principles of science. Through the study of science, we come to know various facts relating to the physical and natural world. We are very much benefitted in our practical life by the inventions and discoveries of many things through the advancement of Science and Technology. On the other hand, Philosophy also uplifts the man to the highest level by its principles and teachings. Science deals with the discussions related to the nature and life of all creatures externally or physically. Whereas, Philosophy inquires deep into the inner development of human beings. Philosophy connects all its theories to the day today life of human beings through application. But, Science, through its discoveries, makes the person how to use them for practical purposes. Now we learn some theories related to five Gross elements, namely, Earth, Water, Fire, Air and Ether with the help of Sanskrit and Science texts.

According to Science the five gross elements are Earth, Water, Light, Air and Ether. These are known as Prithvi, Jala, Tejas, Vayu and Akasa respectively in Sanskrit and technically termed as *Panchabhutas*.

According to Aristotle, the student to Plato (384 - 322 BCE) the:

- ❖ **Earth** is the heaviest Substance, and any earthly substances, would fall quickly, straight down, towards the center of the *cosmos*.
- ❖ **Water** is both cold and wet and occupies a place between air and earth.
- ❖ **Fire** element is hot and dry, and it is an abstract principle and not identical with the normal solids, liquids. The combustion quality is also experienced from the fire.
- ❖ **Air** is both hot and wet and holds a place between fire and water among the elemental spheres.
- ❖ **Ether** is an unchanging substance and it is said to be found only in the heavens, where it forms celestial spheres.⁷ In Science, the three basic elements namely Air, Water, Fire constitute a body and other two namely, Sky and Earth provide a platform for survival.
- ❖ In Science, there is no way a common man can identify these basic elements but in Sanskrit each element is defined in such a way that any man without any basic knowledge can understand them.

In Sanskrit Vaisesika Philosophy describes all the five elements with their basic qualities. And, they included all the objects of the entire world within Seven Categories (पदार्थाः) only. द्रव्यगुणकर्मसामान्यविशेषसमवायाऽभावाःसप्तपदार्थाः॥⁸ That is, the Substance, Quality, Action, Generality, Particularity, Inherence and Non-existence. While delineating the Substances (द्रव्याणि), the PancaMahabhutas along with Time, Direction, Soul and Mind are also explained.

तत्र द्रव्याणि। पृथिव्यग्नेजोवाय्वाकाशाकालदिगात्ममनांसि नवैव ॥ २॥⁹

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Whenever there is an explanation of a particular fact in Sanskrit, personification of the object is done by which one can visualize the clear picture of it. In Science, general explanation is given which cannot be easily understood by a layman. But the explanation provided in Sanskrit texts are understood by common man and even for visually challenged person also it will be reached. The following are the few examples to be noted:

- ❖ As per the Sanskrit text, TarkaSamgraha, **Smell** is the peculiar property of **Earth**. It is of two kinds, eternal and non-eternal. Eternal is the atomic and non-eternal is the product. Again the earth is divided into threefold, namely, **body (शरीर)**, **organ (इन्द्रिय)**, and **object (विषयः)**. Body is like that of ours: that which grasps odour is the olfactory organ and it abides at the tip of the Nose. The earthy objects are like clay, stone and such other things. Here the five gross elements, such as Earth are personified as if, they have body(शरीर), Sense organ (इन्द्रिय)and Objects(विषयः).

In the above definition given by TarkaSangraha, a text belongs to Vaiseshika Philosophy of sage Kanada. It is very apt. Only by saying one sentence i-e, **Smell** is the peculiar property of **Earth**, the author made us to understand the whole nature of Earth and also easy method of finding the earth from the whole Universe. He not only stops with that. He further states the eternal and non-eternal, in which eternal is not perceived. He again divided it into three, namely, **body, organ, and object**, by which we can very well understand the origin, sense organ by which it is understood, and where we can visualize its physical existence.

तत्र गन्धवती पृथिवी ।

सा द्विविधानित्याऽनित्या च ।नित्याः परमाणुरूपाः ।अनित्याः कार्यरूपाः ।पुनस्त्रिविधा शरीरेन्द्रियविषयभेदात् ।शरीरमस्मदादीनाम् ।इन्द्रियं गन्धग्राहकं घ्राणम् ।तच्च नासाग्रवर्ति ।विषयो मृत्पाषाणादिः ॥ ९॥

- ❖ **Water** is that which has **cold touch** in it. It is two-fold; one is eternal and the other is non-eternal. Eternal is the atomic and non-eternal is the product. Again threefold: **body (शरीर)**, **organ (इन्द्रिय)**, and **object (विषयः)**. Body is in the region of Varuna; organ is that which apprehends taste; It is the gustatory organ and it is located at the tip of the tongue; object is river, sea and the like.

Here. the Water is also defined like that of Earth as eternal and non-eternal, in which eternal is not perceived. He again divided it into three, namely, **body, organ, and object**, by which we can very well understand the origin, sense organ by which it is understood, and where we can visualize its physical existence.

शीतस्पर्शवत्यः आपः ।

ता द्विविधाः नित्या अनित्याश्च ।नित्याः परमाणुरूपाः ।अनित्याः कार्यरूपाः ।पुनस्त्रिविधा शरीरेन्द्रियविषयभेदात् ।शरीरं वरुणलोके ।इन्द्रियं रसग्राहकं रसनं जिह्वाग्रवर्ति ।विषयः सरित्समुद्रादिः ।

- ❖ **Light (Fire)** is that which has **hot touch** as its quality. It is two-fold; eternal and non-eternal. Eternal is the atomic and non-eternal is the product. Again threefold: **body (शरीर)**, **organ (इन्द्रिय)**, and **object (विषयः)**. Body is in the solar region; is well known; organ, which perceives colour; that is eye and it is located in the forepart of the black pupil; object is fourfold; earthy, heavenly, gastric and mineral. Earthy is fire etc., heavenly is lightning etc., gastric is due to the intake of food and minerals are those produced in mines; gold and the like.

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Fire is also defined like that of Water as eternal and non-eternal, in which eternal is not perceived. He again divided it into three, namely, **body, organ, and object**, by which we can very well understand the origin, sense organ by which it is understood, and where we can visualize its physical existence. Whereas, in Science, we couldn't get such definition by which even a common can receive the knowledge about it.

उष्णस्पर्शवत्तेजः ।

तच्च द्विविधं नित्यमनित्यं च ।नित्यं परमाणुरूपम् ।अनित्यं कार्यरूपम् ।पुनस्त्रिविधं शरीरेन्द्रियविषयभेदात् ।शरीरमादित्यलोके प्रसिद्धम् ।इन्द्रियं रूपग्राहकं चक्षुः कृष्णताराग्रवर्ति ।विषयश्चतुर्विधः भौमदिव्यौदर्याकरज भेदात् ।भौमं वह्न्यादिकम् ।अबिन्धनं दिव्यं विद्युदादि ।भुक्तस्य परिणामहेतुरौदर्यम् ।आकरजं सुवर्णादि ॥ ११ ॥

- ❖ **Air** is that which possesses touch and colourlessness as its basic quality. It is always understood only by that. It is two-fold; eternal and non-eternal. Eternal is the atomic and non-eternal is the product. Again threefold: **body (शरीर), organ (इन्द्रिय), and object (विषयः)**. Body is in the region of air; organ is the sense of touch which apprehends touch and is spread all over the body; the object is the cause of tremor of trees etc.; Vital air (Prana) is the air that circulates within the body; and that, though one, due to the differences in conditions, assumes the names of prana, apana etc.,

Air is also defined like that of Fire, as eternal and non-eternal, in which eternal is not perceived. He again divided it into three, namely, **body, organ, and object**, by which we can very well understand the origin, sense organ by which it is understood, and where we can visualize its physical existence. Such clear definition is not available in Science.

रूपरहीतः स्पर्शवान्वायुः ।

स द्विविधः नित्योऽनित्यश्च ।नित्यः परमाणुरूपः ।अनित्यः कार्यरूपः ।पुनस्त्रिविधः शरीरेन्द्रियविषयभेदात् ।शरीरं वायुलोके ।इन्द्रियं स्पर्शग्राहकं त्वक्सर्वशरीरवर्ति ।विषयो वृक्षादिकम्पनहेतुः ॥ १२ ॥

शरीरान्तःसंचारी वायुः प्राणः ।स च एकोऽप्युपाधिभेदात्प्राणापानादिसंज्ञां लभते ॥ १३ ॥

- ❖ **Ether** has **sound** as its distinctive quality. And it is always one, all pervading and Eternal.

शब्दगुणकमाकाशम् ।तच्चैकं विभु नित्यञ्च ॥ १४ ॥¹⁰

In the above examples, apart from the definition, the nature of the element, its types, their existence (presence), how can we find it in our own body and outside are clearly explained.

The Sanskrit words Brahman, Chitta, Prana and Akasha have been translated in the English literature as God, mind, breath and ether, respectively. The English equivalents do not convey the exact significance of these expressions and often give a distorted view of the underlying philosophy. An inadequate translation of these technical terms has resulted, among the English-speaking public, considerable confusion with the Vedic concepts.¹¹ Therefore, the word Akasa is to be identified as grossest, Chitta is the subtlest, and Prana stands in between these two. All the three are to be taken as the manifestations of the Absolute Reality, i.e., Brahman.

According to Science, Matter may be considered as a raw material for the physical universe. A physicist defines matter as something that possesses weight, occupies space, offers resistance and transfers motion. It can be neither be created nor destroyed by any known physical or chemical change. Nothing can be annihilated nor can anything spring out of nothing. This principle is called the Law of Conservation of Matter.¹²

Indian philosophers postulate the existence of Akasa in Sanskrit texts as a subtle form of matter which pervades all space. The Sanskrit expression Akasa has been erroneously translated as space or ether. So, the

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concept of Akasa is to be taken as a subtle form of matter, which pervades all space. All forms of matter, solids, liquids and gases, radioactive or inert evolve from ‘atoms’ of Akasa. The evolution of gross form of matter from Akasa – a subtle entity – does not contradict with the views of Sankhya and Vedanta schools of Indian Philosophy. They accept the evolution of five mahabhuta-s from the subtle Prakriti (nature,matter). Out of these five gross elements, akasa is the subtlest, most pervasive and the progenitor of other four elements. Higher forms of Akasa (matter) become increasingly subtle and ultimately dissolve into Prana (energy) when the distinction between the two disappears. This inter-relationship between akasa and pranai-e., Matter and Energy has been accepted by the Modern Scientific community. The famous Einstein equation $E= mc^2$ also similar and matches with the same explanation.¹³

Prana (energy) is another important manifestation of the Absolute. The word Prana generally translated as breath and is invariably associated with Pranayama – one of the eight limbs of Yoga Philosophy. But Mundaka Upanishad describes the word Prana as that of an all-pervading vital force – a force or energy that pervades the entire universe and sustains all matter.¹⁴

एतस्माज्जायते प्रणो मनः सर्वेन्द्रियाणि च ।
खं वायुर्ज्योतिरापः पृथिवी विश्वस्य धारिणी ॥

According to Physicists, energy is the capacity of matter to perform any action as a function of its motion or position in space. All forms of matter, sentient or insentient, are associated with energy. It is not possible to have matter without energy nor is it conceivable to have energy without matter. Energy can take many different forms such as, kinetic energy, potential energy. It can also exist as mechanical, thermal, electrical, magnetic, radiant, nuclear, biological, etc. Based on extensive experimentation it has been proved that although energy is transformed from one form to another, it cannot be created or destroyed.¹⁵

According to Yoga, Prana is the total of all energy in the universe. This includes various forms of energy stated earlier. As stated in the Mundaka Upanishad, matter and energy are merely projections of the Absolute and their existence is relative and is dependent upon the Absolute. This contradicts with the views of the physical scientists who regard matter and energy are eternal. Science also accepts that the matter cannot exist without energy and vice versa. The sages take a slightly different view. They accept the scientific opinion that matter cannot exist without energy. However, they believe that there was a Prana (energy) before Akasa (matter) was created. Although prana as vital force is one, it divides itself, as it were, into five parts: prana, apana, samana, vyana, and udana. These five divisions are based according to the type of functions it performs. The above five Pranas play a different role in the body.¹⁶

In Indian Philosophical systems, even many more illustrations are found regarding the qualities of various objects, different forms of action, theories of knowledge, and the nature of food etc., In addition to that, Chemical and Mathematical principles are also found in Sanskrit texts. Thus, Science and Sanskrit teach differently about the same things. Though the different methodology of explaining the facts have been adopted it is necessary to know the essence out of it. Both deal with the theory of existence. Therefore, it is important for us that we should have the knowledge of both with clear understanding.

END NOTES:

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