



## AGNI IN NYAYA-VAISESIKA DARSHAN

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**ABSTRACT** In *Nyaya Vaisesikas*, *tejas*, in which *agni* is implicit, is one of the *navadravyas* and it is represented by *tejasparamanu*. One of the properties ascribed to *tejas paramanu* by *Nyaya-vaiesikas* is heat. Both *Nyaya vaiesikas* have treated *tejas*, just like *prthvi*, *ap*, *vayu* and *akash*, as *anu*.

**KEYWORDS** : nyayadarshan, vaiseikadarshan, agni, teja.

### INTRODUCTION:

According to *Nyaya Vaisesikas*, *tejas*, in which *agni* is implicit, is one of the *navadravyas*<sup>1</sup> and, it is represented by *tejasparamanu*. One of the properties ascribed to *tejas paramanu* by *Nyaya-vaiesikas* is heat. Both *Nyaya vaiesikas* have treated *tejas*, just like *prthvi*, *ap*, *vayu* and *akash*, as *anu*. The *nyaya vaiesika* school of natural sciences, has postulated the view that, the order of creation must primarily be in the nature of creation, first of the atoms or *anus* of *vayu*, *tejas*, *ap*, *prthvi* and *akash* and the things of the universe arise out of two or more atoms of these elemental substances being put together. This School of scientific thought has subscribed to the doctrine of a manifold of ultimate “*reals or tattvas*,” whose atoms combine variously, to form the things of the universe.

### METHOD AND METHODOLOGY:

Manual and electronic search was done on various *darshan*, *tarkasamgraha* and available commentary on it.

### DISCUSSION:

The *arambhavadins*, the earlier physical chemists, described *anus* as follows : by dividing and subdividing things, a stage is reached, when, further division of matter is no longer possible. The matter, at this stage, is the *anu*<sup>2</sup> *Udayana*, in his *Laksanavali* has defined *tejas* as that which is the substratum of colour and which shares a common substratum which the absolute absence of taste. *Kanada rahasya* has stated that “*Tejas* is that which has a common substratum with colour but not with weight. This represents the special feature of *tejas*”<sup>3</sup>. According to *Vyomavati*, quoted by Umesha Mishra, the qualities of *tejas* can be summed up as follows- *rupa* (colour), *sparsa* (touch), *sankhya* (number), *parimana* (dimension), *parthakva* (separateness), *samyoga* (conjunction), *vibhaga* (disjunction), *paratvaparatva* (priority and posteriority) *dravatyatva* (fluidity), *vega* (velocity)- colour and touch being the only distinct qualities of this element. Its colour is illuminating (*bhasvara*) and, touch is hot (*usma*). According to *Prasastapada*, the natural movement of *tejas* is upward. Its colour and touch do not undergo any chemical change.

According to *Udayana*, the solar heat is the source of all the store of heat required for chemical change in the world. Citing the example of the colour of grass, he has stated that it (the colour) is due to *tejas* in the form of invisible heat, not in the form of *agni* and that the cold, in winter, cannot take away the store of heat, derived from the sun.

*Annambhatta* in his *Nyayabodhini* on *Tarkasamgraha*, has stated. “An unripened fruit ripens, under the influence of solar heat. Ripening of an unripened mango results in the change of colour, taste and smell etc.” This is referable, in his opinion, to the subtle decomposition and recombination that goes on in it. Likewise, is the cause of the rusting of metals in combustion, due to *surya paka* or solar heat. The Conversion of food into *rasa* and *rasa* into *rakta* are again examples of action due to *jatharanala* or *audaryatejas*. The nature of contact with *tejas paramanu* or the kind of *paka*, in his view is different from that which transforms flavor- *vilaksana-tejah-samyoga* and *paka*. This applies equally to change in tactile quality<sup>4</sup>. The same authority has stated that the substance *tejas* possesses the property of heat and could be cognized by tactile perception. It may occur in two forms- (a) *nitya* or

eternal (indestructible), (b) *anitya* or transient. The former is in the nature of *paramanu* (atomic or corpuscular); on the other hand, the latter is to be understood as *karya* or effect. *Anitya* or the transient type occurs in three forms viz., (i) *tejas-sarira* or the physical form of *tejas* which is well known in *suryaloka* (solar system); (ii) *indriya-tejas* is the sensory form of *tejas*. It is to be seen, at the point, within the black of the eye (pupil). It makes visual perception possible and (iii) *visaya-tejas* or the *tejas* which occurs in the objects of the senses. This variety is of four kinds:

- (1) *Bhauma tejas* or *agni* of the earth, such as fire etc.
- (2) *divya tejas* or the *tejas* of the sky such as lightning, rays of the sun, moon and stars.
- (3) *Audarya tejas* or the *tejas* that occurs in the gastro-intestinal secretion, which, latter, are held to be responsible for the execution of the digestion of food and drink and
- (4) *Akaraja tejas* or the *tejas* present in metals (minerals) dug from mines, such as gold, silver etc.

Implicit in the foregoing citation is the idea, that heat and light represent the obverse and reverse of the same coin viz., *tejas*.

According to *Udayana*, heat and light rays are stated to consist of extremely small particles, which dart-forth or radiate rectilinearly in all directions, at an inconceivable speed. The way in which *tejas* in its two aspects viz., heat and light works, has described by the same authority. According to him heat may either penetrate through the intermolecular-spaces, as in the case of condition of heat, which when applied under the pot, boils the water or fries the paddy, without involving the pot in any chemical reaction i.e. causing no decomposition or recombination of its molecules; no change of its molecular collocations, is stated to take place. As regards the phenomenon of translucency or transparency (*svachhata*), light rays, in his view, penetrate through the inter-atomic-spaces, with vibration (*parispanda*) of the nature of deflection or reflection (*tiryaggamana*), very much as when fluids penetrate through porous bodies or in the alternative, they may impinge on *paramanus* and rebound back. They may also be obstructed by *anus* in their pathway, leading to degrees of shadows or opacity. All these phenomena are, also stated to be physical and not due to decomposition (*vibhaga*) and recombination (*samyoga*) or the alteration in the molecular grouping.

Light in this view may also hit the *paramanus* in a peculiar way, so as to break up their grouping, transform the physicochemical characters of the *anus* and again recombine them due to its chemical impact, at an inconceivable velocity.

The foregoing are among the few important references to *tejas (agni)* in the *Nyaya-vaiesika* system of natural philosophy. There are many more such references but the few cited here would suffice to invite attention to the fact that, these two ancient schools of scientific thought have offered a fully developed theory, relating to light and heat. Explain a variety of phenomena which border on thermo-dynamics.

The theories of *Nyaya and Vaisesika* relating to *paka* (chemical action) are based on their concept of *tejas*, *kala* and *dik*.

*Nyaya-vaishesika* concept of *paka* (chemical-action):- *Paka kriya*, as described by *Nyaya-vaishesika* system may sound to be quaint when studied on the background of modern concept of chemical action. None-the-less, they appear to be basically sound, in principal, even when examined from modern points of view. In the view of this system, when an object is brought in contact with *tejas*, motion or karma is stated to be produced in the ultimate constituents (*amus*) of that object, due to *abhigata* (forcible contact) or *nodana* (impulsion) of *tejas*. (The *Nyaya-vaishesikas* reject force operation i.e., *sakti* except as modes of motion-*karma*). This motion, in its turn, is held to produce *vibhaga* (disjunction), Which results in this destruction of the *samyoga* (conjunction) that existed between the various constituents of the substrate resulting, finally, in their breakdown into their ultimate particles (*paramanus*). When thus, loosened their attachments, *paramanus*, in contact with another group of *tejas*, results in the destruction of their original *gunas* or qualities. Subsequently, again similar fresh contact with *tejas* is stated to take place, which results in the production of fresh *gunas* in the place of old ones. These latter *gunas* are known as *pakaja* (due to the influence of chemical action).

It would in other words, appear that a single contact with *teja*, which destroys the previous *gunas* or qualities of the substrate, may not product fresh *gunas* or qualities in the place of old ones. By implication, the destruction of the old *gunas* and the emergence of new ones, depend upon several contacts at distinctive periods of time, between the substrate and *tejas*. The interesting description of *paka* or chemical action has been described under two heading, viz, *pilu* and *mithara pakas*.

#### **Pilupakas:**

The term *pilu* refers to *paramanu* (atom) and the term *paka* to the transformation or change brought about in the relationship between *pilus*, under the influence of *tejas* (light and heat). According to *Vacaspati Misra*, it is *agni* and *agni* alone that can cause transformation in respect of colour, tastes, smell or physical characteristic of *paramanus*. This depends on (a) the nature of the constituent substance in contact, (b) intensity or degree of *agni*, described in terms of *khara*, *mrdu* and *Madhya* and the species of *tejas anu* that impinge on *anus* atoms and the impact.<sup>5</sup> These changes are considered to be brought about by subtle (*sukhma*) chemical action resulting in the decomposition and recombination of molecules (*mitharas*) under the influence of heat supplied from outside (*vijatiya* or *vilaksana-tejah-samyoga*). The example of *pakas* which take place during the baking of a clay pot in a kiln usually cited by *Nyaya-vaishesikas* are of interest and will be instructive. In the process of the baking of a raw clay-pot by a potter under the condition of temperature that obtains in the potter's kiln, quick succession of changes are considered to take place in the material of the pot in respect of its colour, density and consistency etc., similar to changes that take place during the process of cooking of food. The *vaishesikas* interpret and explain the successive phases of transformation and changes, as due to the decomposition of the constituent molecules of the material pot into their component *amus* (atoms) and the subsequent recombination of the latter under altered spatial relationship different from their original configuration in the material of the raw-clay-pot which was subjected to the action of *agni*. Thus, the spatial relationship that originally existed between one *anu* and another in the material of the unbaked clay-pot is now seen to be completely changed resulting in the exhibition, by the finished pot of new properties as regards its colour, density, consistency etc. The concept of *pilu-pakam* may be aptly describe as chemical change.

#### **Mithara paka:**

*Mithara paka* means "the union of cause and effect i.e. atoms by means of heat. The *naiyayikas* hold that the *mitharas* or molecules or larger aggregates of them, assume new characteristics, under the influence of heat, without involving the break down of the molecules or change in the characteristics of the *paramanus*. That is to say, *mitharas* (the material of the clay pot is stated to be composed of numerous *mitharas*), undergo transformation under thermal influence. Consequential changes in them related merely to a physical change of the molecules concerned. This view resembles modern description of physical change.

Thus, according to *Nyaya-vaishesikas*, all changes at the macroscopic and microscopic, and organic and inorganic levels, are due to *pakas*, i.e. chemical actions, brought about under the influence of *tejas (agni)*. *Agni* in this view, is the power which is responsible for bringing about the break down and synthesis of substances.

#### **REFERENCE:**

1. Tarkasangraha
2. Robert Boyle, 1627-1691, postulated the principle of the 'elements' or 'first principles' of which matter was composed.
3. Kanada rahasya.
4. Nyayabodhini on Annambhatta's tarkasangraha
5. B.N. Seal in the positive science of ancient Hindus, page no:105