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Time and Temporality in Nyāya-Vaiśeṣika Philosophy: An Inquiry into its Metaphysical Foundations

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Abstract:

This paper explores the concept of time in Indian philosophy, specifically focusing on the Nyāya-Vaiśeṣika school and its interactions with other philosophical schools such as Bhaṭṭa Mīmāṃsā and Buddhism. The Nyāya-Vaiśeṣika tradition argues for the existence of time as an independent, ontological reality. They rejected the idea that time can be perceived directly through the senses due to its lack of extension and also there is no specific sense organ assigned to perceive it. Instead, time is understood through inference, particularly when observing events and their sequence, such as the prior and posterior relationships between phenomena. The paper addresses the debate about the nature of time between different school of thoughts and tried to open avenues for a dialogue between philosophical and modern scientific perspectives on the nature of time.

Key Words : Concept of time, Nyāya-Vaiśeṣika metaphysics.

Main Paper:

Indian philosophical schools are mainly divided into two categories *āstika* and *nāstika*. *Āstika* schools are the one who believed in the authority of *Vedas*. *Nāstika* school does not believe in the authority of *Vedas*. There are six *āstika* schools and three *nāstika* schools namely- Nyāya, Vaiśeṣika, Sāṃkhya, Yōga, Mīmāṃsā and Vedānta and Cārvāka, Jainism, Buddhism (Bagchi 1997). Theory of time has never been considered isolated in Indian philosophy. Every Indian philosophical school has their own theory of time according to their metaphysical system. Their metaphysics determines the nature of time in their system of thought.

Among the six *āstika* school Nyāya is one of them. The founder of Nyāya school is *Maharṣi* Goutam. The main text of this school is *Nyāya Sutra* written by *Maharṣi* Goutam around 6th-century BCE and 2nd-century CE. The Nyāya philosophy is being the proponent of realism believed that knowledge is always dealt with real object in the material world. Nyāya is referred as *ānvīkṣikī vidyā* which means the science of enquiry (Goswami 2004, 5). It has been said in Indian philosophy that any kind of knowledge can be acquired by *śravaṇa*, *manana*, *nidhidhyāsana*; that is study, followed by reflecting on the subject with proper logic and constant contemplation. Nyāya emphasis on the process of *manana* or understanding the subject with proper logic and argument (Goswami 2004, 1).

Nyāya metaphysics based on realism and hold a pluralistic metaphysical viewpoint towards the world. They recognizes sixteen *padārthas*¹ or categories and also accepts seven *padārthas* from Vaiśeṣika *darśana*. Nyāya-Vaiśeṣika is known to us sister schools. There are many similarities present in them as well differences. Main difference between Nyāya and Vaiśeṣika school is that Nyāya school mostly deals with logic and epistemology while Vaiśeṣika deals with metaphysics. In Vaiśeṣika *darśana* they have mentioned seven *padhārthas*² among which *dravya* is one. *Dravya* or substance, that exists self-sufficiently of all other categories.

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Dravya is the material cause of all things and serve as a foundation for *guna* and *karma*.³ There are nine *dravya* present namely earth, water, fire, air, ether, time/ *kāla*, space, *ātman*/ soul and mind. Earth, water, fire, and air's molecule and ether, space, time and *ātman* and mind are eternal substance and the combination of earth, water, air, and fire molecules are non-eternal earthly substance (Goswami 2004, 35). Now, one can ask that why have they categorised some *dravya* as eternal and some as non-eternal? The answer can be found in their notion of their real entities. According to Nyāya school real entities can be two types-one that is produced and perishable i.e. non-eternal and other that is unproduced or imperishable i.e. eternal. As a realistic school they had observed that there are two types of things in the world and both are real objects. They had rejected two extreme views on this ground. One views said that all is impermanent and another views suggests that all is eternal. Nyāya rejected both this views because none of them can be accepted. Vātsyāyana on his commentary of *Nyāya Sutra* states that all things cannot be eternal because with our daily experience we observe many such things which have a beginning and end. One can argue that this material thing ultimately made up with atoms which are eternal in nature. But atoms are eternal doesn't mean that it entails its eternality among material bodies. Both are separated thing. If we don't treat them as a separate entity then one can argue that as atoms are imperceptible in nature, material body which made up with these atoms will also be imperceptible in nature. But that is certainly not the case. So, everything is not eternal in nature. There are non-eternal entities in our world (Balslev 1999, 26).

Vātsyāyana rejected the second views as well which states that everything is non-eternal. Vātsyāyana argues that production and destructions cannot be assigned to all things in the world. Because when we talk about the production there comes a material cause. When we say that a clay pot is produced then we know that the material cause of the pot is clay and we can easily identify it. But there are things in the world where we cannot find the material cause that easily because they are un-composite and part less in nature. If there are no materials cause present one cannot say anything about production. So, we have to admit there are things in the world which are eternal by nature. This is reason Nyāya and Vaiśeṣika categorised *dravya* as eternal and non-eternal. *Kāla* or time recognised as an eternal substance in Nyāya school of philosophy (Balslev 1999, 26).

Kāla, the time is one of the important eternal substances of Nyāya-Vaiśeṣika system. Since it is substance, it has

qualities like *saṅkhyā*, *parināma*, *prthakatva*, *sanyōga*, *vibhāga* (Jha 1916, 141). In *Tarkasāgraha* Annambhaṭṭa states while giving the definition of *kāla*- "*Ātūādi byābahārahētuḥ kālah*" (Goswami 2004, 170). Time is regarded as a necessary condition for all the changes that took place in our world. Time is all pervading i.e. *bibhu*. It has no form and no parts. Time is uniform and absolute. It is a static background against which every event takes place. No change can be possible without time. As we have mentioned earlier that concept of time has never discussed in isolation in Indian philosophy. They have discussed under the metaphysical influence of each philosophical school. So, in Nyāya philosophy the notion of time closely related with their theory of causation. Nyāya advocates *asaṅkārāvāda* when it comes to talk about the theory of causation. According to *asaṅkārāvāda* effect does not present in its cause before production. Production means the new beginning. There can be various reasons behind the origin of an object. One of the reasons is the previous non-existence of the object or *prāgabhāba*. *Prāgabhāba* means lack of existence before its production. A thing comes into being because it was nonexistence previously. Whenever we talk about *prāgabhāba*, a temporal order comes up. It means a certain object did not exist at one point of time but came into existence later. The notion of causal relation itself presupposes time. The very definition of cause in Nyāya philosophy indicates towards a temporal order. "*Kāryā niyata pūrbabṛtti kāraṇam*" means cause is the one which always precedes effect (Goswami 2004, 293).

We understand change in terms of time. Time here works as a fixed background around which these changes occur. Thus time is regarded as instrumental and general cause for every object in this world. Nyāya-Vaiśeṣika divided causes into two categories- general causes and particular causes. Particular causes are the one that is particularly present before a specific effect. For example, the particular cause of a cloth is thread. Thread is not considered as a cause of a clay pot. General cause is the one which are present before all the effects. There are eight general cause accepted by Nyāya-Vaiśeṣika that is- God, God's knowledge, God's will, God's perseverance, space, time, *adṛṣṭa*, *prāgabhāba*. So, space and time are in contact with all the finite being in the world and regarded as a container or *ādhāra* where all the events are taking its course.

Time is such thing that possess no specific physical qualities neither any of our sense organ directly assign to it. Yet we all perceived time very clearly. Here the question naturally arises that what is the source of knowledge that time actually exists? How do we perceive

time? Nyāya-Vaiśeṣika tried to answer these questions in their own way. They suggested that the notion of time is derived from a series of inference. This method of inference of time was discussed by Praśastapāda in his *Padārtha-dharmasamgraha* (Jha 1916, 142), Vyomasivācārya in *Vyomavati* and also Sridharācārya in *Nyāyakandali* (Datta 2021). There are four sources of knowledge according to Nyāya school namely- *pratyakṣa*, *anumāna*, *upamāna*, *śabda*. Vaiśeṣika admitted first two as they think the rest of them included in these two. Nyāya-Vaiśeṣika philosophers established the existence of time through inference. They have mentioned some relations like the notion of priority and posteriority, of simultaneity and succession and of quickness and slowness that is directly related with the concept of time and provides a ground for inference of the existence of time (Bhaduri 1992). Now we have to understand the notion of priority and posteriority i.e. *paratva* and *aparatva*. There are twenty-four qualities, according to Vaiśeṣika philosophy; priority and posteriority are two of them. If anyone suggests that quality of being former in respect of time is priority and quality of being later in respect of space and time is posteriority then there will be a circular fallacy because we are trying to understand time in respect of time which is absurd. So, Nyāya-Vaiśeṣika tried to explain these two concepts independently of reference to time. According to them, quality of priority and posterity emerges in a substance because of the revolution of Sun. It means that if we say that A is prior to B it means that A has seen more Sunrises than B on this planet. It means the quality of priority produced in A in connection to solar revolution but how can A be connected at all with the solar motion and be qualified by it? No direct connection is possible between them neither *samyōga* nor *samavāya*. The motion of the Sun resides in the Sun and is connected with it alone. Then how come an object which possesses priority and posterity is connected with Sun and its motion?

The Vaiśeṣika suggests that we have to accept a third entity which is connected with A and also in connection with solar motion at the same time. The all-pervading, universal entity with unlimited magnitude that connects both of them is called time or *kāla* (Jha 1916, 142). One can argue that what is wrong with the other substance? *Ākasa* and *ātman* is also all pervading eternal entity according to Nyāya thought, then why cannot these two played the role of connecting entity between object and the Sun? (Bhaduri 1992, 185).

Nyāya replied that they cannot be the connecting entity here because the criterion here is to bring one finite substance into relation with the property of another

substance. None of *ākasa* or the Soul has the capacity (Bhaduri 1992, 186). *Ākasa* cannot transmit the attribute of an object to another. If *ākasa* had it then we can produce sound in one drum and listen it to another. Similarly, *ātman* is not being capable of transmitting the attribute of one object to another. If soul had it then the colour of one particular object can be found in other, fragrance of sandal would be perceived in God etc. After eliminating these, they believe in the existence of *kāla* or time. The difficulty felt in the case of *ākasa* and *ātman* is not present in the case of *kāla* because time as third connecting entity proved by reduction ad absurdum⁴ of the other possible causes. The very nature of *kāla* or time proved its validity. But some argues that this inference is not right because there is fallacy of circularity occurs within the inference. When someone says that A is prior to B that means that A has seen more Sunrises in his life than B. Solar motion of the Sun created the characteristic of priority within A, Now A and the solar motion cannot be directly connected. So, they are connected by an all pervasive substantive entity that is time. Thus, time is inferred from the premises that A is prior to B. But when we say that A is prior to B, we already have a sense of time within us. Without any sense of time we cannot comprehend the concepts like prior, posterior, sooner, later etc. So, here comes the fallacy of circularity. In the process of inferring time we have the notion of time previously. If A is greater than B is necessary to state that the solar revolution seen by A is greater than B, then A and B should be compares with respect to time. If A is greater than B is compares with respect to any other features other than time such as height or weight. It cannot be stated that A has seen more solar revolution than B. The relatedness of A or B to solar motion cannot be understood without a previous knowledge of the relation with the respect to time. Udayana defends this criticism by saying that the objection of circularity based upon a wrong premise. Before the inference, time as a fact remains unknown to us. It is inferred as a conclusion when the relatedness of solar revolution to the object cannot be explained in any other way. Sridhara in his *Nyāyakandali* denies any kind of relationship between priority, posterity and solar motion. He suggests that without bring the solar motion in the scenario time can be inferred as the cause of these notions which are associated with certain events. Priority and posteriority are found in substances. Substances cannot be the cause for this notion as they are completely different in nature. So, time is the only cause of this notion (Bhaduri 1992, 188).

Nyāya -Vaiśeṣika considers two sorts of time- *mahākāla* or absolute time and *khandakāla* or conventional time.

Mahākāla which is infinite, eternal and one in nature. There is no division in *mahākāla*. *Mahākāla* considered as a locus of the universe. Opposite to *mahākāla* there are *khandakāla* or conventional time which can be measured in terms of years, month, days, hour, and minutes for our own convenience and due to certain limitations or *upādhis*. *Mahākāla* acts as the foundation for conventional usages as *kṣaṇa*, *lava*, *nimēṣa*, *kāṣṭhā*, *kāla*, *muhūrta*, *māsa*, *āyana*, *samvaṣṣara* etc. (Jha 1916, 141). *Khaṇḍakāla* can be measured. We divide time into these various segments in *Nyāya Sutra* the division of past, present and future considered as a real part of conventional time. But there exists a different view from opponent side on the reality of present time also. Gautama addresses this view and discards this. According to this view present has no existence at all. We cannot grasp the present moment because it is slippery and time is constantly flowing from past to present to future. Present is just a conjunction between past and future time. We cannot hold on a present moment because it continuously merging with past and future. They give an example of fruit falling from the tree. When the fruit detached from its branch and started falling then the fruit already fallen down to some space and the time it takes to fall that length is called past. Though there is some space still to be covered by the fruit before reaching the ground. The time it takes to cover the rest of the space is referred as future. There is no space left in between these two references that can be called as present. We cannot hold onto a present moment because it continuously slips through the past and future moment. On this ground the existence of present time is denied (Tarkabagish 1318, 254).

Gautama argues that we cannot deny the existence of present time. First of all, it will be counter intuitive argument because we do experience the present moment. Secondly if there were no present time, there would have neither the past nor the future time because they both depend on the present time (Tarkabagish 1318, 256). Time should be measured on the basis of the *kriya* or the duration of the event and not by the space. Falling a fruit from its braches is a *kriya* or event which has duration. The time when the falling down of the fruit stops and reaches the ground is referred as past. The time when the fruit is still attached to its branches but it is going to fall soon is called the future. The time when the falling action is actually taking place for some seconds and cognised by us is called the present moment. Past and future is depended on present and if no present time is accepted then no perception is possible. Because to perceive something, it is necessary to have a sense organ and an object which has to

be present before the observer. In this way Gautama established the existence of present time.

Now let's take a look at the controversial ideas present among Indian philosophical schools about the independent reality of time and how it can be known. There are some schools i.e. Bhaṭṭa Mīmāṃsaka who believed that time is not the subject to inference rather it is subject to perceptions. Jayanta Bhaṭṭa in his *Nyāyamañjarī* has discussed their view in order to establish the ontological reality of time which is rejected by the Buddhist school of thought. Buddhists denied the Nyāya-Vaiśeṣika concept of time as an all-pervading, unitary, ontological category of reality. Using Bhaṭṭa Mīmāṃsaka's argument, Jayant Bhaṭṭa disproved the main Buddhist opponent and proved that time is ontologically real. But this is not the position that he ultimately supported. At the end, he established his own opinion by refuting the opinion of the Bhaṭṭa Mīmāṃsaka and established that ontological reality of time can be known by inference only and not with the perception as his opponents claimed.

Buddhists reject the Nyāya-Vaiśeṣika theory that regards time as an independent permanent substance that act as the substratum of everything. According to them concepts like slow, quick, simultaneous are relate to events and not to time. In order to refute Buddhist position Jayanta Bhaṭṭa first presents the Mīmāṃsā views to establish the reality of time by immediate perception. According to Mīmāṃsā, when we perceive an event, that event is conditioned by time. In a perceptual act, time functions as a predicative. In their view, time serves as the substratum of the concepts like slowness, quickness, and simultaneity. They are not only characteristics of acts. Without acknowledging the independent reality of time, conventional temporal usages do not make any sense.

Nyāya-Vaiśeṣika and the Mīmāṃsā share the same understanding of time as an independent category of reality. However, they disagree on the appropriate method of knowing time. Mīmāṃsākas accepts the visual perception of time. But according to the philosophers of Nyāya-Vaiśeṣika, school time cannot be the subject of our visual perception. We see objects only when they have the characteristic of extensity or colour sensibility, but time has no extension or colour that we can perceive with our five senses. Then, how can it be the object of our visual perception?

Bhaṭṭa Mīmāṃsākas argues that that how do we perceive colour? We perceive an object which has colour on it. But colour itself has no colour in itself. But we surely do perceive it. If colour can be perceived though it is completely colourless, then time also can also be perceived

though it is colourless and extension less. They also give an example of the *paramāṇu*, according to Nyāya-Vaiśeṣika philosophers, have forms but are not subject to perception. It means having shape or form is not the sole criterion for perceptibility.

Mīmāṃsakas, however, admit the fact that time is never sensed as an object in and of itself; rather, it is always recognized as a qualified characteristic of sensory objects. It acts as a qualifying element or *viśeṣa guṇa* and is never sensed as independently of the sensible object (Bhattacharya 2016). Therefore, anything that acts as a subject or its predicate and can be perceived with senses should be included in the list of perceptible objects. Time is an empirical reality that cannot be denied.

Actually, there is logic in their words. Today's modern science suggests that things actually don't have colour in themselves. When a white Sunlight, which is a collection of all the colours, hits an object, the object absorbs most of its wavelength and reflects the rest. The reflected light enters our eyes. Our eyes have rods and cone cells whose function is to detect light, respond to different wavelengths, and communicate with the brain. Modern science also suggests that it's true that we don't have a specific sense organ assigned to perceive time, but the brain integrates information from various sources to create an internal sense of time. I have provided a detailed discussion about this in question number 2 from chapter 3 (Rhailana Fontes 2016).

Jayanta Bhaṭṭa initially supports the Mīmāṃsākas position to establish time's independent reality but later refutes it. He argues that if both a substance and its qualifying element are perceptible, they should be perceived together. However, since time is perceived only indirectly through substances and not directly as a qualifying element itself, it cannot be classified as perceptible in the same sense. Therefore, time's ontological reality must be inferred rather than directly perceived (Bhattacharya 2016).

Jayanta Bhaṭṭa's notion is partially admissible. If we do not use the word perception in a narrow sense, then there should not be any problem accepting the fact that time is a perceptible object. Jayant Bhaṭṭa is partially right in his standpoint that the ontological reality of time is inferable. But not just the inference. Inference and perception both are needed for the comprehension of the nature of time.

Let's delve into the issue of time perception. Since there is no specific sense organ assigned for time perception, naturally we do not perceive time in the way we perceive a table or chair or any other material substance like water or soil. Even with the extension of our senses, perceiving time remains impossible for us. For example, the infrared

light spectrum is not perceived by our naked eyes. However, using appropriate camera equipment and lighting, we can see objects under infrared light, as in the case of night-vision cameras. Sounds that are beyond our audible frequency are used to generate images to perceive hidden objects, as in the case of ultra-sonography. But when it comes to time, not even the extension of our senses can aid in our perception of it. However, if we don't use the word perception as 'sense perception' only and broaden the definition of perception, it becomes evident that perceiving time is indeed possible. Today's modern science suggests that the perception of time is a multifaceted phenomenon that involves various neural mechanisms, circadian rhythms, psychological states, and social factors, all of which create an internal sense of time within us. While time perception lacks a dedicated sense organ like vision or hearing, the brain integrates information from various sources and processes to create a coherent experience of temporal passages. Several brain regions are involved in time perception, including the basal ganglia, the prefrontal cortex, and the cerebellum, among others (Rhailana Fontes 2016, 16). These areas help process temporal information and maintain our sense of timing. Our bodies are equipped with biological clocks, such as the circadian rhythm, which regulates sleep-wake cycles and other physiological processes. These rhythms allow us to perceive the passage of time on a daily basis (Rhailana Fontes 2016, 15).

Time perception is so fundamental in nature that it is also perceived at the cellular level. The DNA synthesis is an internal form of a clock that runs constantly. It informs the stages of cell maturity and triggers mechanisms like mitosis or meiosis, which causes cell division. Circadian rhythm has also been proven to be present in plants. So, if we ask where the perception of time originates, the most comprehensive answer would be wherever there is a flow of energy causing a change in the state of an object, time exists and is perceived by us.

Time is inferable when we use indirect cues and cognitive processes to estimate the passage of time. Our memory, reasoning and prediction abilities help us to organize events into temporal sequences. For example, sometimes we infer the duration of some events based on our previous memory of similar kinds of events or sometimes predict situations that are going to take place. In the modern era, we use various tools and technologies (clocks, calendars) to measure and keep track of time with high precision. This technological enhancement greatly aids our ability to manage time. There inference plays a crucial role. So, from the scholar's perspective, the nature of time can be understood through the process of perception as well as inference.

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Foot Note

¹"*Pramāṇa, prameya, saṃśaya, prayojana, dṛṣṭānta, siddhānta, avayava, tarka, nirṇaya, vāda, jalpa, vitaṇḍā, hetvābhāsa, chala, jāti, and nigrahasṭhāna*" (R. Basu 2017, 54).

²"*Dravya, guṇa, karma, sāmān'ya, viśeṣa, samavāya, abhāva*" (Goswami 2004, 14).

³"*Kriyagunavat samavayi karanamiti dravya lakṣhanam*" (Goswami 2004, 33)

⁴ Reduction ad Absurdum is a way of demonstrating the falsehood of a premise by demonstrating that its logical consequences are contradictory.