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CONCEPT OF TIME AND TIME MEASUREMENT IN MAHĀBHĀRATA

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Abstract: There is a vast range of discussion regarding the nature of time in Indian Philosophical Traditions. The Mahābhārata is a very vast literature and is treated as a significant source of evidence on the socio-political-economic development of India at that time. In this outstanding classic, the time has been described in so many places. In the section of Bhāgāvad Gita, we see that time occupies that highest place as well and has become one with the divine entity. In the Śhantiparva, section CCXXXI (231), there is an interesting conversation between Yudhisthira and Pitamoho Bhishma where Yudhisthira wanted to know some basic questions about the universe and the nature of time. In this section we can find a detailed time measurement process stated by Vyāsa. Vyāsa states that the ṛṣis have termed different segments of time by different names. Supremacy of Time has been established in the Mahābhārata.

Index Terms – Nature of Time and Time Measurement, Time as a divine entity.

I. INTRODUCTION

Human Beings are naturally intrigued by fundamental questions about our world and life, and they've been looking for solutions for a long time. However, providing a definitive response to such questions in this twenty-first century is still impossible. The question related to the universe's origin tends to overwhelm people often. People frequently wondered when and how the cosmos came into being and its purpose, given that it is such a vast creation. The issue of time naturally arises when we try to conceive about the universe's beginning. The concept of beginning and ending is itself connected to time. So, it is necessary to approach the problem of time from a philosophical perspective to get answers related to the beginning of the cosmos.

There is a Vast range of discussion regarding the nature of time in Indian Philosophical traditions. There are two literary epics of Ancient India, namely Mahābhārata and Rāmāyana. The Mahābhārata is a very vast literature and is treated as a significant source of evidence on the socio-political-economic development of India at that time. It was written by Maharshi Veda Vyāsa around 600-200 BC (Modern Version). The Mahābhārata has been distributed into eighteen chapters and contains 100,000 verses. It is the most significant historical social-political literature of that era (Basu 1949). In this outstanding classic, the time has been described in so many places. We will choose some of the references from this huge epic to understand the nature of time as discussed in that era. We will start our discussion with the 'Bhisma Parbva' of the Mahābhārata (Das 1925). This part of Mahābhārata is well-known for two reasons: The portrayal of the famous battle of 'Kuruksheetra and the part where 'The Bhagavad Gita' was narrated by Sri Krishna to Arjuna. In this part, we can see a dialogue between Veda Vyāsa and Dhritarāṣṭra. Dhritarāṣṭra does not want to watch the death of his relatives with his own eyes but wants to listen to the description of this battle. Vyāsa gave Sanjaya a special power through which Sanjay could watch the whole war from a distance and will describe the battlefield situations to Dhritarāṣṭra. After hearing all the painful descriptions of the battlefield and hearing the news of the death of his sons and relatives from both sides, Dhritarāṣṭra became unconscious with grief. After regaining consciousness, Sanjaya tried to console him by mentioning the names of heroes who died in the past due to the irresistible grip of time. He also emphasised that what is meant to happen will occur. No one can change his fate because time has already predetermined it. All our actions are controlled by time; time is the

reason for everything that exists. Time creates all living beings, sustains them and also devours them. No one can transcend time. Time is the cause of everything that happened in the past, happens now and will happen in the future. In this way, Dhritarāstra was consoled by Sanjaya, and the supremacy of time was established (Das 1925).

In one of these sections on Bhishma Parva, we see that just before the conflict of Kurukshetra, Arjuna refused to fight against their relatives when they saw them on the battlefield. To inspire Arjuna, Krishna gave him some advice, known as the famous Bhagavad Gita (Basu 1949). In one place in this Bhagavad Gita, we see Krishna saying that He is time himself. Even if Arjuna did not fight, every one of the soldier on the battlefield would be destroyed. They would die anyway. Death cannot be escaped. They were already dead. So, Arjuna must fight to save the dharma.

I would like to mention two issues here. Initially, the time in the Atharva Veda was said to be above all the beings. All other gods and goddesses are subject to time. Vedic deities Indra and Barun are also under the effect of Time. In the Bhāgāvad Gita, we see that time occupies that highest place as well and has become one with the divine entity. Lord Krishna was identifying himself with Kāla. Secondly, if we look at the words of Vyāsa and Krishna in the Bhishma Parva, we can observe that they repeatedly say that whatever happens will happen. No one has the power to restrain it. That means everything is predetermined. This sounds like today's Block Universe theory (Ellis 2014). According to the block universe theory, our universe is like a giant block with all the events that have ever occurred at any time. Every moment of our lives is situated in space and time since the past, present, and future are all simultaneously and equally real. It is incorrect to divide time into the past, present, and future (Ellis 2014). In the block universe every reference point is actual, hence neither the past nor the future have passed. All three eras are present at the same time. It begins to sense when we understand Vyas and Krishna's saying from these perspectives. When Krishna says to Arjuna that the soldiers are already dead, that means the future is already there and fixed. But this understanding of time is counterintuitive because we feel like time is flowing and we have left our past, living the present and waiting for the future. This also leads us to a philosophical problem regarding determinism and indeterminism. If we accept block universe theory, we must agree that we don't have free will and everything is predetermined. It is a hard thing to accept.

Let's visualise a scenario. Suppose there is an ant which is moving in a giant flat paper. In this paper, some sugar particles are placed here and there. The ant does not know the exact location of these sugar particles. The ant does not have any idea what is waiting for him a little further. So, from the ant's perspective, there were past, present, and future scenarios. The ant can also think it has free will because it can decide when to take a turn. Now, let's think that some human is watching these phenomena from above. From the human perspective, it's all there at an equal time. For him, there was no distinction between past, present future in there. From the human's perspective, the ant may have some free will but not entirely free because the paper still limits its motion. We are just like the ants. We are in a structure of space and time. From our perspective, there is a distinction of past, present, and future. But if there is a supreme being who exists beyond the space-time structure and observes us from the above, for him, there will be no distinction between past, present future. All exist at the same time. So, from Krishna's perspective the soldiers are already dead, and the future is determined.

Next, we focus on the 'Vana Parva' of the Mahābhārata, where the conversation between Yudhisthira and Yaksha indicates the same thing. In this conversation, Yudhisthira was asked by Yaksha what is the message he wanted to give Yaksha and what is the most amazing phenomenon on earth. Yudhisthira replied that "Time cooks all the living creatures, and he is using the fire of the sun to create the flames, day and nights as his fuel and seasons and months as a ladle to string the cauldron of this great delusion" (Ganguli 2005). Yudhisthira said that the most amazing phenomenon of the world is that we are observing that many living creatures are dying every day, and yet we aspire for immortality and love to think we can escape death. Actually, we cannot think of our own nonexistence. We can think that people we love is eventually going to die, but still, we hope in the deep of our mind that maybe we can escape from death. Time is considered a supreme power here that nobody can escape (Das Kashiram 1925).

In the Śhantiparva, section CCXXXI (231), there is an interesting conversation between Yudhisthira and Pitamoho Bhishma where Yudhisthira wanted to know some basic questions about the universe and the nature of time. In this section we can find a detailed time measurement process stated by Vyāsa. Vyāsa states that the ṛṣis have termed different segments of time by different names. In Mahābhārata, the Measurement of time begins in a blink of an eye- 'Nimeṣa' (Dutt 1903, 350). The time it takes to blink an eye is called Nimeṣa. An average human being blinks almost twelve times per minute, and it persists for about 1/3 of a second (Kyung-Ah Kwon 2013). The ancient ṛṣis started the time measurement from this point. Five and ten blinks of the eye count as a Kāshthā. Thirty Kāshthās would make a Kāla. Thirty Kālas create a Mūhurta. One day and night is

made up of Thirty Mūhurtas. Thirty days and nights makes a month, and twelve months makes a year. The sun makes the day and the night. A month of human beings is equal to a day and night of the Pitṛis, the spirit of our ancestors. A year of human beings is equal to a day and night of the gods (Ganguli 2005) .

Five and Ten blinks	= A Kāshthā
Thirty Kāshthās	= Kāla
Thirty Kālas	=A Mūhurta
Thirty Mūhurtas	=One Day and Night.
Thirty days and nights	=A Month
Twelve Months	=A Year
A Month of Human being	=A Day and Night of the Pitrs
A Year of Human Being	=A Day and Night of the Gods

Figure 1: Time Measurement Process described in Mahābhārata (Das 1925)

In addition to that, they mentioned four kinds of yugas: the ‘Satya’ or ‘Krita’, the ‘Tretā’, the ‘Dvāpara’, and the ‘Kali’ Yugas. This is an endless cycle. Satya Yuga continues for four thousand years of the deities. It is broken down into three stages. Four hundred years constitute the daytime of that era. Its night-time constitutes another four hundred years. The total duration of Krita Yuga is four thousand and eight hundred years. The Treta Yuga covers three thousand years, and its day and night time(each) lasts for three hundred years. The total time duration of Dvpara’s is two thousand years, with its day and night time continues for two hundred years. The Kali Yuga covers one thousand years, and its morning and night lasts for one hundred years (Kumar 2021). This measurement process can be clearly understood if we take a look at the chart in the next page.

We find a similar description of this Caturyuga elsewhere in the Mahābhārata. Once, Bhima and Hanuman meet at one place in Mahābhārata, where Hanuman tells Bhima about this Caturyuga. He explained the four Yugas and their characteristic in detail (Das 1925). Hanuman told Bhīma that their present is not the same as it was before. Then he explained the four Yugas and their characteristics in details (Das 1925). Humans had longer, healthier lives during the Satya Yuga. Everyone lived in perfect peace and enjoyed worldly amenities. There were no cultural tensions. Everybody performs according to the dharma. The human race never engaged in any combat. There was total peace on Earth at the time. It was known as the Golden Age.

After Satya Yuga, Treta Yuga begins. Treta yuga referred to as the Silver Age. Humans during this time offered peaceful religious sacrifices in an effort to appease the all-Powerful. Humans behaved honourably, morally, and with compassion toward other creatures throughout the Treta yuga. There was some division among people in the society. People were divided into four classes: ‘Brahmanas’, ‘Kshatriyas’, ‘Vaishyas’, and ‘Sudras’. They work according to their status in society. There was harmony among the four classes (Mackenzie 2020). By the end of Treta Yuga, humans had already started to turn away from the path of dharma, the religious method to live a tranquil existence. Wars started to begin. Humans are no longer capable of making successful collective sacrifices. Towards the completion of Dvpara Yuga, corruption and violence weighed heavily on our planet. In the Kali Yuga, also known as the Iron Age, all virtues—including dharma, honesty, spirituality, and morality—are completely destroyed. We are aware that when a star runs out of hydrogen from its core, the star transforms into heavier elements like carbon and iron. The star then either undergoes a supernova explosion or violently collapses, producing neutron stars and black holes. The Kali Yuga is characterised by a growth in wickedness and dishonesty to the point that civilisation is imminently doomed (Mackenzie 2020). It can be clearly observed that there is the influence of various social conditions, and religious elements of that time in the description of these four yugas.

In Mahābhārata, time has been portrayed as an all-pervading supreme deity. We see the same trends in Atharva Veda also. Time is here identified with a divine entity. Krihna is the one who identified himself with the time. In Hinduism, time is itself Divine and cyclic in nature. It shows a special characteristic of Hinduism. The concept of cyclical time is closely associated with the concept of soul or ātman in Hinduism. In Hinduism and some of Indian Philosophical traditions, there is a belief that our body will not going to stay forever, but our self or consciousness is eternal and ever-existing. So, the world never came to an end. It will create again and again. This process is endless. So, time is also infinite and cyclic in nature.

According to Hinduism, each time-cycle has divided into three segments. It begins with creation, maintains its existence for some time, and after that, it is destroyed into nothingness. After a brief interval, the whole process begins all over again. These three phases of time are controlled by trinity that is, Brahmā, Viṣṇu and Siva. Brahmā is accountable for creation, Viṣṇu maintains this existence, and Siva is responsible for

destruction. The same pattern is also seen throughout the day. Every day begins in the early morning, lasts all day, and then fades away into the night. The same goes with our life also.

Another notion we observe in Mahābhārata that everything is predetermined in time means every reference point of time is equally real. Past, present, future is just an illusion. Our past is not all gone and future is already there. This connects us with another notion in Indian Philosophy that is Karma and Karmafal. But the future is deterministic that does not mean that we don't have anything in our hand or we don't have any free will. It means that our work or Karma will determine our future. This way of interpretations may help to resolve the conflict with determinism and free will.

There are many references of time in Mahābhārata as we have mentioned before. Section 231 of ŚantiParva is important one because this section has mentioned not only the nature of time, but also gives a description of the measurement of time which helps us to have an idea of measurement process in Ancient India. The measurement of time periods is closely associated to the nature of time. In that section we saw that Vishma stated an old narrative about the time to Yudhisthira. This means there was already a trend to stating time like this before Mahābhārata as Vyāsa started like this "...The ṛṣis, measuring time, have named particular portions by particular names" (Dutt 1903, 350). But what was the exact origin? The division of four Yugas and their particular measurement did not exist during the Vedic or Upanishadic age. It was first mentioned in ManuSmṛiti. These trend have a very ancient origin in India. As mentioned by Jayntanuja in his book "Class and Religion in Ancient India"- "According to manusmṛiti, Ramayana, Mahābhārata, and the Purānas, there are four yugas or cycles of time, corresponding to the relative social status of the four class-caste formations. In the age of truth or Satya Yuga the Brahmanas reigned supreme, and dharma prevailed on earth in its pure form. Religion declined in the Treta Yuga, which came chronologically next. But there was a decline of dharma in this age, supposedly marked by the ascendancy of the kshatriya class, only the extent of 25 percent. In the next age Dwapara, when the Vaishya class was supposed to be on the ascendant, dharma decline by half. In the Kali Yuga, which was generally portrait as the dark age of the future when the Shudras or working class would become dominant, there would be three-fourths adhama on earth and only one fourth of Dharma would remain" (Bandyopadhyaya 2007, 135). This is an ethico-religious implication of different classification of time into four yugas. Before the epic period kāla or time regarded as the originator, protector and demolisher of the universe and this tripartite modes of time determines its nature.

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