

THE CONCEPT OF TIME IN INDIAN GRAMMATICAL TRADITION (1)*

Ganesh Prasad PANDA

Preface

“*apyarṇavasya puruṣaḥ prataran kadācit
āśādayedanilavegavaśena pāram /
na tvasya kālapuruṣākhyamahārṇavasya
pāram kadācidanṛṣir manasā 'pi yāyāt //*”

“Swimming the ocean, a person, with the force of wind,
may reach the other side of it, but, no one, other than a seer,
can go beyond the limits of the ocean called Kālapuruṣa *Time incarnate*.”

There are separate chapters in the *Vākyapadīya* dealing with different concepts like *dik*, *kāla*, *kriyā*, etc. They are interesting particularly for studying them with a modern historical and comparative approach. Out of such concepts, I found *kāla* ‘time’, a more interesting concept which has attracted attention of scholars from both the East and West. In recent days, different seminars and conferences have been conducted on the concept of time. I selected this topic with a view to finding out some relevant suggestions from the grammatical tradition itself which may help to understand the concept more in a comprehensive manner. I have tried to deal with this concept as it is discussed in the grammatical tradition. I have also tried to discuss the concept and the related issues with their proper perspectives.

At the very outset, I must acknowledge my teacher and guide Prof. (Mrs.) Saroja Bhate without whose sincere guidance and co-operation, the work would not have been accomplished. I am indebted to Pandit V.B. Bhagwat with whom I had some preliminary discussions regarding the *Kālasamuddeśa* which was of a great help to me. I take this opportunity to thank Prof. Luxmithathachar, Registrar, The Academy of Sanskrit Research, Melkote, who gave me a chance to participate in the workshop on time held at the auspices of the Academy during July, 1989. Dr. C.K. Raju, a member of the International Society for the study of Time, brought some Western

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ideas on time for which I am thankful to him. I acknowledge Dr. Bipin Panigrahi, a scholar from Indian Institute of Technology, Bombay who brought some valuable information to my notice and gave some important suggestions. I am thankful to all those scholars who had attended and commented on my papers on time presented at the aforesaid workshop as well as at the 34th All India Oriental Conference, Vishakhapatnam and in the Seminar on "Hindu Grammatical Thought and Contemporary Linguistic Theories" at Bombay University.

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Abbreviations

<i>Aṣṭ.:</i>	<i>Aṣṭādhyāyī</i>	<i>NS.:</i>	<i>Nyāyasūtra</i>
<i>AV.:</i>	<i>Atharvaveda</i>	<i>P.:</i>	<i>Pāṇinisūtra</i>
<i>PV.:</i>	<i>Īśvarapratyabhijñāvimarśinī</i>	<i>PR.:</i>	<i>Prakāśa</i>
<i>KSD.:</i>	<i>Kālasiddhāntadarśinī</i>	<i>SK.:</i>	<i>Siddhāntakaumudī</i>
<i>Mbh.:</i>	<i>Mahābhāṣya</i>	<i>VKB.:</i>	<i>Vaiyākaraṇabhūṣaṇa</i>
<i>NK.:</i>	<i>Nyāyakandālī</i>	<i>VP.:</i>	<i>Vākyapadīya</i>
<i>NM.:</i>	<i>Nyāyamañjarī</i>	<i>Vt.:</i>	<i>Vārttika</i>

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CHAPTER I: INTRODUCTION

Prologue

The notion of time figures very prominently in our perception of reality. It serves to order things and events in our environment and therefore, has immense significance in our everyday life. At the very physical level it helps us to comprehend change, production, continuation, destruction etc. Further, it provides the base on which the notion of relations, such as, priority, posteriority, simultaneity etc. are apprehended. It gives a shape to our understanding of the world by enabling us to build a sense of perspective, a faculty of human mind that distinguishes "now" from "then" by giving an appearance of succession to all events. Time, therefore, is the foundation on which man's perception of the immediate reality rests and hence is inseparable from human activity.

As the most fundamental entity time has become a part of our everyday life. Everyone of us understands time. Everyday we use it. We also realize it. But, when a question about the definition or a rational explanation about time arises, it proves to be elusive. It appears as a mysterious entity that slips out of our hands just when we are about to hold it. The mystery that comprises the realization that within no moment the present becomes past, the future becomes present. It is precisely this mysterious aura around time that has drawn the attention of philosophers, scientists and scholars of different branches of knowledge.

To solve the mysterious character of time, both philosophers and scientists have made various attempts. Yet, its mysterious nature persists because it is difficult to grasp it in our consciousness. That is why some have gone to the extent of saying that it is not possible to give a rational discursive treatment to it and it can only be grasped by intuition.

One well recognised feature of time, *kāla*, is that it is familiar but least understood. Different cultures may differ in their characteristic concern, attitude or orientation so far as time is concerned but they have invariably noted this paradoxical feature of time. As a consequence this feature gets great importance.

A brief gloss over the explanations about time provided by different cultures would throw light on the unique nature of time. Consider for instance the views or different philosophies of different times. For Plato, time is inseparable from the Universe right from the point of creation. While for Aristotle time is the numeral aspect of motion. In contrast, the Hindu world-view pictures time in different terms. As popularly comprehended, time is the lengthening of a metaphysical "timeless moment". Thus, all things are conditioned by time. The

Hindu world-view speaks of three different levels¹ in which time operates. The first is the cosmic or epoch time determined in terms of the life-span of the Brahmā. The second one is the calendar time, measured in units of days and months used in determining the seasons, historical eras etc. The last is horological time for measuring the duration of the day and is determined by the lesser units.

The above discussion makes it abundantly clear that despite variations in approaches to defining time, time remains inevitable presence encompassing all spheres of human activity. It is here that 'language' comes into picture and, being a vital instrument of human expression and communication, it is not independent of time. But it remains to be seen what aspect of language brings itself in touch with time. There can be several levels at which time has impact on language. A few of them may be summed up as follows:

I) Language possesses a number of expressions denoting time relation: simultaneity, subsequence, precedence etc. Moreover, with the help of suffixes, it can express time and time aspect of action: *kriyate*, *kṛtam*, *kariṣyati* etc. The first example indicates (through the suffix *te*) present which is in continuation. The second (with the help of the suffix *kta*) indicates past activity and the third indicates the future time (with the help of suffix *sya + ti*) we make efficacious use of all these expressions in our everyday experience; there exists subsequently an empirical applicability (*vyavahāra*) of these expressions which would not be possible were it based on fiction.²

II) In communication, language acts as an agent of description. To provide a correct description of an event or action so as to make it understandable, it is necessary to place it in a time perspective.

This is where language depicts time: past, present or future.

In order to represent the timeliness of an action or event, certain languages have certain commonly accepted norms. The grammar of such a language contains those norms. In order to project time, grammar sets up various rules that deal with tense, mood etc. For instance, the three broad levels of time that we encounter in our life, namely, past, present and future, are expressed by some grammatical elements.

Thus, the efficiency of a particular language in delineating the time of happenings is largely dependent upon the concept of time that is embodied in grammar. This may vary from language to language. For example, there are eleven different time levels that Sanskrit language can efficiently convey through its tenses. It is here that the grammatical tradition becomes relevant. Grammatical tradition refers to the continuity and development in grammatical thought within the

¹ *Hindu World*, p. 503.

² *Essays on Time in Buddhism*, p. 316.

framework of that particular language. It is worth-mentioning here that in India, it is Pāṇinian tradition which is fully developed and nourished with enriched thought. So, here, we are concerned with Pāṇinian tradition.

Again, it is here in India that the grammatical analysis developed in a way which was later on developed to a subject of language philosophy. Unlike other philosophical systems in India, the subject matter of grammar or grammatical philosophy touched the crux of deciding the goal of human life. Language, here is considered, not only a mere vehicle of communication, or a means of expression but also the goal in itself. According to Bhartṛhari, there is no cognition in the world which does not involve language.³ It is here that grammar becomes a relevant subject of study to that aspect by way of a cure for the stains (by identifying incorrect usages) which affect speech, and thus becomes the door to that ultimate.⁴ Thus, according to Bhartṛhari, the Ultimate Reality is *Śabda* or called *Śabdabrahman* which is a unitary principle in essence and centre of all cognition. The concept of time here appears as a power of that *Śabdabrahman*. In the metaphysics of Bhartṛhari, there are different powers of which time is an independent power. This aspect of time, however, as it appears, was not an interesting subject of discussion after Bhartṛhari. Nevertheless, the later grammatical school was well-furnished with the discussions involving the grammatical or morphological aspect of time.

Thus, the concept of time in Indian grammatical tradition has been the subject of discussion for a long time. But, quite a few researches have been conducted both in ancient and modern times. Some of them constitute the primary texts, such as, the *Vākyapadīya* in which the concept of time⁵ is discussed; while others have tried to interpret these texts, thus trying to offer a clearer picture of the issues.

In the present dissertation, an attempt is made to show a systematic exposition of the various theoretical and conceptual problems, interpretations and explanations contained therein, with a holistic

³ VP. I.123.

⁴ *Ibid.* I.14; Edward Sapir, a modern linguist also holds the same view (Edwards Sapir, *Language*, New York, Harcourt, Brace and World, 1949, p. 15).

⁵ As Prof. Aklujkar ('An Introduction to the Study on Bhartṛhari,' p. 10) points out in connection with the selection of topic of research in Bhartṛhari: "In writing a dissertation that focused on determining the basic or fundamental ideas attributed to Bhartṛhari, it was possible to follow two paths. One was to let an overarching structure of presentation emerge out of the special individual observations collected as a result of a careful and comprehensive consultation of primary sources, ... The second possible path was to follow the major concepts the ancient and medieval Indian tradition and the preceding generations of modern scholars seemed to associate with Bhartṛhari and to investigate each of them or the more important among them from the point of view of determining, accurately and thoroughly, their nature and scope, as understood by Bhartṛhari. Among such concepts, the ones that rather readily come to mind are: *brahman* (*śabda-tattva-brahman*, *śabdabrahman*), *vākya*, ... *kriyā*, *kāla*, *puruṣa*, ... *prakṛti* etc."

approach towards the concept.⁶ Here, Bhartṛhari's idea of time is discussed in details. The position in *trimunivākarana* i.e., in the works of Pāṇini, Kātyāyana and Patañjali, has been clarified. The position of later grammatical tradition is also stated and discussed.

To evaluate their position in the grammatical tradition, a brief survey of such literature/studies in the field, thus, becomes necessary. A number of works dealing with the concept are surveyed in the next section. Before that it is for the sake an overall view of the concept that the treatment of time both in Western and Indian philosophy has been discussed in a nutshell first in the ensuing pages.

1. A Brief History of the Study on Time in the Western Tradition⁷

Our Vedic writers felt the difficulties involved in the idea of change and declared that the world we see around us is a mere appearance of Reality and Reality itself always remains unchanged. The first great thinker of the West who philosophised on this problem also came to the same conclusion.

According to Parmenides⁸ - 'a thing is' (it does exist). Whatever is not, i.e., has no being, cannot be thought or spoken of, for that is logically impossible.⁹ As the past can be thought or spoken of, it has not passed away into non-being but still is. As the future also can be thought or spoken of, it already is and cannot be said to be going to be. Since whatever is in the past, present and future, there is no coming into being or ceasing to be, no becoming, no passing away. In other words there is no change in time. There being no change in time, Reality is eternal and unchanging.¹⁰

⁶ Aklujkar as against the second path, argues (*ibid.*, p. 11): "In scores of research writings, Indologists, particularly the late Prof. K.A. Subrahmanya Iyer had already followed the line of inquiry based on Sanskrit concepts, and although I had some contribution to make to the elucidation of the concepts, there was not much benefit for me in retaining the old overall framework of approaching Bhartṛhari." Further Aklujkar states the problems of why he did not select such conceptual study for his research work, to which I think, he may be justified, but when I selected this special concept of *kāla*, as I have already stated in the preface to my thesis with a view to serve a special purpose. Moreover, the conceptual studies, I think, still can be explored, intensified in the light of modern studies and never exhausted with the study of Prof. Iyer. Further, the scope of my research work also lies in exploring the concept in the early, contemporary and later scholars in the tradition.

⁷ For this section, I have made extensive use of a very valuable article 'The Nature of Time' by M.M. Sharif.

⁸ Elea, a Greek colony in the south Italy, 500 B.C.

⁹ The idea has an echo in a verse cited in the *Mbh.* on P.III.2.123:

*na vartate cakramisurna pātyate na syandante saritaḥ sāgarāya /
kūṭastho 'yaṁ loka na viceṣṭitāsti yo hy evaṁ paśyati so 'py anandhaḥ //*

¹⁰ M.M. Sharif in his article 'The Nature of Time' argues: "This argument is really fallacious. A past event when it was present was thought and spoken of because it was known in experience

Parmenides found a strong supporter called Zeno of Elea who flourished in 450 B.C. following him. He advanced four arguments against the possibility of time which are famous as Zeno's paradoxes. All his four arguments were for the reason that there is no change in universe, hence no motion and our experience of motion is an illusion. There is no change and no absolute time.

The paradoxes of Zeno made his successors down to the present day realize that it was necessary to make a closer study on time. The further study took three distinct lines -

- i) The first line of thought resolved Zeno's paradoxes just as Zeno himself did by denying reality to change, space and time.
- ii) The second line of thought consisted in admitting his pre-supposition that space and time are infinitely divisible, but denying the validity of his argument.
- iii) The third line of thought consisted in rejection of the whole pre-supposition.

The thinkers who adopted the above three lines of thoughts are correspondingly as follows:

- i) Eudemus, al-Ghazzali, Leibnitz, Mc Taggart.
- ii) Aristotle, Ibn Rushd, Newton, Cantor, Bertrand Russel, Einstein
- iii) Bergson

The study of the above thinkers can be roughly classified under two broad headings: illusory and real.

Among the three lines of thought adopted by different thinkers, the follower of first line of thought, mainly hold the view that time is unreal.

According to al-Ghazzali, time has no limits beyond the point where it begins and the point where it ends. Every timed object has its own time, its own beginning and end, and time without relation to these limits has no meaning. Besides being relative to the body, time is also relative to us. The future may itself become the past and may consequently be spoken of in the past tense. It is therefore, untrue of reality. It is subjective element added to reality to create the phenomenal world.¹¹

Leibnitz has exactly the same position as al-Ghazzali regarding the nature of time. Time, he says, is not a real substance, nor an attributive, but it is indefinitely applicable relation of succession. It

by direct acquaintance; when it is past, not it but its memory-image or its record is known, thought or spoken of and that not by acquaintance but only by description. There is no contradiction in believing that although the memory-image or description of a past event is does not exist, the past event itself may or may not exist. As the idea of change involves no contradiction, change is real. Parmenides could not see the distinction between our thinking and speaking of an event known to us by direct acquaintance and our thinking and speaking of an event known to us only by description - a distinction has made for the first time in the human history by Bertrand Russel in the beginning of this century." p. 119.

¹¹ *Tahafut al-Falasifah*, Eng. tr. S.A. Kamali, 1958, p. 35 ff. (quoted in "The Nature of Time," p. 122.)

does not belong to the essence of things. Space and time are mere relations between phenomena and without phenomena they are mere abstraction. Hence, they are not aspects of reality.¹²

Mc Taggart further elaborates the relativistic theory of time. According to him, there is no perception of time without the distinctions of past, present and future. Past, present and future are mere relations. They do not belong to time but only in relation to a knowing subject. If there were no knowing subjects, nothing would be in any sense past, present or future. Finally, time is a characteristic of appearances and not of reality. In reality there is no temporal change.¹³

The followers of the second line of thought hold the view that time is real. The most prominent philosophers come under this group. According to Aristotle time has priority over movement, for movement takes place in time and not time in movement. Time is the measure of number of movement. Motion in time is, therefore, not an illusion but a reality. Time is infinite, extending infinitely into future and existing eternally in its own right.¹⁴

According to Bertrand Russel, change, movement, time and space are real. Although he considers time and space as relations, he differs from others in the sense that he takes relations as real and not phenomenal.¹⁵

From Einstein onwards space and time have been viewed as relative even to each other, so much that one cannot be considered apart from the other. The three dimensional space and one dimensional time are treated as four dimensional space-time which is relative to the observer.¹⁶ The mass, space and size of an object change as the points and speed of the observer or the observing apparatus change. There is no such thing as self-subsistent mass, space, size, movement or duration. This is how the first two lines of thoughts came closer and the concept of relativity has gone deeper and deeper.¹⁷

The third line of thought resolved Zeno's argument by destroying their foundation, that is to say, by denying the premise that time is infinitely divisible and can be cut into moments.

Bergson accepts Heraclitus's (500 B.C.) theory of continual change. According to him, motion is something indivisible and cannot be validly analysed into a series of states.¹⁸ All our experiences are in

¹² Leibnitz, *The Monadology* etc., Eng. tr. Robert Latta, 2nd ed. 1929, p. 102ff.

¹³ Taggart, M.C., *The Nature of Existence*, Ch. 33, 1927 (quoted in "The Nature of Time," p. 123).

¹⁴ Sharif, M.M., *The Nature of Time*, p. 124.

¹⁵ Bertrand Russel, *Our Knowledge of the External World*, Lectures V and VI.

¹⁶ Sharif, M.M., *The Nature of Time*, p. 126.

¹⁷ *Ibid.*, pp. 126-27.

¹⁸ This idea of Bergson can very well be compared with "kriyā nāma iyaṁ atyantāparadṛṣṭā na śakyā piṇḍībhūtā nidarśayitum." *Mbh.* on P.III.2.115.

duration and they succeed one another in such a way that one cannot at a given moment perceive a number of them simultaneously and yet distinctly.

Bergson has refuted all the arguments of Zeno and proposed the third line of thought.

Following the above mentioned three lines of thought many other philosophers and scientists have viewed time differently. Among them Kant, Alexander, Whitehead, Bradley, Taylor, Spinoza are some of the prominent who have tried to analyse time in their own way.

Kant regards time as a pure form of our intuition while space is a form of outer sense, time is a form of the inner sense. Time is not an object which can be perceived. It is "a rule of the understanding through which alone the existence of phenomena can receive synthetic unity". The distinctive feature of time is "Succession". It is that which makes the coming into being and passing away of things. Time is empirically real.¹⁹

According to Alexander, time is the soul of the space and space-time is the soul of all reality. The relation between time and space, according to Alexander, is comparable to that between soul and body. There is no mere time but only space-time or time-space. This is the study of which all existents are composed.²⁰

According to Bradley, time is illusory.²¹ Though time is a mere appearance, it exists and must somehow in some way belong to our Absolute.²²

The important ideas of some prominent western philosophers are presented here in this section. It has been observed that the western philosophers mainly differ on the issue whether time is an entity or not.

2. Time in Indian Tradition

According to some scholars, there was a distinct school of thought in ancient India, known as *Kālavāda*, which held that the ultimate cause of all movements of life and thought is *kāla*, conceived as an insentient power, much like the western conception of Fate, Necessity and Destiny, or as the supreme conscious power identical with the Absolute Reality, or even as a subordinate power immediately responsive to the

¹⁹ Mahadevan, T.M.P., 'Time and Timeless,' pp. 123-24.

²⁰ Alexander, *Space, Time and Deity*, Vol. I, p. 36.

²¹ *Appearance and Reality*, Swan Sonnenschein & Co. Ltd., London, 1908, p. 207.

²² T.M.P. Mahadevan in his article 'Time and Timeless' remarks: "When Bradley says that time is illusory, I understand; but he adds that it must belong to the Absolute, I do not. To attempt to relate the appearance to Reality and to characterize the relation as a belonging is, I think, an unwarranted procedure. From the standpoint of Absolute-if standpoint it may be called-there cannot be time," p. 129.

supreme will.²³ But, no knowledge of that school is available except some references here and there. So, as usual if we go back to the earliest available record of human history viz. Vedas we find apparently divergent conceptions of time from vedic period.

Though the term *kāla* once occurs in *Rgveda* (10.42.9), where it is used in an adverbial sense "in time,"²⁴ the *Atharvaveda*, for the first time opens the discussion regarding time and handles time overtly as a concept, calling it *kāla*. A complete *sūkta* 'hymn' is devoted for *kāla* and there it is regarded as the creator, sustainer and destroyer of all objects. It is considered as the God of all²⁵ and also the ultimate cause of the world.²⁶

Upaniṣads also conceived time as a principle. But it (time) possesses apparent reality. From the transcendental standpoint it is unreal. But, in some of the Upaniṣads, it is described as the ultimate principle of the universe. Thus, *Maitrī Upaniṣad* suggests two types of time: that which has parts and that which has no parts.²⁷ Certainly, it refers to two kinds of time viz., empirical and transcendental time. In one passage of *Subāla Upaniṣad*, it is said that Nārāyaṇa himself is called time.²⁸ Further, *Maitrī Upaniṣad* clearly speaks about the two forms of Brahman - Time (*kāla*) and Timeless (*akāla*).²⁹

The Purāṇas have dealt with the two aspects of *kāla* (time) viz. indivisible (*akhaṇḍa*) and divisible (*khaṇḍa*). One is indivisible, infinite, unconditioned and eternal and another is divisible one and hence non-eternal. Thus, purāṇic writers have distinguished between empirical and transcendental time. Some of the prominent opinions of prominent *purāṇas* are given below.

Kāla according to *Viṣṇupurāṇa*, neither becomes nor passes away.³⁰ It is creator, sustainer and destroyer of the Universe.³¹ *Kāla* as *Diṣṭa* and *Daiva* has been described in the *Mārkaṇḍeyapurāṇa*.³² In the *Matsyapurāṇa* the superiority of *Daiva* and *Puruṣakāra* has been discussed.³³ In the *Bhāgavatapurāṇa*, *kāla* is described as a special

²³ Introduction to *Kālasiddhāntadarśinī*, p. 1.

²⁴ According to St. Petersburg Sanskrit German Dictionary.

²⁵ *AV.* XIX, 53-54.

²⁶ *Ibid.*

²⁷ *Maitrī Upaniṣad*. VI.15.

²⁸ *Subāla Upaniṣad*. VI.1: *kālaḥ kalirdhātā brahmāprajāpatir maghavādivasas cārthadivasas ca kālaḥ kalpaḥ*.

²⁹ *Maitrī Upaniṣad*. VI.2; these two aspects i.e., time and timeless are also found in Chinese alchemy (see "The Representation of Time in the Zhouyi Cantong Qi", p. 167: Like the two forms of Brahma, the Dao is both the Timeless and time").

³⁰ *Viṣṇupurāṇa* I.2.15: ... *kālas tathāparam*.

³¹ *anādhbhagavān kālo nānto 'sya dvija vidyate / avyucchinās tatas tvete sargasthityantasamāyamāḥ* // (*op.cit.*, I.2.26)

³² Bombay ed. Vs. 20-21.

³³ *Matsyapurāṇa* p. 635:
svam eva karma daivākhyam viddhi dehāntarāyitām /

power of the Lord. It remains in a dormant and latent state at the time of dissolution. That *śakti* named after *kāla* impelled by God awakens when the new creation is contemplated.³⁴ The *Bhāgavatapurāṇa* accepts two kinds of time: gross and subtle,³⁵ both knowable by inference only. It is time that determines all the actions that are termed manifest '*vyakta*'. Thus, if *Prakṛti* is the material cause *kāla* is the efficient cause.³⁶ *Kāla* is also stated as *anādi* (without beginning) and *ananta* (without an end) and therefore, is identified with *Īśvara*.³⁷ All the created beings are said to be under the sway of *kāla*. Nobody can escape from the clutches of *kāla*. The liberated souls however, are not affected by *kāla*.³⁸

Of all the Purāṇas it is only the *Viṣṇupurāṇa* and *Bhāgavatapurāṇa* which discuss the time concept in a philosophical manner. In other Purāṇas, *kāla* is praised as Deity, all-powerful and all-pervasive.

Among the Six systems of Indian philosophy, the atheistic³⁹ Sāṃkhya school does not accept the existence of time.⁴⁰ There are also several other views found within the system. According to one view, *kāla* is not altogether non-existent, and is an evolute of *Prakṛti*.⁴¹ Another view accepts time itself is *Prakṛti*.⁴² According to some other view, 'action' is designated as time.⁴³ The other view found there is - *kāla* is nothing besides, and independent of objects spoken of as past, present and future.⁴⁴ The way *kāla* is described in the Sāṃkhya school

tasmāt puruṣam eveha śreṣṭham āhur manīṣiṇaḥ ||

34 *Bhāgavatapurāṇa* III.8.11:

so 'ntaḥ śarīre 'rpitabhūtasūksmaḥ kālātmikam śaktim udīrayāṇaḥ |
uvāsa tasmin salile pade sve yathā 'nalo dāruṇi ruḍhāvīryaḥ ||

35 *Bhāgavatapurāṇa* III.11.3:

evam kālo 'py anumitaḥ sauksmye sthauḷye ca sattama |
saṁsthānabhuktyā bhagavān avyakto vyaktubhukvibhuh ||

36 *Bhāgavatapurāṇa* XI.24.19; also XII.3.26.

37 *Ibid.* IV.11.22 and vide Śrīdhara's commentary on it.

38 The idea is very common in Indian thought, particularly in Advaita philosophy.

39 There are two schools in the Sāṃkhya system -- one is atheistic and another is theistic; vide *Śāstradīpikā* I.1.5: *dvividham sāmkyam seṣvaram niriśvaram ca*.

40 Vide *Ratnaprabhā*, a commentary on *Śārīrakabhāṣya* under II.2.1: *sāmkyaiḥ kālasyānāṅgī-kārāt*; also vide *Sāṃkhyatattvakaumudī* under Vs. 33 for the support of this view.

41 Vide *Mygendravṛttidīpikā* X.14:

parināmaḥ pṛthagbhāvo vyavasthākramataḥ sadā |
bhūtaisyaavartamānātmā kālarūpo vibhāvvyate ||

42 Vide Mādvācārya's *Bhāṣya* on *Parāśarasamhitā* I.20: *pradhānavāde pañcaviṁśati tattvebhyo bahirbhūtasya kālātattvasyābhāvāt pradhānam eva kālaśabdena vyavahriyatām |*

43 Vide *Yuktidīpikā* under Vs. 50: *na kālo nāma kaścit padārtho 'sti kim tarhi kriyāsu kāla-samjñā*.

44 Vide *Vṛttānta* on *Mānasollāsa* of Sureśvarācārya, Vs. 41: *kālaś ca bhūtaḥ bhavat bhaviṣyad iti vyavahriyamāṇapadārthavyatirekeṇa na svatantra 'sti*.

also appears that it accepts *kāla* as both *nitya* (eternal) and *anitya* (non-eternal).⁴⁵

The theistic Sāṃkhya School⁴⁶ accepts *kṣaṇa* or moment as the notion of time while accepting *muhūrta*, *yāma* etc. are mental constructions.⁴⁷

In the Nyāya-Vaiśeṣika system⁴⁸ *kāla* is considered as the eternal back-ground of the creative process.⁴⁹ According to this system, it is eternal, all-pervasive and a substance. It is the instrumental cause of the all objects in the world.⁵⁰ Further, *kāla* is considered as the substratum of the Universe.⁵¹ The distinction in *kāla*, such as moments etc. is due to its various limiting adjuncts.⁵² Lastly, it is an objective reality according to the Naiyāyikas. *Kāla* is also inferential⁵³ according to some. Vaiśeṣikas and Naiyāyikas do accept the division of time into past, present and future though they accept the real time is One, unitary infinite and indivisible.⁵⁴ The single time obtains the distinctions or divisions due to its relation with events. However, the above position of Vaiśeṣikas and Naiyāyikas was not acceptable to Raghunātha Śiromaṇi, a prominent neo-logician (*Navya-naiyāyika*) belonging to the 16th century. He does not accept the separate existence of time. He brings time under Īśvara.⁵⁵

In the Mīmāṃsā School, the concept of time is treated differently by the two different sub-schools named after Bhāṭṭas and Prābhākaras.⁵⁶

According to Bhāṭṭa School, *kāla* is a substance.⁵⁷ It is eternal and all-pervasive. Though it is one, it gets appellations of *kṣaṇa* (moment),

45 Vide Sāṃkhyapravacanabhāṣya on Sāṃkhyasūtra II.12: *nityau yau dikkālau tāv ākāśaprakṛtibhūtau ... yau tu khaṇḍadikkālau tau tu tattadupādhisamyogād ākāśād utpadyete ity arthaḥ.*

46 The Yoga view of Patañjali school.

47 Pātañjalayogasūtra III.5: *idāṇīm kṣaṇātiriktaḥ kālo nāsti muhūrtādirūpo mahākālaparyanta itī prasaṅgāt svaśāstrasiddhāntam avadhārayati. muhūrtāhorātrādayo buddhikalpita samāhāra eva.*

48 The views of the two systems are taken together here because they share a common view regarding the concept of time; vide Nyāyamañjarī II.5: *samānatantre dikkālau vaitanyena vicintitau/ tanneha likhyate loke dveṣyā hi bahubhāṣiṇaḥ //*

49 Nyāyakandalī (p. 22): *sarveṣāṃ samyoginām mūrtadravyanāmākāśa... eka ādhāra ity arthaḥ.*

50 Vaiśeṣikasūtra II.2.29; also vide NS. II.1.23.

51 Bhāṣāpariccheda, 45: *janyānām janakaḥ kālo jagatām āśrayo mataḥ /*

52 Ibid., 46: *paratvāparatvādihetuh.*

53 Jayantabhaṭṭa was not very strict in this regard since he says: *siddhaḥ kālās cākṣuṣo vā laingiko vā tannānāvaṃ siddham aupādhiḥ ca.* (NM. II.5).

54 Ibid.; also vide NK. (p. 66): *kālaṅgānām parāparādipratyayānām aviśeṣād bhedāprati-pādaka-ivād aṅjasā mukhyayā vṛtyā kālasyaikaṭve siddhe nānāvopacārān nānāvavyapadeśaḥ.*

55 Vide Padārthatattvanirūpaṇam (p. 2-3): *dikkālau neśvarād atiricyate mānābhāvāt. tattannimittaviśeṣasamavadhānavaśāt tattat kār्याviśeṣānām utpatteḥ.*

56 The difference between these two schools is, they hold two divergent theories about the sentence interpretation. The theories of Bhāṭṭas and Prābhākaras are known as *abhihitānavayavāda* and *anvitābhidhānavāda* respectively.

57 Vide Mānanyodaya under Prameyapariśeṣa: *pariṇāmaguṇādhāraṃ dravyaṃ dravyavido viduḥ /*

māsa (month) etc. on account of the limiting adjuncts.⁵⁸ Again, *kāla*, though all-pervasive in character, is conditioned by extraneous adjuncts. The Bhāṭṭas believe that *kāla* is perceptible by all six senses.⁵⁹

In the Prābhākara School *kāla* is regarded as one, eternal and all-pervading as in the Vaiśeṣika School.⁶⁰ According to Prābhākara also *kāla* is perceptible and with apparent divisions though it is one.

There are different schools in the Vedānta itself. According to Advaita Vedānta, *kāla* does not enjoy any independent status.⁶¹ It is dependent on the nature of events. In Advaita Vedānta, Brahman is the highest reality. It is non-temporal and non-spatial.⁶² Brahman is the only eternal reality. Time, space and causality are taken to be categories or empirical reality only. *Kāla* is also sometimes considered as identical with *avidyā*.⁶³ Some Vedāntins have considered *kāla* as identical with *māyā*.⁶⁴ Therefore, a separate existence of time is also not sometimes acceptable to Advaita Vedānta.⁶⁵ However, Vedāntins have accepted its empirical existence and supported it as a perceptible entity.⁶⁶

Other branches of Vedānta also have discussed the concept in their own way. The Viśiṣṭādvaita School of Rāmānuja accepts three Realities, namely, *Cit*, *Acit* and *Īśvara*. The *Acit* is divided into three: *Śuddha-sattva*, *Miśra-sattva* and *Sattva-sūnya*. Time comes under *Acit* or an unconscious substance. It is the cause of the modification of *Prakṛti* and is itself modified as *kalā*, *kāṣṭhā* etc. It is eternal. It is the body of the *Īśvara* and field of his activity.⁶⁷ Some are of the opinion that *kāla* is comprehensible by the six senses.⁶⁸ According to some, it is one and

prthivīsalīlam tejah pavamānas tamas tathā ||
vyomakāladigātmāno manah śabda iti kramāt |
ekādaśavidham caitat kumārīlamate sthitam ||

58 *kālasya* *api vibhūte* 'py *aupādhiko bhedavyavahāro* 'sti. (op.cit., II.22).

59 *sa ca kālah ṣaḍindriyagrāhyaḥ*. (op. cit., pp. 189-90) also vide *Śāstrādīpikā* under I.1.5 and *Advaitasiddhi* 1 under *paricchinna*hetu.

60 Vide *Tantrarahasya* of Rāmānuja under *Prameyaparicheda*: *tatra cābhyupagamasiddhānta-nyāyena kāṇādantrasiddha eva prameyavargo* 'ngikriyate, *tasya tatpratipādanārtham prabrūtvāt, na tu prthag atra vyutpādyate*.

61 Vide *SBh.* on *Māṇḍukyopaniṣad* I.1.

62 *Ibid.*

63 Vide *Siddhāntabindu* Vs. 8: *kālas tu avidyeva tasyā eva sarvādhāratvāt*.

64 *mayaiva kāla iti vedāntinaḥ* (loc. cit.).

65 *dikkālo tv apramāṇikatvān noktau*. (loc. cit.).

66 Vide *Vedāntaparibhāṣā* under *pramālakṣaṇa*: *nirūpasyāpi kālasya indriyavedyatvābhyupagamena dhārābāhikabuddher api pūrvapūrvajñānāviśayatattatṣaṇaviśeṣaviśiṣṭaviśeṣyakatvena na tatrāvyāptiḥ*.

67 Vide *Tattvatraya* under *Acitprakaraṇa*: *sattvasūnyam kālah. ayaṃ ca prakṛtiprākṛtānām parināmahetuḥ kalākāṣṭhādirūpeṇa pariṇato nitya īśvarasya kṛdāparikarāḥ śarīram ca*.

68 Vide *Vedāntavādāvalisiddhāntaiddhānjana* under *Jadaparicheda*: *ayaṃ ca kālah ṣaḍindriyavedyaḥ. ghaṭaḥ sann iti cākṣuṣādīpratīteḥ sarvasiddhatvāt, tatra sattvasya kālasam-bandhitvamātrārūpavattvāt*.

all-pervading. It gets appellations of moment (*kṣaṇa*) on account of the limiting adjuncts⁶⁹ of solar motion.

According to Vallabha's Śuddhādvaita School, *kāla* is not distinct from Brahman. It is Brahman itself⁷⁰ and its empirical divisions or limitations are caused by the solar motion.

The Dvaita School of Mādhavācārya believes that *kāla* is the substance.⁷¹ This school does not accept the one (single) time. Time is many according to the *ācāryas* of this school.⁷² According to some of the *ācāryas*, *kāla* is created and destroyed; hence it is non-eternal.⁷³ Some other *ācāryas* of this school hold the view that even if time is created by God it is eternal and a continuum.⁷⁴ It is also perceptible through sense organs.⁷⁵

In the Dvaitādvaita school of Nimbārka, *kāla* has been defined as a non-sentient substance.⁷⁶ The three categories viz. *Cit*, *Acit* and *Māyā* of which *Acit* is divided into *prākṛta*, *aprākṛta*, and *kāla*. It is described as eternal, all-pervasive and special cause of the usage of past, present and future. No further details are found in this school.

Now, we will deal with the discussion on time in the unorthodox or atheist school of Indian philosophy. There are three schools of such atheist philosophy in India i.e., Jainism, Buddhism and the system of Cārvāka.

To start with, there are two sects of Jainism viz. Digambaras and Śvetāmbaras of which Digambaras accept time⁷⁷ whereas Śvetāmbaras do not.⁷⁸ Those who accept time, describe time as a substance among other five substances. It is described as the accompanying cause (*Sahakārikāraṇa*) of the modification of *Prakṛti*. Jaina thought maintains that there are two kinds of *kāla* (time) *Vyavahārakāla* (empirical time) and *Niścayakāla*⁷⁹ (transcendental time). *Niścayakāla* is the substratum of the *Vyavahārakāla*. It is eternal. This *Vyavahāra-kāla* is also known as *Samaya*. It is dependent

⁶⁹ *ayaṃ ca kālo nityo vibhūr eka eva, kṣaṇādīvyavahāras tu ekasyāpi upādhibhedād utpadyate.* (loc. cit.)

⁷⁰ Vide Vidvanmaṇḍana's commentary on Śrīmadbhagavadgītā II.32: *yadi īśvarasyāpi brahma-tvam eva maṇuṣe tadā om iti brūmaḥ. ata eva kālo 'sti iti.*

⁷¹ Vide Padārthasaṃgraha of Padmanābha: *tatra dravyāṇi paramātmalakṣmijīvavyākṛtākāśa-prakṛtiguṇatrayamahattattvāhamkāratattvabuddhimanaindriyamātrabhūtabrahmāṇḍāvidyāndhak āravāsanākālaprativimbabhedād viṃśatir eva.*

⁷² Vide KSD., p. 90: *sa ca kālāḥ nākhaṇḍaḥ kintu kṣaṇalavādyanekarūpaḥ.*

⁷³ *kālaś cāyam utpattivinaśavān ata eva anityaḥ.* (loc. cit.).

⁷⁴ Vide ibid. p. 91: *kālo 'yam utpattivinaśamān api nityaḥ pravāharūpeṇa, tannityatvapratipādakaśrutismṛtyādayaś caivam eva saṃgacchante.*

⁷⁵ Vide Padārthasaṃgraha under Indriyaprakaraṇa: *ātmā maṇaḥ kālādayaḥ sākṣād eva sākṣiṇo viśayāḥ śabdādayaś tu bahirindriyadvārā.*

⁷⁶ Vide Vedāntasaurabha, a commentary on Brahmasūtra I.1.1.

⁷⁷ Vide Tattvārthasūtra 38: *kālaś ca.*

⁷⁸ Vide, a different reading by Śvetāmbara on the same sūtra: *kālaś ca ity eke.*

⁷⁹ Vide KSD, p. 102.

on *Niścayakāla* for the determination of its measure. *Vyavahāarakāla* has a beginning and end, whereas *Niścayakāla* is eternal and infinite. It is the substratum of all changes and transformation. It also causes growth in young age and old age. *Kāla* undergoes change, growth and decay.⁸⁰ It is also an independent entity. The smallest unit of *kāla* is called *samaya*. *Vyava-hāarakāla* consists of infinite *samaya*.

In Buddhism, there are four sects i.e., *Sautrāntika*, *Vaibhāṣika*, *Mādhyamika*, *Yogācāra*. But, so far as the time-concept is concerned, it is said that Buddhists have not accepted *kāla*.⁸¹ According to them, everything is momentary. They believe in *kṣaṇabhāṅguravāda* 'an object exists only for a moment after which it becomes another object'. Some of the Buddhists accept only the subjective view of it and thus, according to them, time is not an objective reality. However, three divisions of time are accepted⁸² in Buddhism.

In the Lokāyata or system of Cārvāka, the concept of time is not discussed. They accept four *bhūtas* i.e., earth, water, air and fire only.

In the great epics of India i.e., the *Rāmāyaṇa* and the *Mahābhārata*, the various aspects of time have been depicted. In the *Mahābhārata*, *kāla* is described as a cause of happiness and misery of the Universe.⁸³ *Kāla* consumes everything. There are two aspects of time accepted by the *Mahābhārata* viz. absolute and conditioned. Absolute time is without origination and decay whereas the conditioned time is divided into days, months and years. The regulative aspect of time is also traced there. Time as human exertion is emphasized in both the epics. *Kāla* is also considered as *bhavitavya* or fate in different contexts of the *Mahābhārata*. Sometimes it is considered as a *Haṭha* or power (force) there.⁸⁴

Among the *Smṛtis*, *Manusmṛti* gives some idea about time. The single time is also traced with empirical one and its divisions.⁸⁵ In the *Viṣṇusmṛti*, *kāla* is described as mightier than God.⁸⁶ Time consumes even God.

In the *Bhagavadgītā*, Kṛṣṇa himself says that he is the time itself.⁸⁷ He is the all-faced sustainer of the Universe. *Kāla* is described both as creative and destructive force.

The Āgama literature in India also can be traced very well for the present study. There are a lot of references with regard to the concept of time we come across in those texts.

⁸⁰ *Tattvārthasūtra* III.27.

⁸¹ Vide *Mādhyamakakārikā* under *Kālaparīkṣā*, Ch. 21; also vide *Śivārkamaṇidīpikā* II.2.19: *baudhamate vastutaḥ kālo nāsti*.

⁸² *Abhidhamma* V. 25-26.

⁸³ *Mahābhārata* I (Ādiparvan).

⁸⁴ *Ibid.* III.32 and XII.21.

⁸⁵ Vide *Manusmṛti* I.24: *kālaṃ kālavibhaktiṃś ca nakṣatrāṇi grahāṃs tathā* /

⁸⁶ Vide *Viṣṇusmṛti* Ch. XX.

⁸⁷ *Bhagavadgītā* X.33.

Among the *Āgamas*, *Pratyabhijñādarśana*, a school of *Kāsmīra-śaivāgama*, has dealt with the concept in little similar manner in which Bhartrhari deals with it. According to this school, *kāla* is one of the five products of *māyāśakti*, namely, *kalā*, *vidyā*, *rāga*, *kāla* and *niyati*. These are called *Kaṇcukaṣaṭka* along with the *Māyāśakti*. *Kāla* is the cause of sequence among the existents which are known and cease to be known. It is the cause of temporal order; the past, the present and the future. The five *śaktis* mentioned above are in no way different from *Īśvarecchā* or the will of God and this again is not different from *kriyā*. About *kāla* it is said that it has no existence outside the cognizer.⁸⁸

According to *Mrgendrāgama*, *kāla* is non-pervasive and perishable. It is manifold and of three kinds. The Śāktas believe that this world is a product of reflection of *Citi* and hence unreal. They don't accept the existence of time.⁸⁹ The *Nakuliśapāśupata* school does not seem to accept *kāla* as an independent entity. The *padārthas* accepted in the school do not include *kāla*.⁹⁰ To the *Dvaitaśāktas*, *kāla* is beginningless and endless. It is all-pervasive. It is limited in the form of *kṣaṇa* and limits the objects also.⁹¹ In *Prapañcasāra*, three existent things are admitted viz. matter, soul and time. The Absolute Reality viewed as *Prakṛti*, is pure consciousness and is the origin of all things. When *kāla* acts on the lower *Prakṛti*, it is split up into three forms viz. *Bindu*, *Nāda* and *Bīja*. In the Trika literature, *kāla* is described as the supreme freedom of the Absolute '*Parama-Śiva*'.

The concept of time found in the secular literature is also noteworthy from many points. First of all, in the *Carakasamhitā*, *kāla* is accepted as one of the nine substances, namely, earth, water, fire, air, sky, time, space, soul and mind.⁹² Caraka has further divided substances into sentient '*cetana*' and non-sentient '*acetana*' of which soul is the only sentient and rest others including *kāla* are non-sentient. It seems that *kāla* is one according to Caraka.

According to *Daḥḥḥānācārya*, a commentator of the *Suśruta-Samhitā*, *kāla* is a modification of *Prakṛti* only.

Though in the *Kāmasūtra* of Vātsyāyana the reference to the concept of *kāla* is not found, but it is said there that *kāla* is the cause of all good, bad, victory or defeat etc. But, in the commentary *Jayamaṅgalā* (of Yaśodhara) time is said to be eternal and is called a substance.⁹³

⁸⁸ Vide *Īśvarapratyabhijñāvimarśinī* III.1.9: *kālāḥ kramamāsūtrayān pramātari vijṛmbhamāṇaḥ tadanusāreṇa prameye 'pi prasarati*.

⁸⁹ Vide *Tripurārahasya* IV.99: *ekarūpāpi citiḥ svātantryahetutaḥ svāntarvibhāvayad bāhyam ādarśe gaganam yathā nāsti cetyaṃ ceter anyat darpaṇe prativimbavat*.

⁹⁰ Vide *KSD*, p. 64.

⁹¹ Vide *Pārānandasūtra* 5: *kālāḥ paricchedakāḥ pricchinnaś ca*.

⁹² Vide *Carakasūtra* I.48: *khādīny ātmā manah kālo dīśaś ca dravyasaṃgrahaḥ*.

⁹³ Vide *Jayamaṅgalā* (*Sādhanaādhikaraṇam*) Ch. 2, under *Vātsyāyanasūtra*, *tat sarvaṃ kāla-kāritam: kālo nāma dravyapadārthaḥ nityaḥ*.

The Astronomers believe that *kāla* is nothing but the movement of the planets and stars etc.⁹⁴

In the *Yogavāsiṣṭha*, a detailed description of *kāla* is given in the *Vairāgyaprakaraṇa* (sargas 23-26), *Mumukṣuprakaraṇa* and *Utpatti-prakaraṇa*. It is the Universal force that creates, sustains and destroys the Universe.⁹⁵ Various aspects of *kāla* i.e., *daiva*, *kṛtānta*, *bhavitavya* and *puruṣakāra* are dealt here. In this, the relativity aspect of time and space is emphasized. It is contended that the existence of time and space depends on thoughts. A moment is conceived as a *kalpa* and a *kalpa* is conceived as a moment under changing modes of consciousness.⁹⁶ Thus, it is very important from the modern comparative view with the latest discoveries of modern Physics.

According to the grammatical school, time is understood as a component of a verbal meaning. In Bhartṛhari's *Vākyapadīya*, it is said as the independent power of *Śabdabrahman*.⁹⁷ It is one of the most important powers of *Śabdabrahman*. *Kāla* has also different sub-powers in it through which it functions. *Kāla* is also sometimes described as *kriyā* in some places in the grammatical school. An elaborative discussion on the issues according to the *Vaiyākaraṇas* will be found in the forthcoming chapters. The subsequent section deals with a survey of research based on the modern studies on time.

3. Time in Indian Grammatical Tradition: A Survey

The present survey is based on modern studies relating to the views of Indian grammarians from Pāṇini to Nāgeśa on time. Their contribution to the development of the concept of time is also discussed here.

a. Pioneering works in the Pāṇinian studies dealing with the concept of time

There are a few works in Pāṇinian studies which have taken the concept into consideration. It is mainly the studies on Bhartṛhari which have a larger claim for such contribution. Apart from that there are a few works which discuss the problem with reference to various other aspects of considerations (i.e., morphological and syntactical) found in the tradition.

⁹⁴ Vide *Nyāyamañjarī* I.1.5: *na devadattādīparispandanibandhanāḥ ... sa eva grahatārādīparispandāḥ kāla ity ucyate. tatkrītya evāyaṃ yāmāhorātramāsādivyavahārah. ... kālavidaś ca jyotiḥ gaṇakāś ca evainaṃ budhyante.*

⁹⁵ *Yogavāsiṣṭha* I.23.1.

⁹⁶ Vide *ibid.* III.20.29: *yathaitatpratibhāmātram jagat sarvabhāsanam.*

⁹⁷ *VP.* I.3: *adhyāhitakālāṃ yasya kālaśaktim upāśritāḥ /*

Subramania Iyer has edited the *Vākyapadīya* with English translation⁹⁸ and notes. Iyer's edition of *VP.* serves a proper introduction to the study of Bhartrhari. His monograph on Bhartrhari⁹⁹ is a noteworthy contribution in the field of studies on Indian Semantics. Iyer is thus mainly responsible for boosting the studies in Bhartrhari during the last two decades. His work has prepared a good background for the further studies. It has helped the scholars to understand the traditional commentaries like *Prakāśa* of Helarāja which otherwise would have been difficult.

Another work important for the present study is by Peri Sarveswar Sharma who has translated the *Kālasamuddeśa* of the *Vākyapadīya* into English together with Helarāja's commentary for the first time;¹⁰⁰ of course, whose background was already prepared by Iyer. However, he has provided a good introduction to the work.

Here, Gaurinath Shastri deserves a special mention for his pioneering work called *The Philosophy of Word and Meaning*¹⁰¹ (1959) which was written much earlier to the above mentioned contributions to the studies on Bhartrhari. It is an important work in the field of Semantics.

If we go back further, we find an early work called *Kāla-siddhāntadarśinī* exclusively dealing with the concept written (in Sanskrit) by Harana Chandra Bhattacharya¹⁰² (1941). The work is an attempt to take a kind of collective Indian views on time. Mahāmahopādhyāya Gopinatha Kaviraja's forward to this book throws some light in this direction.

In 1977, Virendra Sharma published a critical survey of *Sambandha-samuddeśa*¹⁰³ where he has tried to discuss the issues in the light of earlier discussion where he has shown his disagreement in some points with the views of the earlier scholars like Gaurinatha Shastri and Subramania Iyer. So far as the concept of time is concerned, it has discussed some related issues.

The book *The Meaning of Tenses and Moods*¹⁰⁴ (1978) by Jayashree Gune has helped scholars to understand Kaundabhatta's notion of time.

Apart from the above mentioned important works, there are a few other books and articles written by J.M. Shukla on 'The Concept of Time according to Bhartrhari'¹⁰⁵ highlighting various points. Satyavrat in a series of articles collected the various views on time found in the

⁹⁸ Vide Bibliography.

⁹⁹ *Bhartrhari*, Subrahmanya Iyer, Deccan College, Pune, 1969.

¹⁰⁰ Vide Bibliography.

¹⁰¹ Vide Bibliography.

¹⁰² Vide Bibliography.

¹⁰³ Vide Bibliography.

¹⁰⁴ Vide Bibliography.

¹⁰⁵ Vide Bibliography.

classical literature and discussed the views of Patañjali and Bhartrhari elaborately.¹⁰⁶ He has also pointed out some textual problems in the *Dik* and *Kālasamuddeśas* with references to their editions and commentaries.¹⁰⁷ Ramsuresh Tripathy discussed the grammarians' view, in his book called *Samśkrta Vyākaraṇa Darśana*¹⁰⁸ (in Hindi). Satyakama Verma in his book *Vyākaraṇa kī Dārśanika Bhūmikā*¹⁰⁹ (in Hindi) discussed some points underlying the tenses and Moods of the grammarians. Srimannarayana Murthi in the articles 'The concept of Time according to Bhartrhari'¹¹⁰ and 'The Divisions of Time according to Indian Grammarians'¹¹¹ discussed some relevant points.¹¹² George Cardona's article "A Path Still Taken: Some Early Indian Arguments Concerning Time" (1991), deals with the treatment of time both as a syntactic and semantic category by the Indian grammatical tradition. The paper mainly deals with some discussions concerning time found in Patañjali's *Mahābhāṣya* with parallel discussions in Vaiśeṣika, Nyāya and Madhyamika works. It sets forth certain objections by the Buddhists to the views of Bhartrhari and tries to resolve them. The contribution of the paper also lies in the identification of some principal issues concerning time, such as whether to grant a separate ontological status to time and if so, what accounts for its divisions? and so on. Further, Cardona strongly believes that the discussions found in the *Mahābhāṣya* is not necessarily of Patañjali, but emerged out of discussions during those times which Patañjali knew and incorporated them.

Thus, the above studies have tried to discuss the views from different points of view.

b. Works on Pāṇini, Kātyāyana and Patañjali

Bhattacharya in his book *Kālasiddhāntadarśinī* states that neither Pāṇini nor Kātyāyana has discussed the philosophy of time.¹¹³ J.M. Shukla also holds the same view.¹¹⁴ Kanitakar in his article '*Pāṇinīye kālavācakaśabdāḥ*' stated the reason why Pāṇini has not discussed time. Laddu in his article '*Pāṇini and akālakam vyākaraṇam*'¹¹⁵ has

¹⁰⁶ Vide Bibliography under Satyabrat.

¹⁰⁷ The text of the *Dik* and *Kālasamuddeśa* of the *Vākyapadīya* and its commentary, *Essays on Indology*, Delhi, pp. 42-45.

¹⁰⁸ Vide under *Kālavicāra*, pp. 205-244.

¹⁰⁹ Vide under *Kāla Bhāva aur Lakāra*, pp. 42-45.

¹¹⁰ Vide Bibliography.

¹¹¹ Vide Bibliography.

¹¹² Murti has classified and discussed the different words expressive of time found in the grammatical literature.

¹¹³ Vide *KSD*, p. 23(fn.).

¹¹⁴ Vide Shukla, 'The Concept of Time according to Bhartrhari,' p. 379.

¹¹⁵ Vide Bibliography.

discussed the statement found in the *Kāśikā*: '*Pāṇinyupajñam akālakaṁ vyākaraṇam*' (under P.2.4.21). The traditional meaning understood from the above statement is: Pāṇini for the first time has formulated a grammar where the consideration of time is absent. However, Laddu has rejected this traditional interpretation and made several possible suggestions for the meaning/s to be understood from the *Kāśikā* statement. He interprets the term *akālaka* in the following ways: 1) Pāṇini's grammar is spotless (*akālaka*) 2) It spread over *kālikavana* 3) Pāṇini's grammar was not restricted to one period of time. Kanitakar in his article '*Pāṇiniye Kālavācakaśabdāḥ*'¹¹⁶ takes a note of various words expressive of time found used by Pāṇini in his *Aṣṭādhyāyī*.

c. Works dealing with Bhartṛhari

There are quite a few works dealing with the concept of time according to Bhartṛhari. Some works are based on comparison between Bhartṛhari and other thinkers. For instance, Satyavrat in his article 'The concept of time according to Bhartṛhari' finds resemblance of the two powers of time accepted by Bhartṛhari viz. *pratibandha* and *abhyanuḥjñā* with the two powers i.e., *viksepa* and *āvaraṇa* of Vedantins.¹¹⁷ On the contrary, Gaurinatha Shastri in many points differentiates the position of Bhartṛhari from that of '*Śaṅkarādvaita*' 'monism of Śaṅkara' e.g., he argues against the equation of *kālaśakti* of Bhartṛhari with *avidyā* of Śaṅkara.¹¹⁸ Similarly, about *māyā*, Gaurinatha Shastri in the same book opines that *māyā* is not the Absolute in the system of Śaṅkara and consequently it is regarded as false; but according to grammarians time is identical with Eternal Verbum which means it is real.¹¹⁹ Muralidhar Mishra also in his article '*Lakārāthavicārah*' discusses this point and differentiates *māyā* of Śaṅkara from *kālaśakti* of Bhartṛhari¹²⁰ and proves the monistic position of Bhartṛhari. Bhattacharya also discusses the position of Śaṅkara and Bhartṛhari with respect to their respective stand-points and points out the difference.¹²¹

However, G. Shastri has found out some close relation between Pratyabhijñā school and Bhartṛhari's philosophy. According to him the relation between *Paramaśiva* and *Vimarśa* in the Pratyabhijñā School corresponds to that between *Śabdabrahman* and *kālaśakti*.¹²²

¹¹⁶ Vide Bibliography.

¹¹⁷ Vide p. 70.

¹¹⁸ Vide G. Shastri, *The Philosophy of Word and Meaning*, pp. 13-14.

¹¹⁹ *Ibid.*, p. 19.

¹²⁰ Vide Mishra, Muralidhar, '*Lakārāthavicārah*,' p. 3.

¹²¹ Vide KSD., p. 28.

¹²² Vide *The Philosophy of Word and Meaning*, p. 18.

Bhattacharya also finds similarities of thought between these two schools. He is of the opinion that *Kāśmīraśaivāgama* owed much to Bhartṛhari so far as the power of *Śabdabrahman* is concerned.¹²³ In contrast, Peri Sarveswar Sharma believes that Bhartṛhari's philosophy might have been influenced especially by the Śaiva and Vaiṣṇava sectarian teachings, because both the schools regard time as either identical with, or as a power of Śiva or Viṣṇu.¹²⁴ However, Sharma has not provided any external evidence for holding such view. He has not gone into the antiquity of the two schools of thought as it is found in the existing literature today to strengthen his assumption. Ramsuresh Tripathy also in his book *Samskṛta Vyākaraṇa Darśana* shows some resemblance of thought between these two; for instance, both of them accept time as an independent power, *kāla* is not a substance according to both and sequence (*krama*) is an inherent power of time acceptable to both of them.¹²⁵ However, Virendra Sharma in his book *Vākya-padīyasambandhasamuddēśa* opines that these two philosophies are essentially different though they have some apparent resemblance.¹²⁶

It is an important point to be noted here that Peri Sarveswar Sharma in the introduction to his book *The Kālasamuddēśa of Bhartṛhari's Vākya-padīya*, mentioned some borrowings from Bhartṛhari's *Vākya-padīya* by Dignāga, a Buddhist logician. Sharma opines that such borrowing has helped us in deciding the date of Bhartṛhari and to know the importance of the *Sambandhasamuddēśa* for the understanding of the concept of time.¹²⁷

About the relationship between *Śabdabrahman* and its powers, Sarveswar Sharma in his article 'The idea of power (*śakti*) in the *Vākya-padīya*' says that the powers of Brahman are like the head of Rāhu (*rāhoḥ śirah*). Here, he classifies the powers of *Śabdabrahman* into two: 1) direct powers and 2) indirect powers,¹²⁸ to which I think, they are not indirect powers but sub-powers or minor powers.

Whether *kālaśakti* is different from *kriyā* (action) and movements or not is a broad question in the grammatical school to which G. Shastri has also given his thought. On this point he remarks that it is only natural that the ordinary cognizer is led to think of an identity between the two. But, the more intelligent and discerning mind never mistakes *kālaśakti* for action.¹²⁹

¹²³ Vide KSD., p. 28.

¹²⁴ Vide Sharma, *The Kālasamuddēśa of Bhartṛhari's Vākya-padīya*, p. 34.

¹²⁵ Vide Tripathy, *Samskṛta Vyākaraṇa Darśana*, p. 218.

¹²⁶ Vide Sharma, Virendra, *Vākya-padīya-sambandhasamuddēśa*, pp. 454-455.

¹²⁷ *The Kālasamuddēśa of Bhartṛhari's Vākya-padīya*, p. 34.

¹²⁸ Vide Sharma, 'The Idea of Power (*śakti*) in the *Vākya-padīya*,' pp. 75-76.

¹²⁹ *The Philosophy of Word and Meaning*, p. 34.

d. Works dealing with the later grammatical School

Jayashree Gune in her introduction to the book *The Meaning of Tenses and Moods* has discussed about Kaṇḍabhaṭṭa's opinion regarding the controversy that is whether time is a denoted or implied meaning of *lakāras*.¹³⁰ Ramsuresh Tripathy in his book *Samskṛta Vyākaraṇa Darśana* stated some views of Kaiyaṭa on time.¹³¹ About Nāgeśa's position in this regard is discussed by many critics. All of them have agreed on one point, namely, that Nāgeśa's opinion on time has gone against the tradition. Among the scholars, Bhattacharya, Tripathy, and some others also hold the view that Nāgeśa is influenced by the Yoga view of time.¹³²

e. General observations

Apart from some suggestions here and there, the above mentioned studies have not considered the complete spectrum of time aspects with a holistic approach towards the concept in the tradition. For instance, many of them have described the facts as they are existing in the primary texts. The fundamental issues are discussed with a partial and incomplete treatment.

Gaurinath Shastri deals with the problems critically, yet leaves many important points for further research and investigation. The scholars of grammar and philosophy are indebted to Iyer for preparing a good background of Bhartrhari studies, yet as he himself says that he is not satisfied with the commentaries, editions available to him, and there are corrupt readings; obscurity still persisting in texts to be correctly handled by the forthcoming researchers. Peri Sarveswar Sharma has not been able to decide the background of Bhartrhari's conception of time and Satyavrat in a series of articles has only summed up the views about time already existing in earlier works. Finally, Srimannarayana Murthi in his article 'The Divisions of Time according to Indian Grammarians' draws a conclusion that the interchangeability of tenses and moods is found in the classical literature, to which we can say as partial conclusion.¹³³

(to be continued)

¹³⁰ Vide Gune, *The Meaning of Tenses and Moods*, pp. 5-12.

¹³¹ *Samskṛta Vyākaraṇa Darśana*, p. 210.

¹³² Vide KSD., pp. 28-29; vide Mishra, Muralidhar, 'Lakārārthavicārah', p. 4; vide Tripathy, *Samskṛta Vyākaraṇa Darśana*, p. 214; vide Mandal, *A Comparative Study of the Concepts of Space and Time in Indian Thought*, p. 121.

¹³³ Such interchangeability of tenses is also found in the Vedic literature, vide P.III.4.6 (*chandasi luṅlaṅlīṭah*), P.III.4.7 (*liṅarthe leṭ*).

BIBLIOGRAPHY

(Primary Sources)

- Advaitasiddhi* (1st *Pariccheda*), ed. Ananta Krishnaśāstri, Parimala Publications, Delhi, 1982.
- Atharva Veda* (Part IV Fasc. I, kāṇḍas 19-20), Vishveswarananda Vedic Research Institute, Hoshiapur, 1962.
- Bhāgavatapurāṇa* (Third Canto-Part one), Bhaktivedanta Book Trust (Pr. in Tokyo), 1972.
- Bhāṣāpariccheda* (with *Nyāyasiddhāntamuktāvalī*), ed. Swami Madhavananda, Advaita Ashrama, Almora, 1940.
- Brahmasūtraśāṅkarabhāṣyam* (with *Śivārkaṇḍīpikā* comm. of Appaya Dikṣit), Nirṇaya Sagar Press, Bombay, 1918.
- Carakasamhitā*, ed. Gangasahaya Pandeya, Chowkhamba Sanskrit Series Office, Varanasi, 1970.
- Dakṣiṇāmūrtistotram* (with Sureśvarācārya's *Mānasollāsa*), ed. Mahadeva Śāstri and K. Rangacharya, Mysore Oriental Library, (Pub. 6), 1895.
- Īśvarapratyabhijñāvimarśinī*, ed. Madhusudan Kaul, Kashmir Series of Texts and studies 60 (1938); 62 (1941); 65 (1943) in three vols.
- Kāmasūtra* of Vātsyāyana (with *Jayamaṅgalā*), ed. Damodar Śāstri, Chowkhamba Sanskrit Series Office, Benaras, 1929.
- Kāśikā* (with *Nyāsa* and *Padamañjarī*), Vol.II, ed. Swami Dwarikādāsa Śāstri & Pt. Kalika Prasad Shukla, Pracya-Bharati Prakashan, Varanasi, 1965.
- Kāśikā*, ed. Aryendra Sharma & others, The Sanskrit Academy, Osmania University, Hyderabad, 1969.
- Madhyamakaśāstram* of Nāgārjuna, ed. P.L. Vaidya, The Mithila Institute of Post-Graduate and Research in Skt. learning, Darbhanga, 1960
- Mahābhārata*, ed. Sukthankar and others, Bhandarkar Oriental Research Institute, Pune.
- Mahābhāṣyadīpikā* (Critical edition)
- A) Āhnika I (Fascicule IV), ed. Johannes Bhronkhorst, Bhandarkar Oriental Research Institute Pune, 1987.
 - B) Āhnika II (Fascicule V), ed. G.B. Palsule, Bhandarkar Oriental Research Institute, Pune, 1988.
 - C) Āhnika III (Fascicule I), ed. G.B. Palsule, Bhandarkar Oriental Research Institute, Pune, 1985.
 - D) Āhnika IV (Fascicule VI), ed. G.V. Devasthali and G.B.Palsule, Bhandarkar Oriental Research Institute, Pune, 1989.
 - E) Āhnika V (Fascicule II), ed. V.P. Limaye, G.B. Palsule & V.B.Bhagwat, Bhandarkar Oriental Research Institute, Pune, 1985.
 - F) Āhnika VI (Fascicule III) Part I, ed. V.B. Bhagwat & Saroja Bhate, Bhandarkar Oriental Research Institute, Pune, 1990.
 - G) Āhnika VI (Fascicule VII) Part II, ed. V.B. Bhagwat & Saroja Bhate, Bhandarkar Oriental Research Institute, Pune, 1990.
 - H) Āhnika VII (Fascicule VIII), ed. G.B. Palsule & V.B. Bhagwat, Bhandarkar Oriental Research Institute, Pune, 1991.
- Maitri Upaniṣad*, ed. B.D. Basu, Sacred Book of the Hindus, Allahabad, 1926.
- Mānameyodaya*, ed. & tr. C. Kunhan Raja & S. Suryanarayana Śāstri, Adyar, 1933.
- Manusmṛti*, ed. Rameswar Bhatt, Delhi (Reprint), 1985.
- Matsyapurāṇa*, Gurumandala, 1957.
- Mṛgendravṛtti* (with *dīpikā* of Aghoraśikhācārya) ed. N. Krishna Śāstri, Devakottai, 1928.
- Muṇḍakopaniṣad* (with *śāṅkarabhāṣya*), Motilal Banarsidass, Delhi, 1964.
- Nirukta* of Yāska, ed. Umashankar Sharma, Chowkhamba Vidyabhawan, Varanasi, 1983.
- Nyāyamañjarī*, ed. K.S. Varadacarya, Oriental Research Institute, Mysore University, Mysore, 1969.
- Nyāyaratnāvalī*, ed. Visvendra Tirtha Swamiji, Udipi, 1935.
- Nyāyasūtra* of Gautama (Vol. 8) ed. B.D. Basu, Sacred Book of the Hindus, Allahabad, 1930.
- Padārthasaṃgraha* of Padmanabha, ed. T.R. Krishnacharya, Bombay, 1893.
- Padārthatattvanirūpaṇam* of Raghunātha (with *Padārtha-tattvavivecana* comm.) ed. Pt. Vindhyesvariprasad Dwivedi, Varanasi, 1915.

- Pāṇinīyasīkṣā* edited with SK., ed. Kṛṣṇasvarūpa Kāvyaṭīrtha, Chaukhamba Orientalia, Varanasi (3rd edition), 1982.
- Pārānandasūtra*, ed. Swami Trivikrama Tirtha, Oriental Institute, Baroda (G.O.S. No. 56), 1931.
- Parāśarasamhitā*, ed. & Pub. Manmath Nath Dutta, Calcutta, 1908.
- Pātañjala-Yogasūtram*, Arṣa Sāhitya Pracar Trust, 2nd ed., Delhi, 1986.
- Prāśastapādabhāṣya* (with *Nyāyakandalī*), ed. Vindhyeswariprasad Dvivedi, Satguru Publications, Delhi, 2nd ed., 1984.
- Sāmānyakārikā* (with *Yuktiḍīpikā*) ed. Rāmasankar Tripathy, Balakrishna Tripathy (pub.), Varanasi, 1970.
- Sāmānyasūtra* (with *Sāmānyapracāsanabhāṣya*) ed. Ramshankar Bhattacharya, Bhāratiya vidyāprakāśhan, Delhi, 2nd ed., 1977.
- Sāmānyatattvakaumudī*, ed. Gajanana Sāstri Musalganvkar, Chowkhamba Sanskrit Santhan, Varanasi, 2nd ed., 1979.
- Śārīrakabhāṣyam* (with *Ratnaprabhā*), ed. Acārya Jagadīśa Sāstri, Motilal Banarsidass, Delhi, 1980.
- Śāstradīpikā* (with *Prabhā*) Part I, ed. Pt. Pattabhīrama Sāstri, Lalbahadur Kendriya Sanskrit Vidyapeetha, Delhi, 1978.
- Saṭṭriṃśattattvasaṃdoha* (with auto commentary), ed. Mukunda Ram Sāstri, Kashmir Series of text and studies (13), 1918.
- Siddhāntabindu*, ed. Srikrishna Pant, Achyuta Granthamala Kāryālaya, Kashi, 1932.
- Siddhānta-kaumudī* (in 2 vols.), ed. & tr. into Eng. S.C. Basu, Motilal Banarsidass, Delhi (2nd ed.), 1962, rpt. 1982.
- Siddhāntakaumudī* (with *Bāṣamanoramā & Tattvabodhinī*), Part III, ed. Giridhar Sharma & Paramesvarananda Sharma, Motilal Banarsidass, Delhi, rpt. 1977.
- Sisūpālābhadham* (with *Sarvaṃkaṣā* of Mallinātha) ed. Durgaprasad and Śivadatta, Nirmayasagar Press, Bombay, 1917.
- Śivarājaviṣayam* of Ambikadatta Vyāsa (*Prathamā virāmaḥ*), Srikrishnakumar Vyāsa (Pub.), Viṣṇu Press, Varanasi, 1978.
- Śrīmad-Bhagwadgītā*, Gita Press, Gorakhpur, 1975.
- Subāla Upaniṣad*, ed. (under the *Sāmānya-Vedānta-Upaniṣads*), A. Mahadeva Sāstri, Adyar Library, Madras, 1921.
- Tantrarāhasya*, ed. Rāmasāstri & K.S. Ramaswami Sāstri, G.O.S. 24, 1956.
- Tattvārthasūtra* of Umāsvatī, ed. Mohanlal Meheta & Jamanlal Jain, Pārśvanath Vidyāshrama Śodhasaṃsthān, Varanasi, 3rd ed., 1976.
- Tattvatraya* of Lokācārya with Eng. & Hindi Comms., ed. B.M. Avasthi & C.K. Datta, Indu Prakāśhan, Delhi, 1973.
- Tripurārāhasya*, ed. Gopinatha Kavirāja & N Sāstri Khiste, Govt. Sanskrit.College Library, Banaras, 1933.
- Vaiyākaraṇabhūṣaṇa* (with notes), ed. K P Trivedi, Bombay Sanskrit and Prakrit Series No. 70, 1915.
- Vaiyākaraṇasiddhāntamañjūṣā*, ed. Kalikaprasad Shukla, Sampūrṇānanda Sanskrit Vishvavidyālaya, Varanasi, 1977.
- Vākyapadīyam (Brahmakāṇḍam)* with *Bhāvapradīpa* comm. of Sūryanārāyaṇa Śukla, Chaukhamba Sanskrit Sansthan, Varanasi, 1984.
- Vākyapadīya* of Sri Bhartṛhari, ed. K.V. Abhyankar & V.P. Limaye, University of Poona, 1965.
- Vākyapadīya (kāṇḍa I)* with the commentaries of *Vṛtti* and *Paddhati*, ed. Subramania Iyer, Deccan College, Pune, 1966.
- Vākyapadīya* of Bhartṛhari (containing the *Ṭikā* of Puṇyārāja and the Ancient *Vṛtti*) *Kāṇḍa II*, ed. Subramania Iyer, Delhi, 1983.
- Vākyapadīyam* (with *Ambākartrī* comm.), Part I (*Brahmakāṇḍa*), ed. Kshetresachandra Chattopadhyaya, Varanaseya Sanskrit Vishvavidyālaya, Varanasi, 1963.
- Vākyapadīya* of Bhartṛhari (with *Prakīrṇaparakāśa* of Helarāja), *kāṇḍa III*, Part I, ed. K.A. Subramania Iyer, 1963.
- Vākyapadīya* (with *Prakīrṇaparakāśa*) *kāṇḍa III*, Part II, ed. K.A. Subramania Iyer, 1973.
- Vākyapadīya* (Ch. III, Part I) Eng. tr. with Notes, Subramania Iyer, Deccan College, Poona, 1971.

- Vākyapadīya* (Ch. III, Part II) Eng. tr. with Notes, K.A. Subramania Iyer, Motilal Banarsidass, Delhi, 1964.
- Vākyapadīya* (Ch. II) Eng. tr. Subramania Iyer, Motilal Banarsidass, Delhi, 1977.
- Bhārṭṛhari's Vākyapadīya*. Die Mūlakārikās nach den handschriften herausgegeben und mit Einem Pāda - Index versehen, von Wilhelm Rau, Wiesbaden, 1977, Abhandlungen Für Die Kunde Des Morgenlandes XLII, 4.
- INDEX: *Bhārṭṛhari's Vākyapadīya, Vollständings wortindex zu den mūlakārikās*, von Wilhelm Rau, Stuttgart, 1988 (Akademie der Wissenschaft und der Literatur, Abhandlungen der Geistes - und Sozialwissenschaftlichen klasse Jahrgang 1988 no. 11).
- Vedāntaparibhāṣā*, ed. Sri Ramashastri Musalgavkar, Chowkhamba Vidyabhawan, Varanasi, 1977.
- Vedāntapārijātasaurabha* of Nimbārka, ed. Vindhyesvari Prasad Dvivedi, Chowkhamba Sanskrit Series 34, Banaras, 1910.
- Viṣṇupurāṇa* with tr. into Hindi, Srimunilal Gupta, Gita Press, Gorakhpur, 4th ed., *Samvat* 2014.
- Vyākaraṇa-Mahābhāṣya* (Vol 1), ed. F. Kielhorn, Bhandarkar Oriental Research Institute, Poona, 1985.
- Vyākaraṇa-Mahābhāṣya* (with *Pradīpa* and *Udyota* comms.) Part I-III, ed. Vedavrat, Haryana Sāhitya Samsthan, 1962-1963.
- Yatīndramatadīpikā* with tr. & Notes, ed. Ādidevānanda, Sri Ramakrishna Math, Myslapore, 2nd ed., 1967.
- Yogavāsīṣṭha* (Vol. 1), ed. Vasudev Laxman Sharan Pansikar, Motilal Banarsidass, Delhi, 3rd ed., 1937, rpt. 1984

(Secondary Sources)

- Abhyankar, K.V., *A Dictionary of Sanskrit Grammar* (rev. 2nd ed.), Oriental Institute, Baroda 1977.
- Aklujkar, Ashok, 'An Introduction to the Study of Bhārṭṛhari,' *Bhārṭṛhari: Philosopher and Grammarian*, Motilal Banarsidass, Delhi (Indian reprint), 1994.
- Alexandar, S., *Space, Time and Deity* (in two vols.), Gifford Lectures at Glasgow, Dover Publications, NewYork, 1965.
- Bhattacharya, Bishnupada, *Bhārṭṛhari's Vākyapadīya and Linguistic Monism*, B.O.R.I., Pune, 1985.
- , *A Study in Language and Meaning*, Sanskrit Pustak Bhandar, Calcutta, 1962, rpt.1984.
- Bhattacharya, Harana Chandra, *Kālasiddhāntadarśinī*, Calcutta, 1941.
- Bhattacharya, Umesh Chandra, 'Space, Time and Brahma', *Jha Commemoration Volume*, Oriental Book Agency, Poona, 1937, pp. 69-83.
- Bolinger Dwight & Donal A. Sears, *Aspects of Language*, Harcourt, New York, 1981.
- Bradely, F.H., *Appearance and Reality*, Swan Sonnenschein, London, 1908.
- Capra, F., *The Tao of Physics*, Fontana Collive, Saffolok, UK., 5th ed., 1976.
- Cardona, G., *Pāṇini: A Survey of Research*, Motilal Banarsidass, New Delhi, (Indian rpt.), 1980.
- , 'A Path Still Taken: Some Early Indian Arguments Concerning Time', *Journal of American Oriental Society*, 3(5), 1991, pp. 445-464.
- Chakravarty, A.S., 'Concepts of Space-Time and Relativity 1', *The Vedic Path*, Vol. 46, No. 1, 1985.
- Chatterji, K.C., *Technical Terms and Technique of Sanskrit Grammar*, Sibendranath Kanjilal (Pub), Calcutta, 2nd ed., 1964.
- Coomaraswamy, A.K., *Time and Eternity*, Munshiram, Delhi, 1988.
- Coward, Harold, *Derrida and Indian Philosophy*, Satguru, Delhi, 1991.
- , *Bhārṭṛhari*, Twayne Pub., Boston, 1976.
- Coward, G. & Kunjunni Raja, K. (ed.) *Encyclopaedia of Indian Philosophies*, Vol.V (The Philosophy of the Grammarians), Motilal Banarsidass, Delhi, 1990.
- Datta, D.M., *Six Ways of Knowing*, Univ. of Calcutta, Calcutta, 1972.
- Devasenapathy, V.A., 'Towards Conquest of Time', *Indian Philosophical Quarterly*, Vol. 5, Madras, 1989, pp. 151-195.
- Dodge, John V. & Armitage (ed.), *Encyclopaedia Britannica* (Vol. 8, 21-22), London, 1964.
- Eliot, T.S., *Four Quarters*, Oxford UP, Delhi, (6th Indian rpt.), 1985.

- Genjun, H. Sasaki, 'The Time Concept in Abhidharma', *26th International Congress of Orientalists*, vol.3, pt. I, 1964, pp. 472-480.
- Gune, Jayashree, *The Meaning of Tenses and Mood*, Deccan College, Poona, 1978.
- Iyer, Subramania, K.A., *Bharṭṛhari*, Deccan College, Poona, 1969.
- Jalali, J.L.K., *The Triad of Time (Space & Matter)*, Kāla Kendra, Srinagar, 1971.
- Joshi, J.R., 'Kāla', *CASS Studies*, No.5, Poona, 1980, pp. 13-15.
- Joshi, S.D., 'Kaunḍa Bhaṭṭa on the Meaning of Sanskrit Verbs (1)', *Nagoya Studies in Indian Culture and Buddhism: Saṃbhāṣā*, Vol. 14, Univ. of Nagoya, 1993, pp. 1-39.
- Kanitakar, Srikrishna Sastri, 'Pāṇiniye kālavācakaśabdāḥ' (in Skt.), *Medhā*, 3, pp. 17-38.
- Katre, S.M., *Dictionary of Pāṇini* (in three vols.), Deccan College, Pune, 1968.
- Laddu, S.D., 'Pāṇini and akālakam Vyākaraṇam', *26th Proceedings of the International Congress of Orientalists*, Vol. 3, pt. I, 1969, pp. 99-104.
- Leibnitz, *The Monadology* etc. (Eng. Tr. by Robert Latta), Oxford Univ., London, 2nd ed. 1929.
- Mahadevan, T.M.P., 'Time and Timeless', *Indian Philosophical Quarterly*, Vol. 5, Madras, 1989, pp. 103-149.
- Mandal, K.K., *A Comparative Study of the Concepts of Space and Time in Indian Thought*, Chowkhamba Sanskrit Series Office, Varanasi, 1968.
- Mishra, Muralidhar, 'Lakārthavicārah' (in Skt.), *Saraswati Suṣumā*, Year 18, Vol. 4, *Samvat* 2020.
- Murthi, K.R.K., 'Time Reckoning in Ancient India', *Bhavan's Journal*, Bombay, June 15, 1989, pp. 72-74.
- Murti, Srimannarayana, 'Time according to Bharṭṛhari', *Vishveshwarananda Indological Journal* 19, i-ii, 1981, pp. 140-146.
- , 'Divisions of Time according to Indian Grammarians', *Brahmavidyā*, Vol. 46, 1982, pp. 12-24.
- Böhtlingk, Otto & Rudolph Roth, *Sanskrit Wörterbuch*, St.Petersburg, 1966.
- Palsule, G.B., 'Pāṇini's Treatment of Tense and Mood stem formation', *CASS Studies*, Vol. 1, pp. 173-83.
- Pandeya, Kantichandra, 'Śaivadarśanabindu' (Special lecture series no. 3), Sanskrit Visvavidyālaya, Varanasi, *Samvat* 2021.
- Pregadio, Fabrizio, 'The Representation of Time in the ZHOUYI CANTONG QI', *Cahiers d'Extrême-Asie*, Vol. 8, Publication of Section de Kyoto, 1995, pp. 155-173.
- Rosental, M. & P. Yudin, *A Dictionary of Philosophy*, Progress, Moscow, 1967.
- Russel, Bertrand, *Our Knowledge of the External World* (lectures V & VI), Allen, London, 1914, 6th impression, 1972.
- Santina, Peter Della, *Mādhyaṃika Schools in India*, Motilal Banarsidass, Delhi, 1986.
- Sapir, Edward, *Language*, Harcourt, New York, 1949.
- Schayer, Stanislaw, 'Contribution to the problem of Time in Indian Philosophy', *Essays on Time in Buddhism*, ed. H.S. Prasad, Satguru, Delhi, 1991.
- Sharif, M.M., 'Nature of Time', *Essays in Philosophy: presented to T.M.P. Mahadevan*, Ganesh, Madras, 1962, pp. 118-131.
- Sharma, P.S., *The Kālasamuddeśa of Bharṭṛhari's Vākyapadīya*, Motilal Banarsidass, Delhi, 1972.
- , 'The idea of Power (Śakti) in the Vākyapadīya', *Bhāratīya Vidyā*, Vol. 41, no. 1-2, 1981, pp. 75-79.
- Sharma, Virendra, *Vākyapadīya-Sambandha-Samuddeśa: a critical study*, Vishveshwarananda Vishva Bandhu Institute of Sanskrit and Indological Studies, Hoshiarpur, 1977.
- Shastri, Gaurinath, *The Philosophy of Word and Meaning*, Calcutta Sanskrit College Series, No. 5, 1959, rpt. 1983.
- , *Philosophy of Bharṭṛhari*, Bharatiya Vidyaprakashan, Delhi, 1991.
- Shastri, Satyavrat, 'Conception of Time in the Mahābhāṣya', *Proceedings of All India Oriental Conference* 23, Aligarh, 1966, pp. 561-67.
- , 'The concept of Time according to Bharṭṛhari', *Annals of Bhandarkar Oriental Research Institute* Vol. 39, pts. 1-2, 1958, pp. 68-78.
- , 'The Text of the Dik and Kāla-samuddeśas of the Vākyapadīya and its commentary', *Essays on Indology*, Meharchand Lachmandass, Delhi, 1963, pp. 42-45.

- , 'Conception of Time in Post-Vedic literature', *Essays on Indology*, Meharchand Lachmandass, Delhi, 1963, pp. 149-204.
- Sinha, Jadunath, *Schools of Śaivism*, Sinha Publishing House, Calcutta, 1975.
- Shukla, J.M., 'The Concept of Time according to Bhartṛhari', *Proceedings of All India Oriental Conference*, 17, Poona, 1953, pp. 379-384.
- Tripathy, Ramsuresh, *Samśkrta Vyākaraṇa Darśana* (in Hindi), Rajkamal Prakashan, Delhi, 1972.
- Vatsyayana, Kapila (ed.) *Concept of Space and Time included in Kalātattvakośa: A Lexicon of Fundamental Concepts of the Indian Arts* Vol. 2, Motil Banarsidass, Delhi, 1992.
- Verma, Satyakam, *Vyākaraṇa kī Dārśanika Bhūmikā*, Munshiram, Delhi, 1971.
- Verma, Siddheswar, 'The Vedic Concept of Time', *Indian Linguistics (Meenaksisundaram fel. vol.)*, pt I, 1966, pp. 115-130.
- Walker, Benjamin, *Hindu World*, Vol. 2, Allen, London, 1968.

Deputy Director
Sarasvati: Sanskrit Academy of research
for Advanced Society through Vedic
& Allied Tradition of India
Puri, Orissa