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## The Sanskrit influence on Mind through *Kāarakas*

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### Abstract

There is a lot of new research related to language and brain development, physiological responses, changes in behavior, perception, responses to real-life situations, and decisions made. All these depend on how holistic a language is, its syntax, root-based or non-root-based nature, semantics, grammar, ontology, and others. In this paper, we consider one small part of Sanskrit grammar called *Kāarka* - a fundamental unit of sentence or statement construction and analyze the nature of this language to show its holistic nature. It considers the complex nature of the grammar, the mental effort of the language user, and what a sentence or statement really means in this language.

**Keyword:** Sanskrit, language, grammar, mind, cognition, culture, well-being, behaviour

### Introduction

Language is generally considered a means of communication but several academic studies have demonstrated otherwise. In the West in the second half of the last century language was seen to influence thoughts and perceptions, and this is called linguistic relativity (Altarriba and Brown). It gained recognition when experiments were conducted to show that color perception varied based on how many shades of color were named and recognized in a language. The Russian language has more shades of blue in terms of naming and function than the English language. The Russian and English speakers were tested for color perception through objective tasks to measure color discrimination and the Russians were faster in distinguishing the colors and could not help identify different shades. This demonstrated that language influences perception even in objective tasks (Winawer *et al.*).

In the context of the Sanskrit language grammar, *Kāarka* is a fundamental part of any sentence constructed and there are several debates about how a *Kāarka* compares to “verbs” in English or “case” in Latin for example though it is neither of these (Matilal, pp 263-264). In this paper, we will explore it from the holistic perspective of Sanskrit grammar which is not just syntax or semantics. It has an entire underlay of philosophy that considers the user of the language from a very subtle level of mental effort exerted while performing any task that is expressed through the language. Besides this effort, the intention of the speaker or writer as the case may be for any sentence or statement plays a significant role in choosing the right *Kāarka* - which is the most basic part of any constructed sentence. The rule remains the same even for a thought as long as language is involved.

This is beautifully explained in *Pāṇinīya Śikṣā* as;  
*ātmā buddhyā sametyarthān mano yuñkte vivakṣayā,*  
*mana: kāyāgnimāhanti sa prerayati mārutam,*  
*mārutastūrasi caranmandam janayati svaram.*

It basically summarizes the process of speech as - When the consciousness and intellect prepare the mind intentionally, the mind after examining instantly activates the inner force which in turn inspires the breath to generate the necessary words <sup>[1]</sup> (Sarasvati, p 4).

Therefore Language in the tradition and culture of Sanskrit is much more than semantics or syntax, It emerges from the combination of thought, self-awareness, effort, introspection, and

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<sup>1</sup> *Svara* means the most fundamental independent part of sound or letter in Sanskrit.

finally the execution of all these processes which is understood through language. We examine Sanskrit language through a few forms of one of the basic units of a sentence<sup>[2]</sup> called - *Kāraka*.

## Methods: A Theoretical Approach

### 1. *Kāraka* through a *Kriyā*

A *Vākya* mostly translated as a sentence in Sanskrit is related to *Śabdaniṣṭhā* and *Arthaniṣṭhā* which refer to a close adherence of the sense, meaning, tense, numbers, and others among the different words and there is a mutual expectancy along these lines. Hence the words have a mutual expectancy, proximity, and compatibility both at a grammatical level and the total sense (CHAKRAVARTI, p129). Interestingly the necessary condition does not end here, every *vākya* has a *Kāraka* in it.

A *Kāraka* is defined as:

*Kārakaśabdaśca nimittaparyāyah, kārakam heturiti nārthāntaram, kasya hetuḥ, kriyāyāḥ*<sup>[3]</sup>

It is a *Hetu*- a causal agent for a *Kriyā* (VASUDEV ABHYANKAR, p 118). A sentence or a statement completion besides having the right words with the right sense has specific kinds of words which are casual agents for something called *Kriyā*.

### *Kriyā* is defined as;

*aparispandana-sādhanasādhyo dhātvartho bhāvaḥ, sapispandana-sādhanasādhyastu kriyā*<sup>[4]</sup>.

“Philosophically *Kriyā* is defined as *Sattā* appearing in temporal sequence in various things. When *sattā* does not so appear, it is called *sattva*” (VASUDEV ABHYANKAR, p 133). Here *sat*, *satta* are all related to *Brahman*<sup>[5]</sup> which is the fundamental energy that connects the whole universe” (CHAKRAVARTI, p 235-236).

This *Kriyā* is connected with *spandana* - which at a physical level can mean a simple vibration and at a non-physical level is something related to consciousness and mind. It is also connected with *dhātu*, *sādhana*, *bhāva*. Let us consider each of these through some examples. When any statement or sentence is made, there is some accomplishment in terms of a change in a physical or mental state. For example;

The sky is blue - It draws attention to the sky in terms of its color and blueness. Both for the speaker and the listener or reader it carries a relative context in their mental construct of “sky” and “blueness”. The memories and emotions associated with the sky and blueness will surface in their mind. Hence it is an accomplishment at a mental level. In statements that imply an actual happening of an act like;

I am reading this paper. - The task factor is self-evident in this sentence in the sense of the English verb.

*Patañjali* defines a *Kāraka*<sup>[6]</sup> as: *karoti kriyām nirvartayati* - A *Kāraka* is that which leads to the culmination of *kriya* in different ways<sup>[7]</sup>. *Patañjali* in his *Vyākaraṇa Mahabhāṣya* calls this kind of completion or accomplishment of a task as *sādhana*.

<sup>2</sup> Sentence in this paper also means thought or statement, it can be a mental process and not necessarily spoken or written language.

<sup>3</sup> *Kāśkā*. on P.I. 4.23

<sup>4</sup> *Kaiyaṭa's Pradīpa* on M. Bh. III. 1.87

<sup>5</sup> This is an entire Philosophy by itself and is beyond the scope and length of this paper.

<sup>6</sup> *Sūtra* 1.4.23

<sup>7</sup> This is understood at two levels, one is the physical or material level and the other is the metaphysical level. For example a new pot can be made, some other pre-existing object can be reshaped as a pot physically or through function and the pot “creation”.

Here *kriyā* besides being treated as a grammatical aspect, also has an ontological role. *Kāraka* has another definition - *kriyānvayitvaṃ kārakatvam* - *Kāraka* takes its role because it always plays alongside the *kriya* or they are very closely related (Matilal, pp 269, 271).

Any subject, object or the content of a statement called *vastu* becomes a *kāraka* only when it is associated with *kriyā*. For example;

Rama - the name of a person becomes a *Kāraka* only when he is involved in some *kriyā*.

*Rāmaḥ*<sup>[8]</sup> *paṭhati* - Rama is reading. Here the name ‘Rama’ becomes ‘*Rāmaḥ*’ which is a *Kāraka*.

Based on *Pāṇini* rules, there are several steps involved like; the phonological structure, surface structure, Deep structure, Semantic structure and finally the cognition of the *vastu* (Rajendran, 2002, pp 94).

*Kāraka* is associated with *Kriyā* which is also referred to as *Bhāva* by *Patañjali*. *Bhāva* is related to the psychological state of an individual, and *Kriyā* is usually translated as an action although it is not necessarily a physical action in the sense of the English language action verb. Even though it is mainly discussed in *Vyākaraṇa* - which is generally translated as the grammar of Sanskrit, the nature of all studies in Sanskrit is very holistic and unlike Western subjects which can be completely disconnected from each other. The subject-object dichotomy is foundational in Physics while Neuroscience empirically tries to understand the nature of mind and Consciousness as a subjective experience. The role of emotion which is also a subjective experience is studied in the context of behavior and has implications in the field of mental health like in the cases of depression, anxiety, and others. Hence, it is important to understand the context of *bhāva*. *Bhāva* can be defined as the evolving and coming into existence of the incomplete activity of a *dhātu* which is the root of a word, but it is not instrumental in the sense of a *kāraka* (VASUDEV ABHYANKAR, p 292). The Sanskrit language has *Lakāras* which are translated as the tense of a word. It is used to express past tense and present tense equivalents in the English language and there are eleven such *lakāras*. Interestingly *Pāṇini* does not accept these *lakāras* as a time-based distinction, instead, they are *bhāva*-based since they represent different stages or states of *bhāva* -different states of existence (Laddu & Navathe, p 252). Time itself is understood as a state of existence. In Sanskrit a word has a much deeper context and reference, it is called *Śabda*<sup>[9]</sup> and is interconnected to the universe in a much larger framework.

*Kāraka* is called *artha* of *dhātu* grammatically and this means the sense and meaning associated with the root form of any *kāraka*. *Dhātu* implies the most fundamental constituent and in this case for the *vyāpara* which can be a physical action, a mental cognition, volition or some kind of effort that leads to a result. It can also be an emotional state *bhāva* which is connected to cognition.

### 1. *Sādhana, Śakti - The Mental effort*

*Kriyā* is a combination of *vyāpara*, *yatna*, *phala*. Here *yatna* refers to both mental and physical effort, and it is not just the effort but also related to the *Phala*. According to *Durga*<sup>[10]</sup> there are two parts to *kriya*, the prior and the posterior, and *kriya* by itself is invisible, formless and can only be inferred through the action. *Patañjali* illustrates one part of *kriya*, which is its inference through comprehension. The other part

<sup>8</sup> This already indicated one male called Rama in this *Kāraka* form.

<sup>9</sup> It is also called *Śabda Brahman* and is beyond the scope of this paper, hence it will not be discussed here.

<sup>10</sup> A grammarian from ancient times.

is the *yatna* or the effort also called *sādhana* which is indispensable and in the absence of which nothing is accomplished (CHAKRAVARTI, pp 214-216). Let us consider the example of making a pizza;

For pizza baking even if all the ingredients, the oven to bake, and any other such physical, mechanical, and electrical requirements are met and even the chef is present, it still will not be called a *kriya* unless there is the *sādhana* which is the mental effort. This effort or *sādhana* is a very significant distinction, especially made in such antiquity by the ancient Sanskrit scholars of grammar based on which the entire language of Sanskrit is developed because Neuroscience studies have experimentally established the same distinction between comprehension and mental effort.

This mental effort is defined as a subjective experience different from the actual physical work and under certain conditions, although cognition and mental effort can be causally related, they are also dissociable and hence must be understood independently. The perceived mental effort, which is a subjective experience unlike the actual physical effort or task, can affect many factors independent of the actual work required for the task, both physically and mentally. There are several theories about the role of this mental effort and the commonly agreed upon premise is that it is detrimental in measuring the worthiness of the efforts versus the result of a task. It can influence the decision to pursue a task or completely stop and switch to another task. This mental effort plays a crucial role among people who suffer from mental conditions like depression, generalized anxiety disorder, attention-deficit or hyperactivity disorder, and Schizophrenia as the decision to choose a certain task can bring about behavior change (Wolpe *et al.*, pp 1030 - 1032). This kind of mental effort is recognized by the Sanskrit grammarians as crucial in performing any task or *kriya* and hence the very fundamental *kāraṅkas* are linked with this indispensable *yatna* or *sādhana* or the mental effort. This effort is a computational task where the decision is between tasks that cannot be performed simultaneously based on the cost-benefit analysis for the effort and result (Kurzban *et al.* pp 665). Hence it is the optimization of resources in terms of the result or *phala* of the act - the *kriya* that will be chosen. At this stage, it is the perceived *phala* or result as well as a subjective understanding of the *yatna* or effort. The fundamental basis of the Sanskrit language is based on *kāraṅkas* as they are foundational for sentence construction. In this context, it cannot be a coincidence that Sanskrit grammar, as given by *Pāṇini* is the most concise both spatially and temporally with ingenious technical devices which emerges from a rigorous need for the simplest description (Kiparsky, p1). Therefore optimality which is the basis for the mental effort is inherently built in for Sanskrit right in its structure. These *kāraṅkas* which form the case endings of words indirectly affect the compound formation called *samāsas* in this self-contained system. (Kiparsky, *Pāṇini*, p 41). *Bhartrhari* mentions *Śakti* which is similar and is manifested only when a *kriya* is performed associated with the different *kāraṅkas*. However, *Śakti* is a distinct object of thought (CHAKRAVARTI, p 223) different from the *kāraṅka* and expresses the efficiency of performing the *kriya*. Therefore it is the same as the mental effort which is invisible and formless and can be inferred through task completion.

### 3. The forms of *Kāraṅka*

Consider an example;

*Vṛkṣa* - the stem or the root form of *Vṛkṣaḥ* - which means a tree<sup>[11]</sup>, Through the grammatical rules of *Pāṇini*, it takes different case-ending forms which are the different *kāraṅkas* like;

*Vṛkṣeṇa* - *Kāraṅka* form of the *kāraṅka*.

*Vṛkṣe* - *Adhikāraṅka* form of the *kāraṅka*.

These forms of *kāraṅkas* though arising from the same stem *Vṛkṣa* are not identical with it, be it in the case-ending or the part of the *kriya* they are responsible for before it can be fully accomplished. Likewise, the *Śakti* too though associated with the *kāraṅkas* is distinct from it (CHAKRAVARTI, p 221-224). Let us consider a few different cases of *kāraṅka*. Since we are discussing *kriyā* through a *kāraṅka*, the performer of the *kriyā* - any kind of act is crucial, and the one who does the *kriyā* is called a *karṭṛ* and it is the first type of *kāraṅka*. It is the first for both grammatical and non-grammatical reasons. *Pāṇini* states; *svatantraḥ kartā*<sup>[12]</sup> (VASUDEVA ABHYANKAR, p 109)

The first *kāraṅka* is the *Kartā* - responsible for the *kriyā*. This *Kartā* is *svatantra* - an independent variable and all other means required to complete the *kriyā* will depend on the choices of this *Kartā*. This independence is not absolute in the sense that in a certain given context of the *kriyā* that needs to be accomplished, this specific *kartā* is independent, for example;

*Rāmaḥ bānaṃ nipātāvān* - Rama shot the arrow. Here Rama is the *kartā* and chooses to shoot the arrow independent of other reasons in the context of this statement. Hence "*Rāmaḥ*" is the *Kartṛ* *kāraṅka*.

*Ācāryaḥ Rāmaṃ bānaṃ nipātayatu iti sūcītāvān* - The teacher suggested Rama shoot the arrow. Here too Rama shoots the arrow, but based on the instructions of the teacher. Hence it is the teacher who is the independent decision maker while Rama is receiving the instructions and the act of shooting the arrow is incidental. Since he is on the receiving end, "*Rāmaṃ*" is the second kind called *Karma kāraṅka*.

*Karturīpsitatamaṃ karma, karmaṇi dvitīyā*<sup>[13]</sup> (VASUDEVA ABHYANKAR, p 110) - *Karma* is desired by the *Kartṛ*. *Karma kāraṅka* is the second (*kāraṅka*). Here through the *vyāpāra* of receiving instruction and successfully completing the task of shooting the arrow which is called *phala*, and the mental willingness of Rama which is *yatna*, the *kriyā* is accomplished. Through this *kriyā* the *Kartṛ īpsitatamaṃ* - desires the *karma*. Here desire is not the most suitable translation, it is more like a relationship between the *Kartṛ* and *karma*. Here *kriyā* refers both to the physical task of shooting the arrow as well as the mental task of listening and acting on the instruction of the teacher. In the case of *Kartṛ kāraṅka*, it is about weighing the options within oneself and making the decision and acting on it. Therefore the *Kāraṅka* defines a relationship which could be between people, between the mind and body that is necessary for the completion of *kriyā*.

Let us consider a different example;

*Tileṣu tailam* - Oil is present in the sesame seed.

Here *Tileṣu* - *saptamyadhikāraṇe ca*<sup>[14]</sup> - is the seventh *kāraṅka* - *ādḥāro'dhikāraṇam*<sup>[15]</sup> - Here *ādḥāra* - *ādḥriyante asmin*

<sup>11</sup> Here the term *Vṛkṣaḥ* has a masculine gender which is unlike the biological gender represented by words in English. The functional gender in Sanskrit is an entire subject by itself and will not be explained here.

<sup>12</sup> P. I.4.54

<sup>13</sup> *Pāṇini sūtra*. 2.4.49

<sup>14</sup> *Pāṇini sūtra*. 2.3.36

<sup>15</sup> *Pāṇini sūtra*. 1.4.45

*kriyāḥ ityādhārah* <sup>[16]</sup> - for *kriyā* through a *kartā* or *karma*, it serves the purpose of a location, or substratum or abode or receptacle. In our example the oil is present in the seed and this is not similar to being present in a room. This relationship *samavāya* - between the oil and seed is such that if the oil is extracted then the seed is no more available in the same form and this process is irreversible. Also, every part of the seed has oil present in it and such a relationship is called *vyāpaka*. Another example is.

### 1. *Sā caṭake upaviṣṭā asti* - She is sitting on the mat.

Here the mat forms the location of the person who is sitting but the entire space on the mat is not occupied by her as compared to the entire seed having oil present in it. This kind of spatial relationship is called *upaśleṣikah*. Similarly, there are two more kinds of such relationships related to the mental faculty as stated by *Bhāve saptamī* - it is said to signify *samakālinatva* - simultaneous. There are several more meanings as well, but as we can see here, for the *kriyā*, the spatial and temporal relationships are given by this seventh *kāraka* (CHAKRAVARTI, p 254-256).

The third is *Karāṇa* which is the most efficient means of successfully completing the *kriyā* (VASUDEVA ABHYANKAR, p 108). It should not come as a surprise that characteristics like efficiency, optimization, and conciseness are reflected in every aspect of Sanskrit grammar.

In English, we say - The leaf is falling from the tree. In Sanskrit it can be stated in two different ways;

*Vṛkṣāt parṇam patati.*

*Vṛkṣasya parṇam patati.*

The difference between the two cases is in the form of the *kārakas* - *Vṛkṣāt* and *Vṛkṣasya*. *Vṛkṣāt* refers to a simple spatial <sup>[17]</sup> separation between the tree and leaf and neither is affected by it. On the other hand, *Vṛkṣasya* implies a kind of relationship between the tree and leaf where it is inherent, where losing that leaf can mean the tree is losing some nutrition and likewise the leaf too will probably die. Basically, this separation is much more than a spatial or physical separation post which, both the tree and leaf will no longer be in the same state as before (CHAKRAVARTI, p 271-273). Here the *kāraka* is chosen based on what needs to be conveyed about the nature of the relationship between the tree and the leaf.

Since all these are based on relationships concerning the *kriyā* primarily through the intention of one who is executing it, this demonstrates the subjective approach of the language centered around the subject who is the primary user of the language. All seven *kārakas* are differentiated through their role in this *kriyā*.

This is hardly scratching the surface in terms of the depth. We have not even discussed 1% of the philosophy, ontology, syntax, and several other aspects of Sanskrit grammar. This kind of complex language with deep grammar is experimentally proven to affect advanced theory of mind in later ages, which directly emerges from the theory of mind in younger ages based on the language learned (Ebert). Theory of mind is an individual's cognitive capacity to attribute mental states to oneself and others (Goldman). All through we see that the language is constructed with the mental faculty through intention, effort and others which is central even in the choice of word forms like *kāraka* and the completion of a task as intended in the *kriyā* and *phala*.

<sup>16</sup> Kāś. on P.I.4.45 also M. Bh. on III.3.121 - (VASUDEVA ABHYANKAR, pp 60)

<sup>17</sup> The same rules apply even for non-physical entities like thoughts.

### Discussion: A holistic Philosophy

In *Bhartṛhari's Vākyapadīya* Sanskrit grammar philosophy is described from a very sophisticated point of view at a higher level of generalization with an explanation to the effect among all kinds of studies in Sanskrit, grammar is the closest to *Brahman* which is the foundational reality of the entire Cosmos (Kiparsky, *Pāṇini*, p 42). These kinds of ideas about temporal, spatial, mental, and inter-personal relationships as well as the interconnection of every thought as expressed in language having an overarching relationship with the cosmos itself can influence the social functioning of every individual through observable and measurable perception, behavior, empathy and other such factors (Chiao and Bebeko). A language like Sanskrit with unique epistemology that connects the individual to the whole cosmos by bringing awareness to individual mental effort and intention has a very specific influence on the value system as well as culture. This is given in the *Vedāntic* system from which everything we have discussed so far originates. Research has shown that people who live in cultures with holistic epistemology, like East Asians are more sensitive to background information while in contrast Europeans and Americans from an analytic thinking style isolate objects from the background (Imai *et al.*). It is not a wonder that Western science has a clear dichotomy between the subject and the object and consciousness as a subjective experience is still an unaccepted reality in the scientific realm of the West.

Human intelligence arises from the complex interaction of cognitive processes that are modified by different levels of emotional self-awareness and motivation. Awareness of one's emotions and feelings and the ability to empathize and use judgment are required abilities and skills to enable cognitive embodiment, social awareness, and self-regulation of cognitive processes (Šimić *et al.*).

Language affects emotions as well as physiological states and neural correlates of emotion. A cross-linguistic environment study showed differences in both brain functions and structure. Native speakers of German with complex syntactic dependencies showed stronger networks in syntax-related systems. Native speakers of Arabic with complex morphology and root systems in the language showed stronger network properties in semantic and phonological neural system. This is significant as white matter plasticity coincides with specific cognitive functions and plays a major role in shaping the brain (Wei *et al.*).

### Conclusion

Sanskrit is a language that is root-based as well with strong syntax, morphology, ontology, and holistic considerations in the very construct of the language. The mental effort is considered in the construction of a statement and it is a word-order neutral language. Hence it is essential to further investigate the effects of this language from the social, cultural and cognitive perspectives as it can help the overall well being of the individual and society as a whole.

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