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Śābdabodha of Cognitive Maze

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Abstract The discussion on *Śābdabodha* till date has been regarding the most essential component in the sentence, but the problem of interlinking two or more sentences has not been discussed by scholars in the Indian tradition. The authors have attempted to address this problem in a joint project, undertaking examples of groups of sentences and observing their linkages to each other. This paper focuses on the cognition of complex sentences, in the form of a dialogue, involving multiple meanings of the same words, leading to a case of misinterpretation. A cognitive maze is created in front of the readers, where one has to retrace the meanings in the intellect of speakers from the response elicited by them. This study is in accordance with the verbal cognition theory of Pāṇinian grammar.

Keywords Śābdabodha. Verbal cognition. Conversation. Cognitive maze. Misinterpretation.

Summary 1 Introduction. – 2 Scope and Limitations. – 3 *Śābdabodha* of Cognitive Maze. – 4 Stepwise Construction of *Śābdabodha*. – 5 Step 1: Observing Possible Meanings of Some Words. – 6 Step 2: Backtracking Śiva's Answers. – 7 Step 3: Understanding the Maze of Meanings. – 8 Stages of Cognition. – 9 Writing the *Śābdabodha-s*. – 10 Conclusion. – 11 Application.

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1 Introduction

The literal translation of *Śābdabodha* is 'verbal cognition'.[1] We prefer to continue using the same Sanskrit term in our paper to maintain a technical proximity as well as because it is widely used in all the treatises and texts explaining sentence meaning and linguistic features of Sanskrit, for example *Vyutpattivāda*,[2] *Vaiyākaraṇa-bhūṣaṇasāra*,[3] Dash (1999), and Deshpande (1987). In *Vaiyākaraṇa-bhūṣaṇasāra*, the word *Śābdabodha* has been used in the main text and also in the *Parīkṣā* commentary[4] to mean verbal cognition that arises from the understanding of a sentence. Thus, the term *Śābdabodha* is widely used to refer to the cognition of sentence meaning.

The next important question is: What is a sentence? There are many definitions of a sentence, an apt and concise definition being, '*ekatiṅ vākyam*' (*Vārttika* 12 ad A 2.1.1, *Mahābhāṣya*), which translates as 'a sentence is that which contains one verbal form.' The term '*tiṅ*' is a technical term in Pāṇinian grammar denoting the terminations added to the verbal root, i.e., verbal endings.[5] Here, *tiṅ* denotes the word ending in *tiṅ*, i.e., a *tiṅanta*, a verb. Another definition from the *Vyākaraṇa-Mahābhāṣya* also underlines the importance of verb – '*ākhyātaṁ sāvyayakārakavśeṣaṇaṁ vākyam*' (*Vārttika* 10 ad A 2.1.1, Mahābhaṣya). This means that:

> a sentence is a group of words which contains a verb-form along with (related) action-promoters (*kārakas*, agent, object etc.), indeclinables and qualifiers. (Deshpande 1978, 196)

These definitions of a sentence quoted above, are given in *Mahābhāṣya* while discussing the compatibility of two words for

1 At the time of submission of the paper, the author was a doctoral research scholar working in the said institute. Currently, the author has completed doctorate and is working as Assistant Professor in Chanakya University, Bengaluru, Karnataka, India.

2 शाब्दबोधे चैकपदार्थे अपरपदार्थस्य संसर्गः संसर्गमर्यादया भासते | (*Vyutpattivāda*, 2). Translation: In *Śābdabodha*, being a single word-meaning, the association of other word-meaning flashes by the measure of proximity (unless stated otherwise, all translations were done by the authors).

3 पर्यवस्यच्छाब्दबोधाविदूरप्राक्क्षणस्थितेः| शक्तिग्रहेऽन्तरङ्गत्वबहिरङ्गत्वचिन्तनम् || (*Bhūṣaṇasāra*, verse 36, 12). Translation: …It became staying at the moment before, not far from *Śābdabodha*.

4 तादृशवाक्यजन्य–शाब्दबोधाव्यवहितप्राक्क्षणवृत्ति–शक्तिग्रहनिष्ठान्तरङ्ग–बहिरङ्गभावस्य…, 272. Translation: The state of being inner component (*antaraṅga*) or outer component (*bahiraṅga*) that is dependent on acquisition of meaning, which happens just one moment before the verbal cognition emerging from that kind of sentence.

5 *Tip-tas-jhi-sip-thas-tha-mib-vas-mas-tātāñjha-thāsāthaṃ-dhvamiḍ-vahi-mahiṅ* (A 3.4.78). These are the endings added to the verbal roots to form the forms that are used in all tenses.

compounding, under the aphorism in *Aṣṭādhyāyī* 2.1.1.[6] They show the indispensability of a verb in the sentence. These definitions form the basis of the grammarians' theory of verbal cognition which gives the most essential place to the verbal root amongst all the components in the sentence. The verbal root is the centre of grammarians' *Śābdabodha* with all other components getting linked to it (Deshpande 1978, 201).

Until today, the Pāṇinian grammatical tradition, of which Malhar Kulkarni is a part and active proponent of, accepts that there is a relationship of cause and effect between the collection of meaning in the intellect and the sounds that are produced thereafter to communicate (Kulkarni 2021, 488). Perception of the sound and arising of the cognition of meaning are two beginning and end points of the verbal cognition. Through our work, we aim and attempt to throw light on the process of *bodha* (cognition) of a set of sentences through the external sounds produced by the speaker. This research aims to discover the constituents or components of the cognitive apparatus within a particular sentence unit or verse. As a part of the research, various types of sentences from Sanskrit literature have been studied, and their cognitive structures have been investigated.

2 Scope and Limitations

The field of formal semantics speaks about various aspects of sentences and the syntactic combination of morphemes in a structured manner (Fodor 1980, 4). The meaning of simple as well as complex sentences has been studied in this field in mainly algebraic terms, as a case of function application (Heim, Kratzer 1998). However, the authors of this article focus primarily on the cognitive study of the Sanskrit language. Indian grammatical tradition has deliberated on the semantic and cognitive aspects of the Sanskrit language in detail. Malhar Kulkarni has received training in this grammatical tradition. Leveraging this fact, we have based our study on the Indian theories of sentence meaning, specifically, on the grammatical tradition with emphasis on those aspects of sentences that have not been directly dealt with in the tradition.

The specific cognition (*viśeṣabodha*) is where each word unit and its specific meaning is distinctly cognized and registered by the human intellect, and not a generic one (*sāmānyabodha*). Such a specific cognition is the topic of our broad study. This cognition or

6 *Samarthānāṁ prathamād vā*. A 2.1.1 Translation (by S.C. Vasu): The *taddhita* affixes, on the alternative of their being used at all, comes after the word that is signified by the first of the words in the construction in a *sūtra*.

bodha is written in a style specific to *Navya-Nyāya* doctrine and one developed and taught by Malhar Kulkarni in the form of *prakāratā* and *viśeṣyatā* (terminologies explained later). Even though the style adopted is that of *Navya-Nyāya*, the philosophy of cognition is that of the *Vyākaraṇa* school, which considers the meaning of the verbal root to be the main qualificand in the sentence. We have, thus, limited our scope to develop the application of the existing theories of *Śābdabodha*-verbal cognition to the hitherto unexplored area of a given group of sentences.[7] Its comparison with the globally accepted semantic theories may be undertaken in the future.

3 *Śābdabodha* of Cognitive Maze

As per the Oxford dictionary, a maze is

> a structure consisting of a network of winding and intercommunicating paths and passages arranged in bewildering complexity, so that without guidance it is difficult to find one's way in it; a labyrinth. (Oxford English Dictionary 1978, 262)

This word has been associated in the current context with verbal cognition, and then the compound term 'Cognitive maze' has been generated, as coined by Malhar Kulkarni. This English term is an equivalent to the Sanskrit term *bodhabhrami*, also coined by Malhar Kulkarni to explain the same phenomenon. As the examples will demonstrate, there are complex cognitive structures at play in the process of communication, and their complexity makes the head(s) go spinning, thereby resulting in the halt of the communication process itself. In this process, a deliberate manipulation of words and their meanings resulting in complicated cognitive patterns is observed.

How does a person understand the meaning of a sentence? G.M. Bhattacharya says in his paper:

> When a meaningful sentence is uttered, the hearer, if he knows the language and is attentive to it, automatically and instantly understands the meanings of the word elements in the sentence. Thereafter, the ideal hearer cognizes the syntactic relation between the discrete word meanings. (Bhattacharya 1977, 73)

When this process happens, the conversation is said to be complete. But if the hearer does not cognize the expected meaning, then the

7 Kindly refer to Section 9 in this paper, for understanding the utility of implementing this style.

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resultant cognition needs to be studied with special attention.

In a conversation, the speaker and the listener are generally expected to be on the same level of understanding; only then can the conversation be considered complete. But if the meaning intended by the speaker is not grasped correctly by the listener, then it will lead to a very distinctive kind of conversation, because it will be a case of misinterpretation. Furthermore, if a context is such that misinterpretation is done on purpose, to create a complexity of cognition, i.e., a cognitive maze, can the *Śābdabodha* of such conscious misinterpretation and cognitive maze be interpreted and structurally displayed? If yes, in what manner? This is the problem addressed here. Let us try to understand the concept of cognitive maze with an example as shown below:

> kas tvaṃ śūlī mṛgaya bhiṣajaṃ nīlakaṇṭhaḥ priye'haṃ
> kekām ekāṃ kuru paśupatir naiva dṛśye viṣāṇe |
> sthāṇur mugdhe na vadati tarur jīviśeḥ śivāyā
> gacchāṭavyām iti hatavacāḥ pātu vaś candracūḍaḥ ||
> (*Subhāṣita-ratna-bhāṇḍāgāram*, *Maṅgalācaraṇa-prakaraṇam*, Śiva 45)

This is a verse about a conversation between Śiva and Pārvatī, who are considered to be the primordial couple and important deities in Hinduism, and the complexity of their dialogue, which results in a cognitive maze. It is typical of traditional Sanskrit poets to impose human characteristics on deities and present their cognitive tussle in a humorous way. There are numerous verses about various deities depicting conversations of this kind. We take the verse above as an example of those verses were more than one meaning of a word can be understood at the same time. The cognitive maze stated here is also considered the cause of poetic wonder. Let us see the general meaning of the verse (translated by the authors):

Pārvatī	Who are you?
Śiva	I am *śūlin* (one who holds a trident).
Pārvatī	Then go to a physician.
Śiva	O beloved, I am *nīlakaṇṭha* (one having dark throat).
Pārvatī	Then utter the cry of a peacock.
Śiva	No, I am *paśupati*. (Lord of all beings).
Pārvatī	But I cannot see your horns.
Śiva	O infatuated lady, I am *sthāṇu* (stable ascetic).
Pārvatī	But a tree does not talk.
Śiva	I am the life-Lord of Śivā. (Śivā = Pārvatī)
Pārvatī	Then go to the forest.

In this way, that moon-crested Śiva, who became speechless, may protect you all.

For complete communication to occur, we must presume an "ideal hearer", as explained by Matilal (1988, 114), who comprehends the meaning in the speaker's intellect without bringing his/her prejudices and is also a competent language user. Thus, it is assumed that the realm of sounds (*śabdākāśa*) and the realm of meaning (*arthākāśa*) in the intellect of both the speaker and listener are equal and the same, giving rise to a complete communication.[8]

According to Malhar Kulkarni, *arthākāśa* is the semantic space. *Śabdākāśa*, according to Malhar Kulkarni, is the space of words, phrases, and sentences linked and used to express the *arthākāśa*. When both these spaces in both the speaker and the hearer are corresponded with each other, successful communication can be vouched for. It is a state that we can describe as the speaker and listener being on the same page.

In the present case, Śiva is speaking something, so let us say that the words he utters are ABCD, technically known as *śabdākāśa*. Pārvatī hears those words as they are, and cognizes first the sounds in her intellectual apparatus, without any flaw.[9] Thus, the *śabdākāśa* is the same for both of them. Moving forward, when Pārvatī interprets the words that she has heard, the cognition in her head is visibly different with respect to what Śiva had in his mind. Therefore, their *arthākāśa-s* do not exactly match. This is shown in Figure 1.

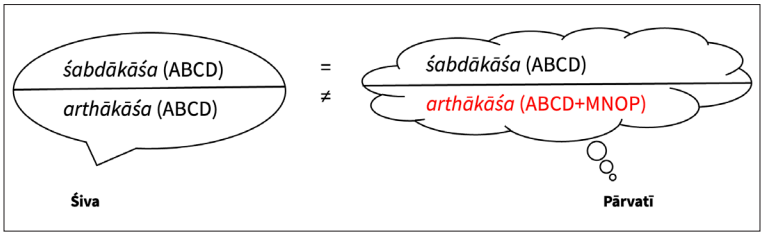

Figure 1 Difference in śabdākāśa and arthākāśa

8 These concepts are explained in *Śabdasūtra*, an original unpublished text by Dr. Malhar Kulkarni.

9 Cf. the following quote by Magrassi, Aromataris, Cabrini, Annovazzi-Lodi, and Moro (2015): "Our results suggest that in normal hearing people, sound representation is at the heart of language and not simply a vehicle for expressing some otherwise mysterious symbolic activity of our brain".

Thus, it is a complex conversation involving various layers of cognition. The *Śābdabodha* of this conversational element will be presented and analysed step by step.

4 Stepwise Construction of *Śābdabodha*

In the first step, the sentences in the verse have to be written systematically, following closely the view of the grammarians, with the assumption of a verb in each sentence. It is observed that in Sanskrit, the existential verbs *asti* and *bhavati* are often not explicitly included in the sentence and have to be understood by the readers. For instance, '*ahaṃ śūlī*' will literally translate as 'I *śūlī*' due to the absence of a verb; however, an existential verb must be understood there by the reader while cognising the meaning. Hence, while enlisting the sentences in the verse, these verbs are to be integrated. As we are following the *Vyākaraṇa* model of *Śābdabodha*, no sentence can be left without a verb. We are essentially restructuring the sentences in the verse in a basic, easily cognisable format of agent-object-verb (*kartṛ-karma-kriyāpada*) with additions of other *kāraka-s* as per requirement.

At the next step, we need to analyse each case of purposeful misunderstanding on the part of Pārvatī. The conversation opens with Pārvatī's question to Śiva, asking him, probably from inside the house, to introduce himself. In answer to that, Śiva states his epithet *śūlin* – holder of trident (an epithet applicable only to him, as no other deity or man holds this specific weapon). Pārvatī's reply suggests that she has comprehended the meaning intended by Śiva, but intentionally pretends to misinterpret it. This creates a rift in cognition, and the same continues for five continuous occasions, with Śiva telling some more of his epithets and Pārvatī persistently and consciously misinterpreting them, thus creating a maze which finally makes Śiva speechless.

Systematically deciphering the meaning in Pārvatī's intellect is the next step, and understanding the meaning of the verse as a whole is the last step.

5 Step 1: Observing Possible Meanings of Some Words

The words or epithets that are used by Śiva to describe himself have multiple meanings, and Pārvatī has interpreted those words differently. As in the case of language in general, a single word can have an array of meanings, and therefore it offers ample scope for interpretation. To arrive at the precise meaning comprehended by Pārvatī, multiple possible meanings of these words should be listed.

Śiva's epithets, viz. *śūlin*, *nīlakaṇṭha*, *paśupati*, *sthāṇu*, and Lord of Śivā are given in Table 1 together with their multiple meanings. An average competence of Sanskrit ensures some of these meanings, but only the most contextually relevant meaning is generally triggered when a particular word is heard.

Table 1 Possible meanings of key words in the verse

No.	Word	Meaning
1.	*śūlin*	1. The holder of weapon 2. *śūla*Person having a disease called *śūla* 3. Śiva who is the wielder of *triśūla*
2.	*nīlakaṇṭha*	1. Gallinule/water-hen 2. Wagtail (bird species) 3. Sandalwood tree 4. Peacock 5. Śiva
3.	*paśupati*	1. Possessor of cattle, a cowherd 2. Deity of fire, 3. *Agni*Śiva
4.	*sthāṇu*	1. Steady, firm 2. Trunk of a tree, stump 3. Specific type of fragrance 4. Specific type of posture 5. Pillar 6. A kind of spear or dart 7. Śiva
5.	*śivā*	1. Salvation 2. Turmeric 3. Ointment made from cows' bile 4. Wife of sage Aṅgiras 5. A female jackal 6. River called Śivā 7. Pārvatī

The sources of these meanings are the Monier William's Sanskrit-English dictionary[10] and J.V. Oak's Sanskrit-English *Śabdakośa*.[11]

6 Step 2: Backtracking Śiva's Answers

To arrive at the precise meanings comprehended by Pārvatī, we have to backtrack Śiva's answers by studying Pārvatī's replies. The

10 Edition 1, reprint in 1986.

11 Edition 6, 2011.

meanings comprehended by Pārvatī are understood by us only after we cognize the replies given by her. In a nutshell, we have to study the meaning of Śiva's sentences as comprehended by Pārvatī. All the sentences uttered by Śiva are in answer to Pārvatī's first question 'Who are you?' This will be explained in more detail on the next stage of cognitive analysis.

As a first step, sentences in the verse were systematically rewritten with the assumption of a verb in each sentence. The verse contains 12 sentences in total. Further, we have formed 5 sets out of these sentences. Let us study them now:

Set 1

tvaṅ ko'si?	(*tvam kaḥ asi*) ('Who are you?')
aham sūly asmi.	(*ahaṃ śūlī asmi*) ('I am *śūlin*.')
tvam bhiṣajaṃ mṛgaya.	('Fetch a physician!')

The reply '*tvaṃ bhiṣajam mṛgaya*' gives a hint to Pārvatī's understanding of the previous sentence. We think that, as she is talking about a physician, there must be some connection to a disease in her comprehension. Among the meanings of the word *śūlin*, we find one meaning that refers to a disease. We then infer that precisely that meaning must be the one comprehended by Pārvatī. So let us restructure the interrelation of the meanings intended by Śiva and the meanings comprehended by Pārvatī. In this case, what Pārvatī has understood Śiva is saying is *ahaṃ śūlarogī asmi* ('I am a diseased person'). The first question 'who are you?' is continued in all the sets because all the statements by Śiva are in answer to this first opening question.

Once Śiva realises the miscomprehension on Pārvatī's part, he tries to explain using the next epithet, which is being discussed below in Set 2.

Set 2

ahan nīlakaṇṭho'smi.	(*aham nīlakaṇṭhaḥ asmi*) ('I am *nīlakaṇṭha*.')
tvam ekāṃ kekāṃ kuru.	('Utter a cry of peacock.')

Here, Śiva used the word *nīlakaṇṭha* with the intention that now, at least, Pārvatī realises that she is talking to Śiva and not a person with a disease. But up comes Pārvatī's reply in which the word *kekā* appears. The word *kekā* refers to the sound specifically uttered by a peacock. Thus, we come to know that the meaning comprehended by Pārvatī from the word *nīlakaṇṭha* is none other than the 'peacock'.

Thus, according to Pārvatī's understanding, the meaning of Śiva's sentence is *ahaṃ mayūraḥ asmi* ('I am a peacock'). To remove the misunderstanding, Śiva provides another epithet in the next set of sentences.

Set 3

aham paśupatirasmi.	(*ahaṃ paśupatiḥ asmi*) ('I am *paśupati*.')
tava viṣāṇe naiva dṛśye staḥ.	('But your horns are not visible.')

Now we observe that Pārvatī's reply contains a reference to horns. Horns are a specific feature of animals like cattle, hyenas, rhinos, etc. But this reference does not match any of the meanings of *paśupati* listed above. Neither Śiva nor the deity Agni has horns. If the protector of cattle, which is the literal meaning of the word *paśu-pati*, is understood to be a human, he too does not have horns. *Paśu* here refers to cattle whose chief can be a bullock, who leads his herd. The bullock possesses horns. In this way, the process of the meaning comprehension by Pārvatī can be explained. So, the interpretation of Śiva's sentence in Pārvatī's head is *ahaṃ vṛṣabhaḥ asmi* ('I am a bullock').

Set 4

aham sthāṇurasmi.	(*ahaṃ sthāṇuḥ asmi*) ('I am *sthāṇu*.')
tarurna vadati.	(*taruḥ na vadati*.) ('A tree does not talk.')

By doing the same process of analysis, we discover the interpretation of Śiva's sentence in Pārvatī's head as '*Ahaṃ vṛkṣa-kāṇḍam asmi*.' ('I am a tree-trunk.')

Set 5

aham śivāyā jīviteśo'smi.	(*ahaṃ śivāyāḥ jīviteśaḥ asmi*) ('I am the life-lord of Śivā.')
tvam aṭavyāṅ gaccha.	('Go to the forest!')

The reply has reference to the forest, and out of all the meanings of *śivā*, only the jackal, who is a wild animal, is compatible with the meaning 'forest'. Therefore, we discover that the meaning of *śivā*- as comprehended by Pārvatī is 'female jackal'. We also know from the context that, as per the intention of Śiva, the meaning of the word Śivā is 'Pārvatī', and Śiva wants to say that he is the life-lord of Pārvatī herself, i.e., Śiva himself. In this case, the meaning of Śiva's

sentence as comprehended by Pārvatī is – *ahaṃ kroṣṭā asmi* ('I am a male jackal.'). And then she responds by asking him to go to the forest.

This is backtracking, where we have deciphered the meanings of the keywords in the verse by considering Pārvatī's replies. Let us see this in a visual form:

tvaṅ ko'si? ('Who are you?')
ahaṃ śūlyasmi. ('I am *śūlin*.') ('I am a diseased person')
tvaṃ bhiṣajam mṛgaya. ('Fetch a doctor!') ***'ahaṃ śūlarogī asmi.'***

[*tvaṅ ko'si?* ('Who are you?')]
ahaṃ paśupatirasmi. ('I am *paśupati*.') ('I am a bullock.')
tava viṣāṇe naiva dṛśye staḥ. ('Your horns are not visible.') ***'ahaṃ vṛṣbhaḥ asmi'***

[*tvaṅ ko'si?* ('Who are you?')]
ahaṃ paśupatirasmi. ('I am *paśupati*.') ('I am a bullock.')
tava viṣāṇe naiva dṛśye staḥ. ('Your horns are not visible.') ***'ahaṃ vṛṣbhaḥ asmi'***

[*tvaṅ ko'si?* ('Who are you?')]
ahaṃ śivāyā jīviteśo'smi. ('I am the life-lord of Śivā.') ('I am a male jackal.')
tvam aṭavyāṁ gaccha. ('Go to the forest!') ***'ahaṅ kroṣṭā asmi.'***

7 Step 3: Understanding the Maze of Meanings

The precise meanings in the cognitive areas of the speaker Śiva and the hearer Pārvatī are deciphered by analysing the relation of the meaning appearing in Pārvatī's reply to the most compatible meaning of the concerned word. As seen in the last step, we get these precise meanings from backtracking, which are shown in Table 2.

Table 2 Appropriate meaning of keywords

Original word	Śiva's meaning	Keyword in Pārvatī's reply	Pārvatī's meaning
śūlin	Holder of trident	Physician	Having disease *śūla*
nīlakaṇṭha	One whose throat is dark because of deadly poison	Peacock cry	Peacock
paśupati	The controller of all the beings	Horns	Bullock
sthāṇu	A steadfast ascetic	Tree	Tree-trunk
śivā-jīviteśa	Lord of Pārvatī	Forest	Female jackal's mate; a male jackal

8 Stages of Cognition

This complex type of *Śābdabodha* involves several cognitive steps before it is completed. Let us look at these stages one by one:

Stage 1 Understanding the Most Compatible Meaning

When Pārvatī's first question is uttered, its meaning generates the expectancy (*ākāṅkṣā*) for its answer. The next sentence uttered by Śiva is the answer to the question that satisfies the expectancy condition. The question is: 'Who are you?' and Śiva says, 'I am *śūlin*'. We comprehend the meaning 'I am Śiva' from this reply sentence.

Stage 2 Incompatible Answer

After the utterance of the word *śūlin* by Śiva as an answer, the natural expectancy is that Pārvatī recognises *śūlin* as Śiva and lets him enter. Or she asks him to do something related to his *śūla*. But the sentence uttered by Pārvatī is 'Then go and fetch a doctor'. This sentence has no compatibility with the previous sentence, 'I am *śūlin*'. This incompatibility creates a problem in cognising the entire *Śābdabodha*.

Stage 3 Backtracking

Adhering to the fact that the sentence by Pārvatī cannot be uttered meaninglessly in the verse, our intellect goes back to the previous sentence and rethinks the meaning of the word *śūlin*. There can be many meanings of a word that are totally unrelated to each other.

The intellect tracks the most compatible meaning with the reference of the next sentence that was uttered.

Stage 4 Selection of the Most Compatible Meaning

Another meaning of the word *śūlin* springs forth, namely 'one who has the disease *śūla*'. It is a general understanding that a disease and a doctor have a professional connection (*vṛtti sambandha*). Therefore, the reference to the doctor in the answer of Pārvatī is most compatible with only this meaning of *śūlin*. In the case of the second word '*nīlakaṇṭha*', the reply by Pārvatī is, 'Utter a *kekā*'. A *kekā* is the cry specifically uttered by a peacock; therefore, the association with the most compatible meaning 'peacock' is understood.

Stage 5 Clash of Two Cognitions

The meaning of *śūlin* as interpreted and suggested by Pārvatī is understood by the listener. But this does not totally discard the first and primary meaning that would otherwise have been undisturbed if the suggestive answer had not been uttered by Pārvatī. Thus, there is a clash of two cognitions in the intellect: the primary cognition and the decoded cognition. This is termed 'Cognitive Friction' by Malhar Kulkarni. According to him, this gives rise to '*Camatkṛti*' or poetic wonder. This is also stated by his *sūtra*: *jñāna-gharṣaṇa-janyaṁ jñānaṁ camatkṛtiḥ*|[12] ('The cognition generated by the friction of cognitions is *camatkṛti* or Poetic Astonishment.')

9 Writing the *Śābdabodha-s*

In this work, we write the *Śābdabodha* of each of these sentences resorting to the terminology specific to the *Navya-Nyāya* school and the bracket parsing model methodology developed by Kulkarni et al. (2010). This involves technical terms *prakāra*, *viśeṣya*, etc. Implementing this terminology is important:

1. To show the implementation of the theories presented in Sanskrit texts, i.e., to check whether they are applicable or not.
2. In achieving precision about the meaning of each component in the sentence, like agent, object, instrument, etc.

12 From an unpublished Sanskrit text entitled *Camatkāra-bhāgavatam* by Malhar Kulkarni.

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3. For its objectivity due to the usage of scientific terminology. The written *Śābdabodha-s* can be briefly found in works on *Nyāya*[13] as well as *Vyākaraṇa*,[14] but the exhaustive *Śābdabodha-s*, along with the links in various sentences, is the contribution of the authors.

The property of being a *prakāra* (modifier) is *prakāratā* (modifierness), and the property of being a *viśeṣya* (head) is *viśeṣyatā* (headedness). These two properties are never absolute; they are always with reference to each other. In order to highlight this association between them, we have followed a specific scheme. There are multiple *prakāratā-s* and *viśeṣyatā-s* in the structure of *bodha*. To facilitate smooth association of *prakāratā* to its corresponding *viśeṣyatā*, each tag has been assigned a numeral, followed by the abbreviation of the tag, i.e., 'p' for *prakāratā* and 'v' for *viśeṣyatā*. Thus, the correspondence can be understood by cognitively linking the tags having the same number, e.g., 1p, 2p, 3p shall have 1v, 2v, 3v associated with them in the *Śābdabodha*. The meaning of these terminologies is as follows:

Prakāra = qualifier (*viśeṣaṇa*)
Viśeṣya = qualificand
Prakāratā = modifierness (state of being modifier)
Viśeṣyatā = headedness (state of being a head)
Nirūpita = in relation to
Niṣṭha = having, that rests in, residing in[15]

Based on the concepts discussed above, the linkages among the sentences can be stated briefly as follows:

<Pārvatī says 'who are you'> (1p)Niṣṭhaprakāratā-nirūpita [{<Śiva says 'I am *śūlin*'> (1v)Niṣṭhaviśeṣyatā} (2p) Niṣṭhaprakāratā-nirūpita <Pārvatī says 'you look for a physician'> (2v)Niṣṭhaviśeṣyatā] (3p)Niṣṭhaprakāratā-nirūpita <Śiva says 'I am a diseased person'> (3v)Niṣṭhaviśeṣyatā ..... < **X** > Niṣṭhaprakāratā-nirūpita <Śiva, whose words are shattered repeatedly in this way, may protect you all> Niṣṭhaviśeṣyatā.

13 Nyāya-siddhānta-muktāvali, Kiraṇāvalī commentary, ed. Narayancharan Shastri & Shwetvaikuntha Shastri, Chowkhamba Sanskrit Series, 1972, 303 – 'नैयायिकास्तु प्रथमान्तमुख्यविशेष्यकशाब्दबोधं मन्यन्ते – चैत्रः तण्डुलं पचतीत्यत्र तण्डुलनिष्ठपाकानुकूलकृतिमांश्चैत्र इति |'.

14 *Vaiyākaraṇa-bhūṣaṇa-sāra*, *Parīkṣā* commentary, 20 - 'पाककर्त्रभिन्नो देवदत्त इत्याकारकस्य शाब्दबोधस्य ततो जननवदित्यर्थः|'.

15 Kulkarni Malhar et al. 2010, 108.

[Here, **X** denotes Set 2, Set 3, Set 4, and Set 5, connected in the same manner as shown in the first instance. All the sets of conversation are finally connected to the last line of the verse said by the poet to the readers.]

A simple meaning of the linkages stated above can be as follows:

- Group 1 – <Pārvatī says 'who are you'> is the qualifier in relation to <Śiva says 'I am *śūlin*'>, which is the qualificand.
- Group 2 – <Śiva says 'I am *śūlin*'> is the qualifier in relation to <Pārvatī says 'you look for a physician'>, which is the qualificand.
- Group 3 – <entire Group 2> is the qualifier in relation to <Śiva says 'I am a diseased person'>, which is the qualificand.

This is the *Śābdabodha* of the first set; the sets have been discussed before.[16] Similarly, we get the *Śābdabodha* of all five sets sequentially. In the end, all these sets become qualifiers to the final sentence of the verse, viz., <Śiva, whose words are shattered repeatedly in this way, may protect you all>, which becomes the qualificand.

This is the *Śābdabodha* of the entire verse. It is originally elaborately written in Sanskrit by the authors, but it is not given in this paper in order to avoid prolongation. The representation of the entire *Śābdabodha* in a diagrammatic form is given in Figure 2 as follows:

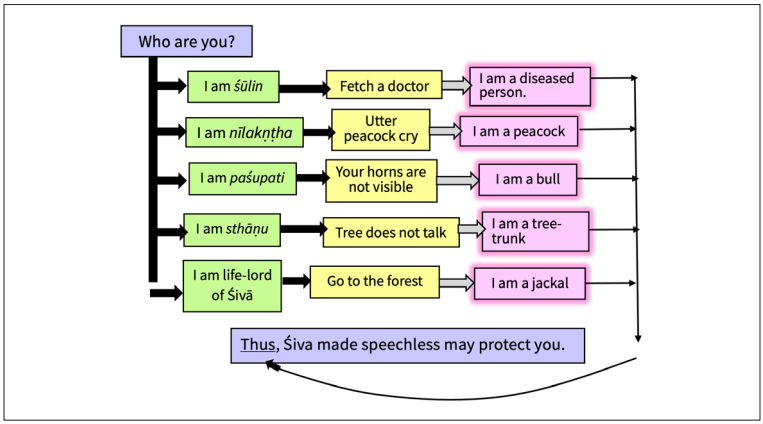

Figure 2 Diagrammatic representation of the cognitive maze

16 See step 2 of *Śābdabodha*, *infra*.

10 Conclusion

The aim and results of the present study can be summarized as follows: in a communication that can be said to be successful, the meaning intended by the speaker is wholly understood by the listener; the *śabdākāśa* and *arthākāśa*, i.e., the words and meaning in the intellect of the speaker and listener, are essentially the same. But in this present *Śābdabodha*, the communication is incomplete, as the *arthākāśa* in the intellect of the speaker and listener varies, and this gives rise to a complex structure of *Śābdabodha* wherein the meaning intended by the speaker is neglected and the other meaning understood by the listener takes the front seat. The second meaning intended by the listener is never explicitly stated during the conversation, but it is elicited by the response expressed by the listener. This entire conversation depends on the intellectual capacity of the one who comprehends, as he/she is expected to know the different meanings of some crucial words used in this verse.

This verse is an example of a conversation between Śiva and Pārvatī where the names and epithets of Śiva are (purposely?) misunderstood by Pārvatī to mean something else, and responses adhering to that are expressed by her. A verbal cognition takes place from the sentence uttered by Śiva, and that cognition is shattered on hearing the answer uttered by Pārvatī, making us rethink Śiva's sentence and cognise it again. This goes on in a chain, and the end of this conversation is that the conversation remains incomplete. The purport of Śiva is not grasped by Pārvatī till the end, and therefore Śiva is said to be *hatavacāḥ* – 'whose words have been shattered again and again' – by Pārvatī. This is the cognitive maze.

This entire piece of misinterpretation has created poetic wonder because the cognitions of Śiva and Pārvatī are clashing again and again. This is called *camatkāra* and is aptly defined by Prof. Malhar Kulkarni as *jñānagharṣaṇajanyaṁ jñānaṁ camatkṛtiḥ* – 'a cognition generated by cognitive friction is poetic wonder'.[17]

Many times, misinterpretation of some words or sentences happens in daily conversations. This can lead to a chaotic situation, but when the sentences spoken by both persons are analysed, backtracking leads us to the interpretation of the words or phrases by the listener, and we can arrive at the complete *śābdabodha* of the conversation in the manner mentioned in this paper.

This verse is about two powers which are cognising and speaking. It is a clever play of words or a tussle between those two. This verse appears in the *Mangalācaraṇa Prakaraṇa* of *Subhāśita-ratna-bhāṇḍāgāram*, and thus, this conversation is considered auspicious.

17 See footnote 13.

This is because it is happening between these two universal powers. The verse ends with the line that 'may Śiva protect you who is made speechless by his wife'. This speechlessness is considered to be auspicious. In normal language and in general circumstances, for two strangers, this kind of incompatibility of answers can be offensive. Therefore, it is very important to understand the context of the conversation. This cannot be generalised for all people.

In the case of two strangers conversing, such a misunderstanding will not go up to five instances. Either person will stop at the second, or at the most, third instance, as he/she will understand that the other person is either mentally unfit to understand the speech being said by the first person, or they are purposefully not ready to accept the correct meaning. However, because the persons involved in the present conversation are not strangers, but a husband and wife, they take this tussle ahead as a play of words. This is a cognitive path; the speaker is going through one cognitive path, and the listener is not going through that path, purposefully, in this case. Therefore, a maze is created in front of the readers/listeners. And the *Śābdabodha* of such a maze is methodically presented in this paper.

11 Application

This technique of systematic interpretation of conversational sentences, and its writing in scientific format,[18] can be useful for machine learning and Natural Language processing. In this system of writing the verbal cognition, each important element in the sentence is taken into account, and the relation between two sentences is also systematically shown. Such a study, specifically for a transparent and detailed cognition of data in Sanskrit language, has not been carried out before, and the authors plan to take it forward for its application in the technological area.

Some points, like specifying the gender of words in the writing of *Śābdabodha*, understanding the detailed position of gerunds and the verbs in them, etc., shall be undertaken for future study.

18 See point 9 of this paper. The same is elaborated in detail in the author's upcoming doctoral thesis titled 'The *Śābdabodha* theory of *Saṅgraha*' submitted for examination.

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