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The next issue (the issue of January 2023) will be uploaded by the fourth week of January 2023 or earlier.

Wish you a Happy New Year!

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A Descriptive Study of Explicator and Reverse Compound Verbs in Magahi - The Case of a Less-resourced Language

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Abstract

The phenomena of Reversed Compound Verbs (RCVs) and Explicator Compound Verbs (ECVs) have attracted a great deal of attention and focus recently by Linguistics and Computational Linguistics, as they are one of the salient features in almost all the South Asian languages. An ECV refers to the sort of constructions wherein the two different verbs i.e., v1 and v2 are sequentially arranged in order to form a meaningful expression. Here v1, which is the main verb of the sentence, is being followed by an auxiliary verb v2, which is later de-lexicalized.

On the other hand, an RCV is a type of compound verb formation in south Asian languages that was first noticed by Hook in 1974. An RCV is the reordered structuring of the same Compound Verb (CV), which is found in almost all south Asian languages as a special feature. The present paper is an attempt to examine the formation of both of these types of verbs and analyze their functions in Magahi. One could also find it interesting in investigating what happens to other linguistic properties of Magahi like syntactic, semantic and morphological properties when the structure is rearranged. It will also be interesting if both of these verb forms namely ECVs and RCVs show any sort of resemblance among them in Magahi once formed and how well they are accepted in the society. The present paper is also an attempt at making an aerial survey of Magahi language, which is one of the regional variations of Bihari languages and to figure out if there are any issues or challenges faced while reshuffling, reordering or restructuring CVs.

Keywords: Magahi, Bihar, South Asian Languages, Reverse Compound Verb, Explicator Compound Verb, Compound Verb.

1. Overview

This paper is an attempt at tracing the forms of the Reverse Compound Verbs and Explicator Compound Verbs in Magahi. It is an attempt to trace such verbs in a very less

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resourced vernacular of Bihar, which is not much popular among the masses. In this paper, it has been attempted to identify whether such expressions like RCVs and ECVs can be formed or found in Magahi (Kumar et al., 2017), unlike in Hindi and other vernaculars like Odia (Jha, et al., 2014; Behera, 2015; Ojha et al., 2015; Behera, 2017), Sambalpuri (Behera & Dash, 2017; Behera et al., 2021), Bengali and also other foreign languages like English, Arabic, Persian etc. The term 'verb construction' in languages is a well-known phenomenon with a well-established fact that such constructions help in the internal advancement of a language or a sentence of a vernacular in particular. There has been abundant availability of research in the past focusing on verb constructions in general.

It is due to this reason that one can not only find a lot more upon constructions of verbs or compound verbs in Hindi but also in all other standard forms of languages. However, it is almost difficult to find something concrete over the processes of verb constructions or anything similar to that in any regional vernaculars of India, including Magahi. It is this sole rationale which inspired us to bring something brainstorming that bears the core concept of verb constructions and something experimental to put forward some puzzling aspects of creating some new forms by reversing or re-ordering the structures of the verbs in Magahi, similar to that of Hindi.

Referring to the above discussions, one can deduce that the idea of restructuring or reordering is quite new to all forms of Indian languages and regional vernaculars. It is, in fact, a new terminology for the entire linguistic field. There is no denying the fact that Hook (1974) was the first one to note such re-constructions and bring them into the world of language sciences. Since then, it has become a very interesting topic for the linguists to carry forward their work in this regard.

For many languages like Hindi, English, Bengali, Bhojpuri, Arabic and so on, there is a number of research works conducted in this regard. When it comes to Magahi, as a less-resourced language including some other such languages like Sambalpuri, Kui and others, there is no availability of such works done. Therefore, it was the need of the hour to conduct a research concerning CVs.

The sole objective of this research is to examine as to how the ECVs and RCVs function in Magahi and investigate what linguistic changes it inherits in the structure of the Magahi sentences during the process. This paper will also pave a pathway for the future researchers of Magahi and help them find out what linguistic principles dominate the structures of RCVs and ECVs in Magahi and how these can be reversed. In short, this paper is a well undertaken attempt which not only aims at answering all possible doubts and

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questions which come as a hindrance in framing the structures of RCVs and ECVs in Magahi but also to describe briefly if there is any resemblance or similarities in their structures as compared to that of Hindi or other standardized form of languages. This will be helpful and set a milestone for future researchers who dare explore more about their mother tongues on a broader level.

1.1. The Magahi Language

Languages in general play a prominent role in depicting the regional identities in India. When a language is spoken, a region is reflected or can be easily smelled through its structures and tones. A language not only refers to its origin but also to its cultures and traditions of the people living in that particular region at large. Depending on the language and culture Bihar today can be grouped into three broad distinct regional categories such as Maithili, Bhojpuri, and Magahi. To this grouping of language areas and regions Grierson has described it as Bihari language (Grierson, 1927). According to him, all such classifications are the regional variations of standard Hindi.

So far as the origin of Magahi in Bihar is concerned, it is a deviant of Sanskrit word Magadha, which means the Magadha region in the ancient times (Grierson, 1921). The region today where Magahi is chiefly spoken is majorly the Patna region, some parts of Jharkhand and the northern half of Gaya district. Like Hindi, Magahi also belongs to the Indo-Aryan language family. According to the census report of 1881, the estimated population of Magahi speakers all over India was 6,504,817.

2. Related Literature

As Magahi is a very less resourced and less recognized language in India, there is not much research that has been done in this regard, but in recent years people have paid a lot of attention towards this and have started working on the same as well. Verma (1985) has written a major book focusing upon the structure of the Magahi verb. This book was a major turn into the field of Magahi. Along with the structures of Magahi in detail, this book also focuses upon ancient forms, traditions, cultures and the detailed geographical distributions of the regions of Bihar wherein this very lesser-known vernacular is broadly spoken. There are also several other research that have been carried forward concerning the structures of Complex Predicates and other morphological and syntactic aspects of Magahi.

Das (2009) has worked upon the complex predicate structures; it is form and functions and also as to how they behave once they are reversed. This work of him was a major turn in this accord, which has formed the basis of understanding the basic phenomenon as to how such reversals are possible and created in languages such as Hindi.

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Butt (1995) has worked upon the structural patterns of **CPs (Complex Predicates)** in Urdu. Out of several types of CPs in Urdu, this work majorly focuses upon the two major sorts of CPs namely the permissive CPs and the aspectual CPs. With this research, Butt has proposed a detailed differential explanation of the two undertaken CP structures of Urdu. There were further many other possible attempts made in the past concerning further research in CP which led to its expansion to south Asian languages (Abbi, 1991). In addition, Linguists like (Bashir, 1993) and (Verma, 1993) have also carried their works further to identify the CPs in Hindi. Alsina (1997) discusses the general theory of CPs.

Despite the heightened interest of the linguists in some of the foreign languages like English, German, Arabic, etc. there were also some of the Indian languages which received the linguists' attention. On the other hand, at the same time Indian languages along with their regional variations are the ones which still have to suffer and go through a long way of higher research in order to bring them on to a broader platform. So far as the question of conducting research in Magahi is concerned, there was much research that focused on Magahi not only as a language but also the entire Magadha region being the most culturally rich and a well-established region during the ancient period. Atreya and others (2015) have worked on different aspects of Magahi that pay a major attention towards Magahi language and its grammatical pattern. Attreya and others (2014) focused mainly upon how the passive forms are being constructed and used in Magahi.

Apart from Magahi, there were also many other languages concerning which linguists have dedicated their work. Sarkar (1975) and Mohanty (1992) have carried out their works forward for the clear identification of CPs in Bengali and Oriya respectively. Sinha (2009) has also induced his best effort in detecting CPs in a parallel corpus of Hindi and English by applying simple methods. It is due to him today that the classifications of CPs in different grammatical categories like verb-verb (VV), Adjective-Verb (AV), Adverb-Verb (Adv-V), Noun-Verb (NV) etc. are possible to identify. All the categories here that are mentioned above together make a CP only when they are clubbed together in order to form one single expression. As per the afore-mentioned facts, this work is also primarily motivated by the need of the time to represent lesser-known languages like Magahi on to a broader platform of language and linguistics.

3. A Brief Descriptive Sketch of Compound Verbs, Explicator Compound Verbs and Reverse Compound Verbs in Magahi

This section deals with a descriptive sketch of Compound Verbs (CVs), Explicator Compound Verbs (ECVs) and Reverse Compound Verbs (RCVs) in Magahi language.

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3.1. Compound Verb

Compound Verbs (CV), in general, are one of the syntactico-semantic phenomena that are most common today in almost all the south Asian languages including Hindi at large. This is mainly formed by the combination of two different verbs v1 and v2 wherein v1 is polar and v2 vector. Both these verbs, when clubbed together, result into a single entity. It is found widely in all the Indian languages, regardless of their genetic affiliations (Massica, 1976). Due to its most enriching properties and common inheritance, it is studied in detail in almost all the Indo-Aryan and Dravidian languages. A CV in general is something that inherits some instances of Multiword Expressions in it. This means to say that it is not much different but is quite similar and identical to multiword expressions that are composed of more than one linguistic item. Therefore, in other words, one can state that a CV is nothing but a multi-word compound.

Like Hindi, Magahi also has compound verbs, the formation process of which is exactly the same as that of Hindi. In order to explain that in detail, we can refer to the following examples.

(1)   चभीया रख
   'cabhIyA   rakha'
   cabhIyA-key-1.F.S.
   rakhakeep(v)   'Keep   the
   Key'.

(2)   चभीया अपन जेबी में रख
   'cabhIyA apana jebI meM rakha' cabhIyA-key-1.F.S. apana (self)
   jebI-pocket meM-LOC Rakha(keep)v.
   'Keep the key in your pocket'.

(3)   चभीया अपन जेबी में से टेबुलवा पर रख दे
   'cabhIyA apana jebI meM se TebulavA para rakha de' cabhIyA-key-1.F.S. apana (self) reflex. jebI (pocket). meM(in)prep. Se-ABL TebulavAtable, para-LOC rakha (main verb, v1), de (Aux.verb, v2).
   'keep the key from your pocket on the table'.

Here in sentence (1), there is no use of a compound verb, as it is the simplest form of sentence, wherein a person is instructed to simply keep the key somewhere or someplace whose direction or place is not exactly specified. If we move on to another sentence, we can notice that an action over the subject i.e., key, is directed and the key is directed to be kept in the pocket. Hence, here in sentence (2) the direction and place are specified for the subject.

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But as soon as we look at the pattern of the sentence (3), we can easily notice an action is performed which is denoted away from the subject. This denotation of action is shown by the addition of a v2 i.e., an auxiliary verb which is दे, */de/*. This de-specifies the action of the main verb i.e., */rakha/* of the subject key into a specific place i.e., */jebI/*, which means pocket.

Therefore, with this one can deduce that a CV is sometimes used as a supporting element in order to clearly denote or specify the correct and accurate action of the verb. Without these, the completion of the above sentence structure is absolutely impossible.

3.1.1. Explicator Compound Verb (ECV)

The predicative constructions, like Explicator Compound Verbs (ECVs), have been of great attention in the field of linguistics since it has been found as one of the major or the aerial features of most of the south Asian languages (Abbi, 2001). An ECV is a sequential arrangement of two different verbs i.e., v1 and v2 unlike all other compound verbs. The sequence is designed in such a way that the first verb i.e., v1 is generally followed by another verb i.e., v2, whose meaning gets de-lexicalized in the process. This means that v1 is the main predicating verb and v2, which gets dependent on v1 that does not appear independently on its own meaning. In short, it is a clubbing technique of both the verbs into one. For instance, if, in Hindi one says, चलो आओ /calo Ao/, then the meaning of /calo/ is predicated or being explained here by /Ao/.

In the aforementioned instance, one can observe that v2 bleaches v1 in such a great fashion that it clarifies the entire meaning of the compound quite beautifully and undoubtedly. Magahi also has some ECVs like all other Indian languages. These are very similar to that of Hindi. The below demonstrated examples will further explain the ECVs of Magahi in detail.

(4) राम के पिता जी ओकरा मार बइठलथीन
'rAma ke pitAjI okarA mAra baiThalathina'.
Ram-1.M.S ke-gen. pitAjI-Father okarA-he-3.M.S mAra-beat baiThalathina-sit.
'Ram's father has beaten him.'

In the above illustration, one can observe how beautifully and effectively a normal verb */mAranA/*, which means 'to beat', is transformed to produce an ECV. After examining the example closely, one can also observe that it is not only similar to that of Hindi but also follows the same process of formation. In the above instance, the meaning of the verb, मारना, */mAranA/*, beat, is explained through the second verb i.e., v2 बइठलथीन, */baiThalathIna/*. The

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v2 i.e., /baiThalathIna/ is the one that explains the role of the verb /mAranA/ in the sentence quite beautifully. Without this second auxiliary verb or a vector verb in compound verbs that acts as an explicator here, the meaning of the verb /mAranA/ is not explained. It is so because the meaning of the verb /mAranA/ was not clear and specified in the sentence due to which the sentence formed could also be meaningless.

3.1.2. Reverse Compound Verb (RCV)

Being one of the major features of most Indian languages, RCVs are firstly introduced and noticed by Hook in 1974. It is one of the most unique properties of most of the south Asian languages. This unique property of verbs is being used in Indian languages mostly while telling fairy tales, fictional stories etc. The structures of this very unique verb are not very difficult to form instead it is just a reshuffling of the two verbs that together constitute a compound verb construction. The two verbs, i.e., v1 which is polar and v2 i.e., vector when reshuffled their positions, led to the formation or creation of RCV (Hook, 1974). For instance, बैठ जाओ, /baiTha jAo/, in Hindi when reordered becomes, जाओ बैठो, /jAo baiTho/, which means the same but, as one can see that the positions of both the verbs i.e., polar and vector which are v1 and v2 interchanged. Therefore, this interchangeability results into the formation of a new structure, to what we are discussing here as RCVs. However, this property of interchangeability of positioning of verbs does not alter the meaning. But it is quite evident and puzzling to note that the case does not remain the same all the time. Sometimes, the meanings are also liable to change after reordering. This reordering of structures of RCVs in Magahi is quite identical to that of Hindi.

For instance,

(5)   सुनील जी हमरो ले मरलथिन

    'sunIla jI hamaro le maralathina'
    Sunil-1.M.S. myself take-v2 kill v1-perf.
    'Sunil ji has killed me also'.

Here, in this sentence, one can witness that the compound verb मार डालना, /mAra DAlanA/, which means to kill is a simple compound verb that has been reversed to ले मरलथिन, /le maralathina/, in Magahi. This is a good piece of evidence to show the reversible property of the compound verbs of /mAra DAlanA/, in Hindi, that takes an agent /le/ in Magahi. In addition, it is interesting to note here that the reversible property of Magahi requires an extra element in such cases in order to reverse the verb. Also, with this reversible process, the meaning or the semantic property of the sentence remains unchanged. It has shown no negative effect over the sentence due to this reversal. It is due to this reason

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that the study of such verbs in linguistics has become a major area of research for the linguists. This will not only help the languages like Hindi to develop as a standard form, but also the other less resourced languages like Magahi, Bhojpuri, Sambalpuri, Rajbhongshi and others that are not very much studied as less-sourced languages will develop in the field of linguistics from a research point of view.

4. Conclusion

To conclude the undergoing discussions about the explicator and reverse compound verbs in Magahi, we would like to recall some of the key points with which we have started this paper. The first and foremost point is, as to why we need to investigate ECVs and RCVs in Magahi. If one reads this paper one can find quite easily that Magahi, being very less popular among the masses, was one of the most prominent reasons for conducting and undertaking this very specific study. We have also tried our best to do justice with the sentence and the structural patterns of Magahi, which can be easily identified as similar and identical to Hindi. The reason for the similarity could be ascribed to the fact that Magahi belongs to the same Indo-Aryan language family. We have further demonstrated how easily and naturally the reversal of Magahi verbs is possible. However, there is no denying the fact that there are certain verbs, mostly the explicator verbs, which cannot explain their meanings without the help of any auxiliary verb in the sentence.

In the foregoing discussion, it can be stated that these compound verbs are mostly used by the writers including while narrating stories. This is done in order to induce some metaphorical effects into the stories or fictions. But at the same time, the addition of such metaphorical effects does not hamper the originality of the meaning that the sentence carries. In addition, we have also attempted to provide a detailed account of compound verbs in Magahi. Furthermore, this paper provides a brief description of the construction of RCVs and ECVs in Magahi, considering all the possible pragmatic, syntactic and morphological factors.

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Study on Mood Used in Tiwa Language

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1. Introduction

Assam is known for its diversity as different tribes live in this region for centuries together. Tiwas are one of the major tribes of Assam and they constitute an important ethnic group of north-east India. Ethnically, the Tiwas are of Mongoloid origin. The Tiwas are mainly the inhabitants of Assam. But they also inhabited some part of neighbouring state of Meghalaya. In old linguistic literatures, they were known as Lalung. However, they prepared to call themselves as Tiwa. Majority of the Tiwa people living in the plains of Assam, particularly the younger, can't speak their language. For education and for day-to-day exchange of thoughts, they use Assamese language. However, the Tiwas living in the hills are still maintaining their language and use their language for their day-to-day life. The total population of Tiwa tribes is said to be 371000 approx. according to the 2011 census. However, the total number of Tiwa speakers amounts only 34,800 approx. (2011 census).

2. Tiwa Language

Tiwa is the name of language as well as of a community. Linguistically this language is belonged to Tibeto-Burman sub-group of Sino-Tibetan language family. According toG. A. Grierson, in his book Linguistics Survey of India (Vol-III, Part-ii), this language belongs to the Bodo group under the Bodo-Naga section of Tibeto-Burman language family. Tiwa language is spoken mainly in the Nagaon, Morigaon, Karbi Anglong and Kamrup district of Assam and some parts of the neighbouring state of Meghalaya. The Tiwa language is found only in spoken form. Some of them have lost their language because of the influence of Assamese.

3. Review of Literature

A few linguistic works have been done on Tiwa language as far as our knowledge is concerned. G.A. Grierson's 'Linguistic Survey of India' (Vol-III, Part- ii, 1903-28) gives us the first hand information about the Tiwa (Lalung) language for the first time. Rev. M. Balawan's 'Outlines of Lalung Grammar' which was published in 1975 was the first grammar of Tiwa language. In this grammar, he tried to bring out some grammatical features of Tiwa language in brief. UV Joseph and Robbins Burling's The Comparative Phonology of Boro-Garo language (2006)' is the most important book from the linguistic point of view. In

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this book, they described the inventory of phonemes and phonological feature of Tiwa language.

4. What is Mood?

Mood is an important category of grammar. It is a term used in the theoretical and descriptive study of the sentence/clause and especially of the verbs they contain (David Crystal, 1997). It expresses the attitudes on the part of the speaker towards the factual content of the utterances such as uncertainty, possibility etc.

5. Different Types of Moods Used in Tiwa

Tiwa has a few numbers of moods. These are Imperative, Capability, Necessity, Probability, Conditional, Permissive and Optative which are discussed below.

5.1.Imperative

Imperative mood in Tiwa expresses request on the one hand and the command on the other. The imperative command is expressed simply by the bare verb stem that is to say; the stem itself is the imperative while imperative request is expressed by the polite imperative morpheme (Pol. Imp. M) realised as /-tʰa/, /-de/ added to the verb stem. Consider the following examples:

(i)   /li-/   'go'
        /li-tʰa/
        go-Pol.Imp.M
        'Please go'

(ii)   /čol-/   'do'
        /čol-tʰa/
        do-Pol.Imp.M
        'Please do'

(iii)   /pʰoi-/ come
        /pʰoi-de/
        come-Pol.Imp.M
        'Please come'

But often /bo/ and /tʰo/ is added to the stem for the sake of stress or emphasis. Eg.

(iv)   /kʰezoŋ/   'sit'
        /kʰezoŋ-bo/
         sit- Str.Imp.M
        'Sit down'

(v)   /kʰona/   'listen'

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/kʰona-tʰo/
listen-Str.Imp.M
'listen'

5.2. Capability

It indicates the ability of the agent in performing the action identified by the verb. The ability or capability is expressed in Tiwa by adding the modal auxiliary /pʰono/ 'can' after the verb which is in the future tense form.

(i)   /pe   kʰrom-go   čol-a   pʰono/
        S/he   work-Acc.   do-Inf.   M.
        'S/he can do the work'

(ii)   /aŋ   li-na   pʰono/
        I   go-Inf.   M.
        'I can go'

(iii)   /Sita   roza-na   pʰono/
        Sita   sing-Inf.   M.
        'Sita can sing'

5.3. Necessity

The mood of necessity is expressed by the word /naŋo/ meaning 'need' after the verb. e.g.

(i)   /aŋ   li-na   naŋo/
        I   go-Inf.   need-M.
        'I need to go'

(ii)   /na   isuna   pʰi-na   naŋo/
        you   here   come-Inf.   need-M.
        'you need to come here'

(iii)   /ne   rap-go   aŋ-a   naŋo/
        Your   help-Acc. I-Dat.   need-M.
        'I need your help'

5.4. Probability

The mood of probability is expressed by the modal auxiliary /mano/ 'may' used after the verb which is in the future tense form.

(i)   /tawe   ai   pʰa   pʰiw   mano/
        Today   my   father come-Fut.   M.

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'My father may come today'

(ii) /pe   kʰrom-go   čolo   mano/
      S/he   wok—Acc.   do-Fut.   M.
      'S/he may do the work'.

(iii) /aŋ   liw   mano/
      I   go-Fut.   M.
      'I may go'

5.5. Conditional Mood

The conditional mood expresses the condition for performing the specified verbal action. In Tiwa, it is formed by /-gai / 'if' to the verb root. /-gai / does not occur in isolation, it always occurs with the verb.

(i)   /na   li-gai/
      you   go-Cond.
      'If you go'

(ii) /pe   isuna   pʰi-gai/
      s/he   here   come-Cond.
      'If s/he comes here'

(iii) /na   ča-gai/
      you   eat-Cond.
      'If you eat'

5.6. Permissive

When the other person is given permission to do the action it is called permissive mood. The permissive mood in Tiwa is expressed by using /os/ meaning 'give' and tense aspect markers are added to it.

(i)   /pe-go   li-na   os/
      s/he-Acc.   go-Inf   give-M.
      'Allow him/her to go'

(ii) /aŋ-go   čol-a   os/
      I-Acc.   do-Inf.   give-M.
      'Allow me to do'

(iii) /pe-go   kʰrom čol-a os-dom/
      s/he-Acc   work   do-Inf. give-M-Past

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'S/he   was allowed to do the work'

5.7. Optative Mood

The mood of optative is expressed by an inflectional suffix /-tʰoŋ/ to the verb, which expresses a wish. For example-

(i) /mindai   na-go   por   os-tʰoŋ/   'God bless you'
     God   you-Acc.   bless   give-M.

(ii) /pe   kʰonana   pʰi-tʰoŋ/   'Let him/her come tomorrow'
      s/he tomorrow   come-M.

6. Conclusion

From the above discussion it becomes clear that Tiwa manifests a neat system of realisation of Mood. All the seven moods used in Tiwa are postpositional. Most of the moods used in this language are expressed by adding the modal auxiliary. Imperative, Conditional and Optative moods are expressed by inflectional suffixes to the verb. Like other TB language the sentence pattern of this language is SOV (Subject +Object + Verb).

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Verb: A Cognitive Facilitator
A Case of Marathi Colloquial Conversations

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Abstract

Language comprehension has been a fascinating area of research for grammarians, linguists, philosophers and computer scientists alike. In Marathi grammatical tradition, a sentence is viewed from the verb-centric position in several treatises. Moreover, the complete discussion is put in a theoretical framework. The current report, the extension of earlier research on the Marathi language, adopts an experimental outlook to examine the communicative aspect of the sentence in colloquial (non-standard variety) Marathi written conversations. Based on the subjective reports of 95 native and non-native readers obtained from four experiments it is argued that a single-verb in a conversation is comprehensible hence can be regarded as a complete sentence itself. The contrastive analysis suggests that complete sentences are easier to process than single-verb sentences, which in turn, are more accurately comprehended than nominal sentences. Resorting on textual and sociolinguistic variables, the report also probes into the underlying nuances of language comprehension.

Keywords: Marathi, nominal sentence, sentence comprehension, experimental research, single-verb sentences

> *"In verbal communication, the usage has a more powerful status*
> *than that of rules of grammar..."*
> Arjunwadkar (1987)[1]

1. **Background of the study:** [2]
   1.1. What is this research about?

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[1] Arjunwadkar quotes Dadoba Tarkhadkar, a renowned Marathi grammarian and states that when it comes to the verbal behaviour of the people, the language which is actually used in speech is more effective than the rules of grammar, because it serves the purpose of communication. The original Marathi sentence is: "*lokāta vyākaraṇācyā niyamāṇpekṣā prayogācīca sattā balavattara asatye...*" Arjunwadkar (1987, p. 50).

This statement is cited for setting a background for the argument of the manuscript, *viz.*, studying the comprehension of the colloquial conversations. In colloquial or non-formal language, many words do not necessarily follow the standard rules of grammar but denote the desired meaning.

[2] The transliteration system for original non-English sentences used in the manuscript follows the IAST system (International Alphabet of Sanskrit Transliteration). Abbreviations used in the manuscript are as follows: CS- Complete Sentence, Exp- Experiment, M_D- Mean-Difference (between two variables), NS- Nominal Sentence, p-value- Probability value, Para- Paragraph, Pop.- Population, RQ- Research Question, SV- Single Verb (Sentence), VP- '*Vākyapadīya*' by Bhartṛhari, and vs.- Versus.

This research on the study of the comprehension of Marathi colloquial conversational data is an extension of our earlier research on Marathi literary or formal (non-colloquial) data[3] which in turn is an extension of the critical investigation of Sanskrit conversations[4] and of a massive experiment on English news items.[5] Thereby, the current research can be considered as one of the many pieces in a long string of studies encompassing the cognitive and sociolinguistic aspects of human sentence-comprehension and also as a starting point for the following future researches[6] in the same field.

Human-like language comprehension has been a captivating area of research for grammarians, linguists, logicians, philosophers, computer scientists and neurocognitive scientists. An enormous amount of literature can be found on the concepts such as a word, sentence, their interrelations with word-meanings and sentence-meanings, the types of sentence meanings, the auxiliary means that aid the sentence processing and speakers' intention, several ways used by the listener to disambiguate the complex words in the context, etc. in ancient Indian literature. The grammatical literature in Marathi also studies the concept of word and sentence in great detail, from both syntactic and semantic aspects. It is observed that the theoretical discussion has been the common underpinning of this discourse.

With the advancements in the mechanical and statistical fields, the scientific and methodical study of exploring the process of human sentence comprehension has become possible. The development of the psycholinguistic field has enabled us to carry out a more sophisticated and explorative study of the same issues by conducting experiments to study the nuances in the comprehension process.

1.2. The Emergence of the Idea of the Research

Bhartṛhari, the grammarian-philosopher (*circa* fifth century CE) has enumerated a total of eight definitions of a sentence in the second chapter of his phenomenal work '*Vākyapadīya*' in Sanskrit versified form.[7] The very first definition of a sentence '*ākyātaśabdaḥ*' (i.e., the word which is a verb) gives the status of a sentence to the single-verb in the conversations. The definition emphasizes the fact that when a user utters a single-verb, it can be considered as a sentence if it denotes the complete meaning.[8] Thereby, the definition establishes the important

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[3] (Gajjam & Kulkarni, 2020a), (Gajjam & Kulkarni, 2020c)

[4] (Gajjam, Kanojia, & Kulkarni, 2018), (Gajjam & Kulkarni, 2020b), (Gajjam & Kulkarni, 2020c), and (Gajjam & Kulkarni, 2020d)

[5] (Wani, Mathias, Gajjam, & Bhattacharyya, 2018)

[6] Based on the results obtained from this research, the author has investigated the cognition of the kārakas and the respective verbs and suggested five criteria readers consider before assuming a kāraka of a single-verb (Gajjam, 2021).

[7] Bhartrihari has enumerated the following definitions of a sentence: (1) the verb, (2) the combination of the words, (3) the universal which lies in the combination of the words, (4) the single, part-less unit of language, (5) the sequence, (6) the meaning principle in the mind of the speaker, (7) the first word, and (8) all the words in the sentence having mutual expectancy of one another. (VP.II.1-2) (Sarma, 1980, p. 1).

[8] The commentator Pt. Raghunatha Sarma explains that, when a mere verb denotes the complete meaning without its *kāraka*s (arguments), it can be regarded as a sentence (Sarma, 1980, p. 2).

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role of the verb in the sentence from a syntactical and semantic perspective.[9] In the last three years, the communicative aspect of this definition has been explored to study the status of the single-verbs in human sentence processing mechanism.

In a novel eye-tracking experiment on Sanskrit, it is found that the verb is an important element in the sentence semantics without which a sentence seems to be incomplete (Gajjam, Kanojia, & Kulkarni, 2018, p. 243)[10] which is valid for both prose and poetry texts (Gajjam & Kulkarni, 2019a, p. 142). For verb-less (nominal) sentences, it is argued that readers take a copular verb with which the other words in the nominal sentence are construed to have a complete, precise understanding (Gajjam & Kulkarni, 2020d, p. 145). It accented the fact that the words in the sentence revolve around the main verb. These studies have been conducted on the second-language speakers of Sanskrit. The first-of-its-kind of research on the Marathi native speakers suggest that the nominal sentences in Marathi are comprehended with similar efforts as single-verb and complete sentences (Gajjam & Kulkarni, 2020a, pp. 18-19). However, the data set in this experiment belong to the literary or formal variety of Marathi conversational data. The unanswered question of whether similar results can be obtained for the colloquial conversations has been addressed in the current report.

1.3. Marathi Grammarians on Sentence

A lot of theoretical discussion on the sentence and the necessity of the verb has been carried out by several Marathi scholars in various books on Marathi grammar (Tarkhadkar, 1857; Damle, 1970; Arjunwadkar, 1987; Govilkar, 2001; Dhongde & Wali, 2009; Pandharipande, 1997). It is stated by Damle (1970, p. 662) that the discussion on the sentence is the prominent area in the grammar. It is accepted by all grammarians that the verb makes a linguistic string a sentence. Hence, the verb is said to be the soul of the sentence. Govilkar (2001, p. 293) goes one step further and states that generally speaking, it wouldn't be wrong in considering as many sentences as many verbs are present in it. Later on, the author suggests another definition as a sentence is a combination of words that gives the comprehender a complete idea of the message. Thus, the author considers both syntactic and semantic approaches while defining a sentence.

Basically, a sentence can be considered as a concatenation of words having a qualifier-qualificand relation among them. Whenever we hear a sentence, we understand the action which is denoted by the verb[11] as the chief qualificand, with other words in the sentence

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[9] Apparently, the definition '*ākhyātaśabdaḥ*' given by Bhartrihari appears to be focused on the syntax of the sentence. The commentators Punyaraja and Pt. Raghunatha Sarma (1980, p. 2) point out the semantic aspect of it. Sarma gives an example of the verb '*pidhehi*' ('[Please] close [the door]') mentioning that when a listener listens to this word, s/he understands its object 'door' that is to be construed with the verb. Hence, the single-verb '*pidhehi*' denotes the complete desired meaning in this case.

[10] The authors have also provided some guidelines to translate Bhartṛhari's definitions into experimental research (Gajjam & Kulkarni, 2019b, pp. 10-12).

[11] The definition of a verb as given by Tarkhadkar (1857, p. 23&148) is the word that denotes an action or a state.

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qualifying that meaning. Hence, the verb plays an important role while designating a sentence. Hence, if one must have a one-word sentence, it has to be the verb. Verb along with the noun is considered basic parts of speech without which a sentence, grammatically and syntactically, seems incomplete.[12] Damle argues that it is necessary to have an object (i.e., destination or goal- '*karma*') as well if the verb is transitive in nature (Damle, 1970, p. 663). There are mixed opinions about the necessity of the agent and object in a sentence, but the necessity of the verb is being unanimously agreed upon.

Consequently, a verb-less sentence or nominal sentence is considered to be incomplete. All of these scholars view the sentence mainly from the syntactical approach and explain the verb playing the role of the '*vākyāpūraka*' (something that completes the sentence).[13] The semantic nature of the single-verb sentences is slightly being touched upon and of the nominal sentences has remained a twilight area.

1.4. Psycholinguistics and Sentence-Comprehension

The study that how human comprehends a language has started before the end of the nineteenth century which was then known as *Psychology of Language* in the field of linguistics. Various aspects of language such as language production, language comprehension, language acquisition, text reading, and so forth have been explored within a theoretical framework. It was only in the 1980s, with the emergence of various modern and sophisticated machines such as EEG, fMRI, PET, ERP, eye-tracking and so forth, when the behavioural experimental research has begun in psycholinguistics that has engendered a plethora of research. They study the real-time comprehension among the readers with intrusion or semi-intrusion methods.[14] A few other, comparatively old but well-established methods such as pen-paper method is used by us. It is usually conducted in a controlled environment (more often in a classroom) with the investigator supervising the participants and also in a less supervised manner (e.g., web-based) using an internet facility. These are non-intrusive methods and are often used to study a previously proposed theory.[15]

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[12] Tarkhadkar (1857, p. 300) argues that a sentence must have at least two words: an agent ('*kartā*') and a verb form ('*kriyāpada*'). He makes it clear by mentioning that it shouldn't be misunderstood that only these two types of words make a linguistic string a sentence, but it is a minimum requirement.

[13] Damle (1970, p. 163) suggests that the third adjective '*vākyapūraka*' (that which completes the sentence) should be added to the definition of the verb with the other two adjectives, that is, '*kriyābodhaka*' (that which denotes the action) and '*kālabodhaka*' (that which denotes the time).
A similar view is presented by Govilkar (2001, p. 145) that semantically speaking, the verb is an important element to make a linguistic string a sentence. The author quotes Jesperson while proposing this view, 'the verb is a life-giving element, which makes it particularly valuable in building up a sentence, a sentence nearly always contains a verb'.

[14] These methods are known as true-online methods such as EEG- electroencephalography, fMRI- Functional Magnetic Resonance Imaging, PET- Positron Emission Tomography, and ERP- Event-Related brain Potentials, etc. that are highly automatized and measure the unconscious mental and neural processes. More details are presented in Gajjam et.al (2018).

[15] Gajjam have given a detailed account of the several experiments conducted on different languages, with different the orthographic system, writing principles, morphological systems, etc.

In the current paper, we present the details of pen-paper experimentation, both web-based and classroom-controlled. This research comes under the purview of psycholinguistics because readers' behaviour with respect to the processing of different types of sentences is the topic of exploration.

1.5. Sociolinguistics and Sentence Comprehension: A Brief Introduction

The study of sociolinguistics, viz., the study of the effect of social aspects such as age, gender, education, ethnicity, religion, occupation, social status, etc. on language use has started in the first half of the nineteenth century. Gender-wise study of language use has started with the famous essay written by Robin Lackoff[16] that mentions ten features that are exclusively found in women's speech and theories related to it (Karlsson, 2007).

This field of research was chiefly dedicated to the use of language, although, modern scholars have started studying the effect of sociolinguistic variables on language comprehension as well. The results have shown that women are better readers (Wei, 2009), better speakers (Karlsson, 2007), and better comprehenders than men (Kansaku, Yamaura, & Kitazawa, 2000; Keshavarz & Ashtarian, 2008). However, Nemati et.al (2007) showed no significant difference between males and females. The age and the linguistic exposure of the participants almost always work hand in hand, at least when the native language is considered. More the age, more linguistic exposure! Linguistic exposure in terms of daily usage has also been considered as one of the variables. Non-native speakers of Marathi, who acquired the Marathi language after the age of six years as a medium of instruction in their respective schools are also included. This variable is leveraged while analyzing the data to perform a comparative analysis of comprehension among native and non-native speakers.

1.6. A Brief Note on the Marathi Language: With Reference to Experiments

Marathi (pronounced as *Marāṭhī*) belongs to the south-west branch of New Indo-Aryan languages. Indo-Aryan is a sub-branch of the Indo-Iranian branch of the Indo-European language family.[17] It is spoken in the Maharashtra state of India. With around 100 million speakers, it is one of the of the major languages of India. It is written using the Devanagari (*Devanāgarī*) script. The reason behind using Marathi for the experiment is to test the sentence-processing among native speakers as stated already.[18]

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[16] Lackoff's book '*Language and Women's Place*' has given rise to the systematic study of gender roles in language usage.

[17] [Quote:] "Marathi is a modern cultivated language with standardization, conscious vocabulary enrichment, widespread school & college education, print and audiovisual mass-media, urban theatre, sociopolitical movements… and public administration." (Taken from the introduction of the book (Kelkar, 1997))

[18] It can be argued that when Bhartrihari enumerated the sentence-definitions, Sanskrit *might* have been *lingua franca* and the definitions might have taken shape based on the language that was spoken. (However, we do not intend to claim that Sanskrit *was* spoken by the majority of the population even at that time.) Hence, while studying this definition, we were motivated to take the native language of the readers as the stimuli, which has remained unexplored in earlier Sanskrit experiments by modern researchers owing to the restriction posed by the lack of native speakers of Sanskrit.

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The instances of single-verb sentences are abundantly found in the daily conversations of Marathi speakers. Similarly, many examples of nominal sentences are also seen in the informal conversations, newspaper headlines, exclamations, affirmative questions, titles of the books, proverbs, and idioms, etc.[19] Cognitively speaking, these sentences are definitely comprehensible. The very fact that the speaker uses these types of sentences and the listener replies to the speakers' message verifies this fact. Consider the following conversation from the Marathi novel 'Shala'[20] ('School') by writer Milind Bokil:

> "What are you up to?" I asked Chitre…
> "Experiment."
> "What about?"
> "Arre, I'm trying to create a torch that works both ways."
> "Both ways?"
> "Yes. It'll light up on this side when I push the button that way and then on that side when I push it this way," explained Chitre.
> It was beyond me…

Here, a competent reader understands the meaning of each sentence without much effort. This is taken as an example of nominal sentences to demonstrate the successful comprehension.

1.7. How Is This Study Different From Earlier Studies?

This study is one among a series of many studies on the cognitive investigation of sentence definitions. The earlier studies on Marathi are conducted on the literary language. The primary difference between literary and colloquial language is that colloquial language is not used in the literature of the language. The distinctive vocabulary makes it difficult to read and understand as annotated by some of our participants. It leads to difficulty in understanding the sentence. A few types of such distinct words found in colloquial language data used in our experiments are as follows:

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[19] A few examples of nominal sentences in Marathi are as follows: In (1) newspaper headlines ('*chīnacā pardāphāśa*'- China Busted), (2) in exclamations ('*śābbāsa!*'- used to express appreciation, '*che!*'- used to express disapproval), (3) in affirmative questions ('*ho ki nahi*'- Isn't it?), (4) as titles of the books ('*tī phularāṇī*', '*kuṇā ekācī bhramaṇagāthā*' etc.), (5) proverbs, and idioms ('*ati tethe mātī*'- too much of anything is bad), etc. In each example presented here, a verb is missing, making it a nominal sentence.
[These examples are taken from the links https://www.sumanasa.com/marathinews/, http://kaushiklele-learnmarathi.blogspot.com/2013/02/exclamations-in-marathi.html, https://www.goodreads.com/shelf/show/marathi, and https://marathi.popxo.com/2019/04/125-famous-marathi-proverbs-in-marathi/. All links are accessed on 13 July 2020, 10:00IST]
Similarly, single-verb sentences are used as a reply or as a question in conversations such as '*karate*' ([I will] do), '*yenār*?' ([Will you] come?) etc. These two examples are taken from the experiment mentioned in this manuscript.
[20] The story was later adapted and made into a national award-winning motion picture with the same name in 2012 directed by Mr. Sujay Dahake. The English translation taken here is by Vikrant Pande's 'Shala', Harper Perennial Publication, 2014 Edition, ISBN-10: 9353026679.

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Table 1: Distinctive vocabulary in Marathi colloquial texts

	Colloquial word	Formal Marathi equivalent word	Meaning
Little modification:	*sālet*	*śālet*	In school
	karatī	*karate*	[I will] do
	pan	*paṇ*	But
	sārakī	*sārakhī*	Always
	ragāt	*rakta*	Blood
Omission of a few letters:	*cā*	*cahā*	Tea
Addition of a few letters:	*doska-biska*	*doka-bika*	Head etc.
Borrowed words with change:	*ṭāyam*	-	Time
	miśīn	-	Machine
	hāpīs	-	Office
	mol	-	Mall

The current report addressed the effect of distinctive features of colloquial language on the processing of sentences. In what follows, we resume the details of the experimental research in the next sections. In Section 2, we present the hypothesis and research questions, followed by experimentation details in Section 3. Section 4 deals with the results, and analysis of the data in a detailed manner. We present some observations and discussion on the result obtained in Section 5. A few limitations regarding this research along with the future scope are given in Section 6. The paper is concluded in Section 7.

2. **Problem Statement and Research Questions**

We set our hypothesis as, "The majority of Marathi readers successfully comprehend single-verb sentences and nominal sentences in a conversational data of Marathi colloquial language."

Research Questions (RQ, henceforth):
(i)   Are the nominal sentences in Marathi comprehensible?
(ii)   If yes, do the nominal sentences pose a more cognitive load on the readers due to the lack of the verb?

The next topic we explore is single-verb sentence comprehension. Hence, the next RQs to be addressed are:
(iii)   Are the single-verb sentences comprehensible for the majority of the readers?
(iv)   Which among the three types of sentences: nominal sentences, single-verb sentences, and complete sentences- are easier to process or are processed more accurately?

To add a few more facets to the study, we carry out a sociolinguistic study to have a better perspective of the research:

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(v) Does the context of the conversation facilitate the process of comprehension?

(vi) How much do the reader-specific variables such as age, native language, and language exposure affect the comprehension accuracy?

(vii) How do some textual features such as difficulty level[21] and familiarity of the conversation affect comprehension?

(viii) Which among all these variables has the most effect on comprehension?

(ix) Finally, what is the effect of the Observer-Participant bias?

Rather than answering these questions one by one, we address them topic-wise in Section 4. The next section gives the details of the experiment that will set the background for the next section on data analysis.

3. **Experimentation Details**

Table 2: Experiment details

Experimentation Details	
Language	Marathi
Type of literature	- Conversations - Colloquial language - Two paragraphs each experiment
Type of dataset	- Continuous Text - Discontinuous Text
Mode of conduct	- Web-based - Classroom-controlled
Participants	- Total 95 readers - Both male and female - Different age groups - Native and non-native speakers
Methodology	- Semi-supervised - Unsupervised
Measures to evaluate the data	- Accuracy of the answers - Demographical data of the readers - Statistical significance tests

Dataset Description

A total of four paragraphs from modern Marathi literature published online[22] were manually chosen, selected and then finalised by a team of two expert linguists, one among them being a native speaker of Marathi. These four paragraphs are divided into two data sets for the

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[21] It is suggested that the textual features such as difficulty and familiarity of the text have either a facilitating or inhibiting effect on reading comprehension (Wei, 2009).

[22] Marathi paragraphs are chosen from several blogs published on the website www.misalpav.com. (The link was accessed in July 2019.)

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experimentation purpose. In the first data set, a single story is divided into two different paragraphs. The second data set contains two different stories in two different paragraphs. The first data set is used in Exp1 (continuous text) and the second data set is used in Exp2 (discontinuous text). The purpose of two different types of data sets is to test whether the textual features such as continuity in the paragraphs affects the accuracy of the comprehension of the sentence. All paragraphs are taken from the modern Marathi literature depicting the colloquial Marathi used by people in the daily conversations, more prominently by the people from villages or lower societal strata. Each paragraph was presented in Devanagari script and did not exceed 25 sentences[23] and consisted of at least one instance of the three types of sentences viz. single-verb sentence, nominal sentence and the complete sentence (Figure 1)[24] as follows:

(S1) '*maśin kāy dombal kāmācī*!' (What a useless machine this [is]!)- A nominal sentence.
(S2) '*yetīs*?' (Will [you] come?)- A single-verb sentence
(S3) '*ābānnīc āṇalyāt salaLī pustaka*' (*Aba* [father] has brought all these books.)- A complete sentence.

Paragraphs are followed by three questions related to these three sentences the correct answers to which ensures the successful comprehension of respective sentences. Readers are also asked to annotate the difficulty level and the familiarity of the paragraph.

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[23] The sample size is small to avoid boredom, fatigue and to ensure readers' interest and attention throughout the task.

[24] The sentences in a box in Figure 1: Sample paragraph from Marathi web-based experiment are taken as examples of different types of sentences: Sentence 1: '*karatī*' ('[I will] do') as a single-verb sentence, Sentences 2: '*kisanacā cā kapāt vatalā*' ('[She] poured the tea in a cup for Kisan'), and Sentences 3 and 4: '*koṇ inspecṭar*' ('Who/ which inspector [do you mean]?') and '*raktācī tahān*' ('a thirst for blood [is the name of this novel I am reading]')') Here, we present the loose English translation of the sentences and also provided omitted word in brackets to present the complete context.

Figure 1: Sample paragraph from Marathi web-based experiment

Participant Description

A total of 67 readers, both male and female readers from all over India, participated in a web-based experiment. All of them were neurologically healthy adult readers. A few of them were native speakers of Marathi while the remaining readers had Telugu, Kannada, and Hindi as their mother tongues. Almost all readers have daily exposure to the spoken and written Marathi. In a classroom-controlled experiment, a set of 28 readers, female readers, participated in both experiments. All of them were teenagers belonging to the age group of 15 to 22 years. They are neurologically healthy, college-going students in Maharashtra. Almost all of them are native speakers of Marathi and acquired the language at an early age. Thus, a total of 95 participants[25] participated in the task.

Each participant was asked to give his/her consent before participating in the experiment.[26] They were informed about the experimentation details, annotation input method, and the need for attentive reading before the experiment begins. Two sample paragraphs were given as a pre-test to have them acquainted with the experimentation process. The experiments

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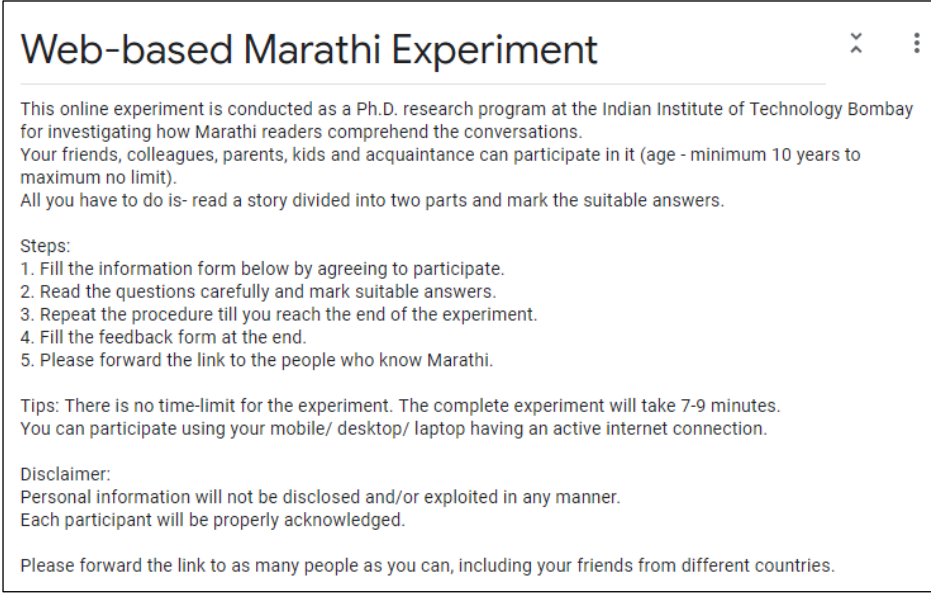
[25] In a psycholinguistic experiment, the sample size of 30 participants is conventionally considered valid for analysing the data statistically. Too few or too many participants are said to disrupt the results leading to non-conclusive findings. We have a set of 35-32 (67 in a web-based experiment), and 28-28 (in a classroom-controlled experiment) participants in each experiment which makes it valid for consideration of a statistical significance test.

[26] In a consent form, we have mentioned the details about the purpose of the experiment and its use for purely academic purposes, assurance of no breaching of their personal data, etc. We also ensured them of no potential loss, either on medical grounds or other health or mental hazards, in participating in the experiment. Rather, participants have given positive feedback that the experiment/s will help them in their state-level final examinations.

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were conducted during their regular timings of instructions at the college so that they were not needed to invest extra personal time which makes it more authentic in terms of capturing their attention during the task. Each participant has participated voluntarily and was acknowledged and rewarded for the time and effort after the experiment.

Methodology

The web-based experiment was conducted by creating a Google form mentioning the information about the experiment (Figure 2), followed by the consent form. The participants were allowed to proceed only when they consent to participate in the experiment (Figure 3). The task consists of two paragraphs, which are presented one after another so that participants cannot view the second paragraph while they are viewing the first paragraph however they can come back to the first one once they reach the second paragraph if they wish so. Each paragraph is followed by the questions and multiple-choice options as answers. The task concludes with the feedback form and the acknowledgement receipt.

Figure 2: Web-based Marathi Experiment: Screenshot

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Figure 3: Consent asked to the readers before participating in the experiment

Participants across India have participated in the web-based experiment. Since there is no intrusion of the investigator during the experimentation, this method is considered an 'unsupervised experiment' in which readers' reading behaviour was not recorded. On the contrary, the classroom-controlled experiment was a semi-supervised experiment as the investigator can observe the participants performing the task- their speed of reading, their navigation through the paragraphs, etc. Several Marathi speakers from Maharashtra have participated in the classroom-controlled experiment. Since both experiments followed the self-paced reading method, no time limit was set. The average time taken to finish the task in a web-based experiment was around seven minutes as against the classroom-controlled experiment in which readers have taken almost 15 minutes on average to finish the task.

4. **Results and Analysis**

Originally, a total of 36 readers have participated in two web-based experiments (Exp1 and Exp2). Among them, one reader in Exp1 and four readers in Exp2 have scored less than 50% accuracy and hence were removed from the process of data analysis. Similarly, among 32 readers who have participated in a classroom-controlled experiment, we eliminated four readers.[27] Hence, we have data of a total of 35 readers (Exp1- web-based), 32 readers (Exp2-web-based) and 28 readers (Exp1 and Exp2- classroom-controlled) to be considered henceforth.

Table 3: Participant Description

Participant Description		
	Online Exp.	**Classroom-controlled Exp.**
Sample Size	Total 67	Total 56
Distribution of sample	35 (Exp 1) + 32 (Exp 2)	28 (Exp 1) + 28 (Exp 2)
Age-group	Adults	Teenagers
Gender	Both male and female	Almost all female
First Language	Both native and non-native	Almost all native

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[27] We have removed P23 in Exp1 and P8, P9, P10, and P25 in Exp2 of an online experiment since they have marked 50% or less accuracy. Similarly, four readers- P13, P18, P19, and P30 have been eliminated from the classroom-controlled experiment for the same reason.

4.1. Overall Comprehension of Marathi Colloquial Conversations

A total of 67 readers among a total of 72 readers that have participated in a web-based experiment and 28 readers among 32 readers who participated in a classroom-controlled experiment have scored more than 50% accuracy in comprehending colloquial Marathi texts. In a low-load task, usually, 67% of accuracy is taken as a standard measure, however, we resort to 50% accuracy since the colloquial language is annotated as 'difficult to read and comprehend' making it a comparatively high-load task.

It is observed that almost 93% and 87% of the total population have successfully comprehended the paragraphs in a web-based and a classroom-controlled experiment respectively (Table 5). For the remaining population, we could not find any possible reason for their unsuccessful attempt at comprehension that can be confirmed. No consistent variable is found behind their failure in comprehending the texts. Four teenagers, Marathi native speakers, and female participants in a classroom-controlled experiment that have daily exposure to Marathi have scored the least accuracy. Similarly, among five readers in a web-based experiment that have scored the least accuracy, three female readers are Telugu native speakers and have rare exposure to Marathi. The remaining two male readers are Marathi native speakers that belong to age 31 and 25 years and have daily exposure to Marathi. It appears that these readers have performed careless inattentive reading which led to the incorrect marking of the answers. They are removed from the data analysis procedure.

Table 4: Analysis1: Population-wise Comprehension

Population-wise Comprehension		
	Web-based Exp.	*Classroom-controlled Exp.*
Out of total Pop.	93%	87%

To summarize, our hypothesis is proven that the majority of Marathi readers comprehend colloquial conversations successfully.

4.2. Comprehension of all SV, NS, and CS in all experiments:

First, we address the research questions RQ (i) and RQ (iii) presented earlier. We take all three types of sentences comprehended by all readers in both types of experiments separately. We found that 92% of the complete sentences are comprehended successfully. It is followed by single-verb sentences and then by nominal sentences. 90% of total single-verb sentences and 82% of nominal sentences were understood by the readers. It is found that all three types of sentences are definitely successful which proves the hypothesis however they differ in the degree of comprehension.

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Now we study the difference in the degree of comprehension by taking all sentences together (Table 5) to address RQ (ii). We found that complete sentences are easier to process than nominal sentences (*p*-value is significant 0.00). The logical explanation behind this can be stated as the reader does not have to assume any omitted verb in the case of complete sentences, it is easier for him/her to process the complete sentence in a more effortless manner than the nominal sentences where the omitted verb has to be provided by the reader with reference to the context to have a complete cognitive experience of the sentence.

Table 5: T-test Results for all three types of sentences

T-test Analysis for all three types of sentences		
	M_D	*p-value*
NS vs. CS	-0.11	**0.00**
NS vs. SV	-0.09	**0.002**
SV vs. CS	-0.02	0.22

However, such difference is not found with respect to the single-verb sentence viz. both SV and CS are processed in a similar manner (insignificant difference of 0.22). Here, even though a reader has to provide the omitted words in the case of SV, it appears that s/he has managed to extract most of the meaning based on the single- verb that is attested on the surface level of the language. This establishes the fact that the verb is the most important element in sentence semantics.

When we compare the data of SV and NS, we found that it is the SV that is processed more accurately than NS (Mean-difference is -0.09) with a significant difference among both types of sentences (i.e., 0.002). The sentence without a verb requires more mental effort on the reader's part due to which it is difficult for them to process nominal sentences as easily as SV and CS. Thus, we have addressed two research questions here viz. whether the NS pose more mental fatigue as compared to other sentences [RQ (ii)] and also which among the three types of sentences are easier to process [RQ (iv)]. It is found that the CS is comprehended more accurately, followed by SV sentence, and then by NS. Despite the difference, the successful comprehension by the majority of Marathi speakers is unanimous in all three types of sentences.

4.3. Comprehension in a Web-based vs. Classroom-controlled Experiments

As seen in analysis 4.1, almost 93% and 87% of the total population have successfully comprehended the paragraphs in a web-based and a classroom-controlled experiment respectively. It seems that more readers in a web-based experiment comprehended texts accurately than those in a classroom-controlled experiment. The difference between these two types of experiments is significant (Table 6) that is, 0.00.

Table 6: T-test Results for two types of experiments

T-test Analysis for two types of experiments		
	M_D	*p-value*
Web-based vs. Classroom Exp.	0.42	**0.00**

If we check percentage-wise accuracy (Table 7), it is found that more questions from the web-based experiment are answered with 100% accuracy as compared to classroom-controlled experiments. In the classroom-controlled experiment, most of the questions obtained 33-67% accuracy than in a web-based experiment. A number of questions that have a minimum accuracy, that is, 33% are more in a classroom-controlled environment (Figure 4).

Table 7: Percentage-wise accuracy and number of total correct answers in two types of experiments

Percentage-wise accuracy and number of correct answers in two types of experiments		
	Web-based	**Classroom-controlled**
100%	115	80
67%	24	27
33%	4	17
0%	1	4
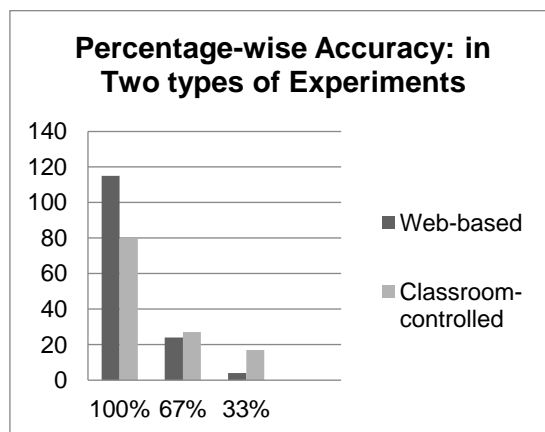
Figure 4: Percentage wise accuracy and number of correct answers in two types of experiments

If we compare the comprehension of NS, SV, and CS in two types of experiments, we find that NS in web-based experiments required more processing as compared to SV and CS since the difference in their comprehension is significant as shown in

Table 8. No such difference can be seen in a classroom-controlled experiment viz. all sentences are processed in a similar manner.

Table 8: T-test Analysis for all types of sentences in two types of experiments

T-test Analysis for all types of sentences in two types of experiments				
	Web-based		**Classroom- controlled**	
	M_D	**p-value**	M_D	**p-value**

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NS vs. CS	-0.13	**0**	-0.08	0.06
NS vs. SV	-0.14	**0**	-0.03	0.27
SV vs. CS	0.01	0.16	-0.05	0.16

To account for the difference between the two types of experiments in terms of processing three types of sentences, we compare NS, SV, and CS in both experiments (

Table 9). A significant difference is seen for all three types of sentences, that is, these sentences are processed more easily in a web-based experiment than in a classroom-controlled experiment.

Table 9: T-test Analysis for a comparison of NS, SV and CS

T-test Analysis for a comparison of NS, SV and CS		
Web-based vs. Classroom-controlled Exp.		
	M_D	*p-value*
NS	0.08	**0.04**
SV	0.2	**0**
CS	0.14	**0**

Additionally, to account for this difference in two types of experiments, viz. to address one of our research questions [RQ (ix)] we consider a few independent variables that might have affected the data. One possible reason behind this type of difference might lie in the age group difference among the readers who participated in both experiments. Readers in a web-based experiment are adults while readers in the classroom-controlled experiment are teenagers. Another possible reason might have been the gender of the readers as in a classroom-controlled experiment all were female readers. Another possible reason might be the observer-participant bias in which readers' behavior gets affected by the presence of the investigator which leads to inconsistent results as compared to the experiments where the investigator is not physically present. We discuss more on this difference in the section where we explain the effect of sociolinguistic variables on comprehension and answer the RQ (ix) in that section.

4.4. Comprehension of Continuous and Discontinuous Paragraphs

In a web-based experiment, there is not much difference in the Exp1 which has continuous paragraphs (

Table 10) as the comprehension accuracy is a minimum of 94% and a maximum of 100%. On the contrary, in Exp2 which contains discontinuous paragraphs, we observe a remarkable difference for both paragraphs. Even though the maximum accuracy is 100% for both paragraphs, the minimum accuracy ranges from 69% to 81% stating a notable difference in the comprehension of NS. This difference is justified by the statistical significance test (Table 11) where we get a significant *p*-value, that is, 0.005 and 0 for Para1 and Para2 respectively. We argue that NS in a discontinuous text requires more mental effort as compared to both SV and CS. However, this difference cannot be seen when we present the text in continuation with earlier text which leads to the easier processing of NS since the context is presented.

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Table 10: Comprehension Accuracy of NS, SV and CS in both paragraphs in both experiments

	Web-based Exp.				Classroom-controlled Exp			
	Exp1: Continuous Text		Exp2: Discontinuous Text		Exp1: Continuous Text		Exp2: Discontinuous Text	
	Para 1	*Para 2*	*Para 1*	*Para 2*	*Para 1*	*Para 2*	*Para 1*	*Para 2*
NS	94%	97%	81%	69%	93%	79%	54%	79%
SV	100%	100%	100%	100%	93%	75%	71%	82%
CS	100%	97%	100%	100%	82%	82%	96%	86%

Table 11: T-test results: Difference between comprehension of NS vs. SV vs. CS in a Web-based Experiment

	Exp1: Continuous Text				Exp2: Discontinuous Text			
	Para 1		*Para 2*		*Para 1*		*Para 2*	
	M_D	*p*	M_D	*p*	M_D	*p*	M_D	*p*
NS vs. SV	-0.06	0.08	0.03	0.16	-0.19	**0.005**	-0.31	**0**
NS vs. CS	-0.06	0.08	0	0.5	0.58	0.23	-0.31	**0**
SV vs. CS	0	-	0	0.16	0	-	-0.94	0.6

Now, the question that whether the same results can be found in a classroom-controlled environment too will be addressed. Referring to

Table 10, no type of sentence has 100% accuracy in either Exp1 or Exp2 in a classroom-controlled setting. The accuracy ranges from 75% to 93% for continuous text which is not remarkable as the *p*-value is insignificant (

Table 10). Nevertheless, the difference is significant for Para 1 in discontinuous text, that is, accuracy is 54%, 71%, and 96% for NS, SV, and CS respectively, the *p*-value for which is 0.08, 0, and 0 respectively (Table 12). In other words, CSs are processed in an undemanding manner than both NS and SV. However, there is no difference between NS and SV comprehension stating similar processing of them.

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Table 12: T-test results: Difference between comprehension of NS vs. SV vs. CS in Classroom-controlled Experiment

	Exp1: Continuous Text				Exp2: Discontinuous Text			
	Para 1		*Para 2*		*Para 1*		*Para 2*	
	M_D	**P**	M_D	**P**	M_D	**P**	M_D	**P**
NS vs. SV	0	0.5	0	0.37	-0.2	0.08	0	0.36
NS vs. CS	0.1	0.08	0	0.36	-0.4	**0**	-0.1	0.23
SV vs. CS	0.1	0.08	-0.1	0.25	-0.3	**0**	0	0.35

To conclude, we address one of the research questions [RQ (v)] here: while the continuous text is processed easily in both web-based and classroom-controlled experiments, we can see a remarkable difference in NS processing in the discontinuous text in both types of experiments. Processing of discontinuous text which requires a reader to shift his/her attention became more difficult when NS is presented since NS itself needs more attention which makes it a high-load task to perform.

4.5. Comprehension based on sociolinguistic factors:

We have considered some sociolinguistic variables to answer the research question RQ (vi) to study the effect of readers' age, gender, and first language on the comprehension of three types of sentences (Table 13) in a web-based experiment. It is found that readers belonging to the age group of more than 30 years process NS more accurately than the readers below the age of 30 years (*p*-value is 0.03), especially in the discontinuous text. Similarly, they also exceed in the overall comprehension of all three types of sentences (*p*-value is 0.03 for both variables, that is, overall comprehension and NS comprehension).

Gender-based analysis suggests that male readers comprehend the NS in the continuous text better than female readers (a significant difference of 0.04). There is no such difference in the comprehension of all three types of sentences in a discontinuous text, viz. all sentences are processed in a similar manner by male readers. On the contrary, female readers do not show any difference in the comprehension of all types of sentences.

Based on the readers' native language, it is found that native speakers of Marathi have exceeded in overall comprehension of all three types of sentences in both experiments, continuous and discontinuous (*p*-value is 0.05 and 0.01 respectively) and also in processing the NS in both experiment (*p*-value is 0.04 and 0.01 respectively) than the non-native speakers. The early exposure to the language and the daily usage of the language might have a facilitating effect for the native speakers of Marathi while reading the colloquial Marathi texts.

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Table 13: Sociolinguistic variables and Comprehension of NS, SV and CS: Web-based Experiment

	Age <30 vs. >30				Gender Male vs. Female				First Language Native vs. Non-native			
	Exp1		Exp2		Exp1		Exp2		Exp1		Exp2	
	M_D	P	M_D	P	M_D	P	M_D	P	M_D	P	M_D	P
Overall	0.08	0.1	0.24	**0.03**	0.04	0.22	0.04	0.37	0.23	**0.05**	0.41	**0.01**
NS	0.05	0.2	0.24	**0.03**	0.08	**0.04**	0.04	0.37	0.25	**0.04**	0.41	**0.01**
SV	0	-	0	-	0	-	0	-	0	-	0	-
CS	0.04	0.16	0	-	-0	0.16	0	-	-0	0.16	0	-

In a classroom-controlled experiment, all are female readers who are native speakers of Marathi. Only readers' age is considered to analyse the data from a sociolinguistic point of view (Table 14). We found that readers above the age of 18 years show differences in the comprehension of NS, SV, and CS in both types of texts. They also exceed the overall comprehension of all three types of sentences.

Table 14: Sociolinguistic variables and Comprehension of NS, SV and CS: Classroom-controlled Experiment

	Age 15 to 17 vs. 18 to 22			
	Exp1		Exp2	
	M_D	P	M_D	P
Overall	-0.48	**0**	-0.26	0.12
NS	-0.5	0.28	-0.26	**0.02**
SV	-0.23	**0**	-0.11	0.16
CS	-0.19	**0.02**	0.11	**0.04**

To conclude, continuity in the text facilitates the easier processing of nominal sentences and single-verb sentences. Against this, the discontinuity in the text not only requires more mental effort it also affects the accuracy of the comprehension of NS and SV sentences. Comprehension accuracy comes with age since readers above age 30 have comprehended NS in a better manner in a web-based experiment and readers above age 18 years have comprehended NS in a better manner. Similarly, male readers and native speakers of Marathi process NS in a better manner compared to female readers and non-native speakers respectively.

4.6. Comprehension Based on Textual Features

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(a) The Difficulty Level of the Paragraphs

The majority of the participants in a classroom-controlled experiment have annotated the paragraphs as the most difficult except for two participants who have marked them as medium difficult ones. The participants that have found the texts difficult have scored around 66% accuracy in the experiment (Table 15). On the contrary, the majority of readers have annotated paragraphs as easy ones and have scored 100% accuracy.

Table 15: Textual features and Accuracy: Effect of difficulty level

Web-based Exp.	Classroom-controlled Exp.
Easy	*Most difficult*
100% accuracy	66% accuracy

Generally speaking, it can be straightforwardly concluded that the difference in accuracy in both experiments is due to the difficulty level as marked by the readers since participants in web-based experiments found paragraphs easy to process while participants in a classroom-controlled experiment found the texts difficult. However, we cannot neglect the fact that in the former experiment, all participants are adults, that is, belong to the higher age group as compared to participants in a classroom-controlled experiment, where all participants are just 15-22 years old. The difference in their accuracy in comprehension might betide due to the age gap which leads to the comparatively less amount of exposure to the language that teenage readers might have encountered. To account for the difference in accuracy between them, we have checked the instances where adult participants have marked the paragraphs as difficult and whether we can find the least accuracy in their comprehension. We found five such cases (P4, P7, P11, 20, and P24). These readers found the texts difficult and have scored 66% accuracy. Similarly, teenagers who have marked texts as medium-difficult (P6, P10, and P19) have scored 100% accuracy for those paragraphs. All these readers are native speakers of Marathi. This confirms that *age, language exposure, and the native language of the readers do not play part in the comprehension of colloquial Marathi language when the texts are difficult*. If the reader finds the text difficult, his comprehension gets affected and we find the least accuracy for respective texts regardless of their varied demographic data. Thus, here we address the research question [RQ (vii)] about the effect of textual difficulty.

(b) Familiarity with the Paragraphs

Readers were asked to annotate the text whether they are familiar with it or not. Usually, familiar texts are processed faster and with more accuracy. In our experiments, readers have unanimously marked the unfamiliarity with the texts in both experiments. Hence, we cannot analyze the data by taking familiarity as one of the textual variables. The same experiment with the same texts if conducted on a control group one who were already given these paragraphs for reading and on a control group two who was given these texts for the first time may shed some light on the effect of the familiarity in the process and accuracy of the comprehension. We consider this as future research.

(c) Difficulty Concerning Reading and Understanding as Annotated by Readers

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The colloquial language is heard during daily communication and often in the movies by people more often than it is being read. We asked readers to mark the paragraphs concerning the reading and understanding difficulty such as:

(1) Easy to read and easy to understand (Easy-easy);
(2) Easy to read but difficult to understand (Easy-difficult);
(3) Difficult to read but easy to understand (Difficult-easy); and
(4) Difficult to read and difficult to understand (Difficult-difficult).

Table 16: Annotation by readers with respect to reading and understanding difficult of the texts in both experiments

Distribution of readers as per their Annotation about difficulty		
	Web-based Experiment	*Classroom-controlled Experiment*
(1) Easy- easy	30	15
(2) Easy- difficult	2	8
(3) Difficult- easy	4	5
(4) Difficult- difficult	0	0

The majority of the readers in both experiments have found the texts easy to read and easy to understand (

Table 16). A total of 10 readers found the texts easy to understand but difficult to read. It is crucial for us to check the accuracy of the readers who found the text difficult to understand if the comprehension is considered. Among a total of 10 such readers, five readers have scored 100% accuracy, and the remaining five readers have scored 66% accuracy or less. One reader (P 12 in a classroom-controlled experiment) who has scored less than 66% accuracy is a 16 years old female reader having Kannada (*Kannaḍa*) as her native language. She can be considered an outlier. Among the remaining nine readers, the least accuracy can be seen in a discontinuous text and not in a continuous text.

(d) Effect of Linguistic Exposure in terms of Regularity in Language Usage

Readers were asked to annotate whether they have daily/weekly/rare exposure to reading Marathi texts. Three readers who have rare exposure have scored the least accuracy, that is, less than 66% of accuracy in a classroom-controlled experiment. They are P11, P12, and P23. All of them are female teenager readers. While P12 is a Kannada speaker, the other two readers are Marathi native speakers. Similarly, three readers in a web-based experiment have annotated that they have weekly exposure to reading Marathi texts (P6, P16, and P27) although it is observed that all of them have 100% accuracy in comprehending all paragraphs. In other words, readers in the classroom-controlled experiment who have rare exposure have the least accuracy while readers in a web-based experiment

who have rare exposure do not have the least accuracy. It can be concluded that exposure to the language in terms of daily/ rarely reading Marathi texts does not affect comprehension accuracy.

Considering inter-variable features, we conclude that the difficulty of the Marathi colloquial language has an inhibiting effect on the comprehension among the Marathi readers, irrespective of their age, linguistic exposure in terms of years and language usage, and the native language. Thus, we address research question RQ (viii) above about the interplay between the variables.

4.7. Error Analysis

The basic discrepancy in the experiment design is the uneven distribution of the sample in two sets of experiments concerning age, gender, and native language. Since the readers in web-based experiments differ from the readers in a classroom-controlled experiment in terms of their demographic details, we cannot study the effect of the type of the experiment on the readers' comprehension viz. how the presence of the investigator in the classroom-controlled environment poses the Investigator-Participant bias and thus affects the readers' behavior, etc. A more refined and methodical investigation in the future will help us in deriving a precise conclusion only when the demographic details of the participants are kept constant and uniform.

Secondly, a total of 13 readers who took part in the experiment have been eliminated from the analysis procedure since they acquired less than 50% accuracy as stated earlier. Among them, three readers are male and seven are female readers belonging to the age minimum of 16 to a maximum of 34 years, having Telugu, Kannada, and Marathi as their native language. More than 50% of these readers have scored 0%, the reason for which is not apparent. Hence, we assumed that they might have performed inattentive reading and haphazard marking of the answers and decided to eliminate them from the data analysis procedure to avoid the skewing of the results. The remaining three readers have left a few answers unmarked (i.e., blank) in a classroom-controlled experiment, hence they were also removed from the overall data analysis.

Thirdly, even though in a web-based experiment, Marathi readers from across India have participated, in a classroom-controlled experiment, Marathi readers only from two cities in Maharashtra state have taken part. A few more tests on a different set of readers belonging to different regions in Maharashtra and India might give us some interesting results in the future.

Fourthly, to maintain readers' attention throughout the task, we only presented four paragraphs to each reader. It will be more insightful if varied texts are taken as a data set to study the nuances in colloquial language processing.

5. Some Observations and Discussion

The contrastive analysis of Marathi colloquial data with that of literary data (Gajjam and Kulkarni, 2020b) suggests that single-verb sentences in Marathi literary conversational data demand more mental exercise, especially for the people having the least linguistic exposure irrespective of their

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age and first language. Daily exposure to the written Marathi texts has a facilitating effect on the comprehension of single-verbs (Gajjam and Kulkarni, 2020a). Coming to the nominal sentence, it is found that age and gender do not play any role in understanding NS. Additionally, NS are processed in a similar manner as SV sentences. This result differs from the colloquial data set. In Marathi colloquial texts, NS poses more mental load than SV and CS, more specifically if the text is discontinuous and if the readers found it difficult to comprehend irrespective of their age, gender, and linguistic exposure. The comprehension of colloquial texts might also differ when it is heard than when it is read. Hence, more experiments on spoken language comprehension will help derive a firm conclusion.

Similarly, the ancient Sanskrit grammarians such as Patajañli and Bhartṛhari in their respective works (i.e., in *Paspaśāhnika* of '*Mahābhāṣya'* and in *Brahmakāṇḍa* chapter of '*Vākyapadīya'* respectively) have discussed the concepts of the *sādhu* and *asādhu* words, that is, grammatically correct and incorrect words. Resorting on this discussion, the current research can be extended concerning colloquial language comprehension in other modern Indo-European languages.

6. **Limitations and Future Scope**

Limitations: Both web-based and classroom-controlled experiments are offline methods. They measure comprehension after readers have performed the task. Since we do not have access to the mental processes happening in readers' minds while they process the given sentence, we cannot go deeper into the real-time comprehension analysis. Similarly, the reaction time taken by the readers in marking the answers were not considered in both experiments. Offline methods, thus, rely completely on readers' honesty in marking the answers. Participants were asked to perform the attentive reading. Although there are many ways an investigator can retain participants' attention such as adding fillers, giving a small break in between many trials, and talking to the readers to relieve their tension etc., we did not use any of these since the sample size is small, that is, four paragraphs per experiment. We ensure readers' attention only by the means of the accuracy of the answers marked by them.

Future Scope: If extended, this research can be further replicated in other Indo-Aryan languages, using different kinds of texts and a different set of readers. It will provide more insights into the comprehension of nominal sentences which would answer the question of whether the provision of the copula is a language-specific feature of Marathi or is it a common human effort to try to have a complete cognitive experience. Similar experiments can be conducted on spoken language comprehension using recorded audio by using measures such as accuracy in response and recall, reaction time taken to respond, etc. A significant amount of such data will help us in modelling the language tools which would help in various Natural Language Processing applications such as WSD (Word Sense Disambiguation), WordNet, Shabda-mitra and Yogyatā tools,[28] and in several

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[28] WordNet is a kind of dictionary that provides meanings of the words along with several other relations such as synonymy, metonymy etc. A few WordNets are found at: http://www.cfilt.iitb.ac.in/wordnet/webmwn/ (Marathi),

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other computer-aided tasks such as parsing, Complex Word Identification, sentiment analysis, sarcasm detection and also in other machine learning applications. In the field of pedagogical studies, such data on human comprehension will be useful in creating some comprehension models, especially for people having reading disabilities due to several reasons. In the field of Sanskrit linguistics, one can explore several other sentence definitions given by different scholars belonging to different schools and understand the theories of verbal cognition in an explorative manner.

7. **Conclusion**

The conclusion of this research is provided as brief answers to the research questions. Based on the subjective reports of 95 Marathi native and non-native readers obtained from web-based and classroom-controlled experiments, it is concluded that:

(i) (SV= S)

The single-verb in Marathi colloquial conversations conveys the complete idea, hence it can be regarded as a complete sentence itself.

(ii) (CS > SV > NS)

The complete sentences are processed more successfully than the single-verbs and nominal sentences in which some words are omitted on the surface level. Single-verb sentences are comprehended more easily than nominal sentences due to the lack of a verb in the latter. In other words, a verb facilitates the cognition of any sentence.

(iii) If the context is presented, texts become easier to process. Hence, paragraphs in the continuation are comprehended more successfully than those which are in discontinuation with each other, with a different context.

(iv) Some sociolinguistic variables affect the sentence cognition process. Readers in a higher age-group process the sentences more accurately than the readers of less age adhering to the fact that they have more exposure to the language.

(v) The difficulty level of the text has an inhibiting effect on the comprehension of Marathi colloquial texts irrespective of readers' age, gender, and linguistic exposure.

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Acknowledgments

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Awareness on Attention Deficit Hyperactivity Disorder and Learning Disability Among Teachers

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Introduction

Language disorder is impaired comprehension and/or use of spoken, written and/or other symbol systems (ASHA). The disorders that can occur are many and varied, affecting one or several components of the language and varying in the etiology, in the development and prognosis and in the specific educational needs that they generate.

Learning Disorders are diagnosed when the individual's achievement on individually administered standardized tests in reading, mathematics, or written expression is substantially below that expected for age, schooling, and level of intelligence' (Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV-TR, 2000) .Types of Learning disability (LD) are Dyscalculia - Mathematical disability, Dysgraphia - Writing disability, Dyslexia - reading disability, Non-Verbal Learning Disabilities - Comprehending nonverbal cues , Oral / Written Language Disorder and Specific Reading Comprehension Deficit- affect an individual's understanding of what they read or of spoken language. (Learning disability association of America).

Children with very low birth weight, preterm birth, neonatal complications are at greater risk for developing mathematics disorder along with other learning problems are also seen in these children (Taylor, Espy, Anderson 2009). History of language delay, confusing words that sound alike and family history of reading disability are cause for dyslexia (Shaywitz,1998) . Reading disability arises from deficits in phonological awareness (Démonet, Taylor, and Chaix 2004). The prevalence of learning disabilities has reported prevalence rate ranging from 3-10 per cent among students of India. 1.58 per cent of 12- to 18-year-old school students had specific learning disability. (Arun, Chavan, Bhargava,Sharma & Kaur 2013)

Children with extremely low birthweight without gross physical impairments are at higher risk for developing learning disabilities. They are also prone to have cognitive deficiencies. Hence these children at risk should be identified early and learning problems should be managed scientifically. Deficiencies in encoding processes, especially working memory, are found in children with learning disability.

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Attention-deficit hyperactivity disorder (ADHD) is a disorder with its onset in early childhood, and is characterized by symptoms of hyperactivity, inattention, and impulsivity that interfere with daily and occupational functioning (Diagnostic and Statistical Manual of Mental Disorders Fifth Edition). It is characterized by a persistent pattern that hinders functioning or development. The etiology of ADHD is unknown, although several Indian case studies suggested that genetic, prenatal and postnatal health, low APGAR score at birth, preterm birth, gender and exposure to certain toxins are involved in risk of developing ADHD among children. It is a brain-based biological disorder (Hockenberry and Wilson, 2018). ADHD prevalence in children is 11.32% and the highest prevalence of ADHD occur at age of 9 (at 26.4%) and 10 (at 25%) (Venkata & Panicker 2013).

The prevalence of ADHD among primary school children is 5.76% (3.8% among girls and 1.95% among boys) (Joshi & Angolkar 2021).A large number of students with ADHD also have comorbidity reading and language disabilities that exist in addition to the deficits directly associated with the ADHD (Westby & Watson (2004)). ADHD status was associated with very large magnitude impairments in central executive working memory that are present in most pediatric cases (75%-81% impaired), and these deficits co-varied with ADHD inattentive and hyperactive/impulsive symptom severity, significantly smaller, impairment in visual-spatial short-term memory (Kofler, Singh, Soto , Chan, Miller, Harmon , Spiegel 2020). Children with ADHD have poor academic performance and behavioral difficulty, also had problems with reading and writing. Because of behavior difficulties, ADHD frequently is associated with academic skill deficits.

Literature suggest markers to ADHD and developmental dyslexia in children starts as young as six months old, but they went unnoticed until they reached school age. Although LD and ADHD are lifelong conditions, many people are able to overcome their limits if teacher and others correctly identify them and then provide specialized teaching support so that students can learn compensatory skills. ADHD and LD frequently co-occur in so many children, often presenting with similar issues (e.g., poor school performance, inattention, impulsivity, and social-behavioral challenges and difficulties). Because of symptoms, learning disabilities and ADHD greatly hinder academic performance, interfere with daily tasks, and impact social skills.

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Children with LD and ADHD symptoms might be detected with the help of the teachers. Teachers with the appropriate knowledge, abilities, and competencies can support students with LD and ADHD, to possess particular skills in order to understand the many forms of LD and ADHD, the contributing causes, the establishment of instructional strategies, in addition to provide assistance and counselling. Teachers with the necessary training can be crucial in the early identification, manage their symptoms and provide appropriate treatment for students with ADHD and LD at school. The present study focuses on the awareness of government and private school towards ADHD and LD in Tamil Nadu and compare the different sector of schools.

Review of Literature
<u>STUDIES ON ATTENTION DEFICIT HYPERACTIVITY DISORDER</u>

Perold, Louw & Kleynhans (2010) investigated Primary school teachers' knowledge and misperceptions of attention deficit hyperactivity disorder (ADHD) and results indicates Teachers' overall percentage score of 42.6%, indicating knowledge, 35.4% indicating a lack of knowledge, and 22% for poor knowledge on ADHD and also lack of misperceptions about the long-term outcome of ADHD.

Shetty & Rai (2014) investigated the awareness and knowledge of ADHD among primary school teachers in India and results indicated that teachers had an inadequate knowledge about ADHD and teaching experience and prior training had a positive bearing on knowledge. The study concludes that majority of teachers were willing to be trained about ADHD.

Srignanasoundari, Vijayalakshmi, & Kokilavani (2016) evaluated the knowledge on ADHD among primary school teachers at selected schools of Kancheepuram district and result indicate, 60% teachers were in poor and fair knowledge and only 40% of teachers had good knowledge of ADHD.

Shroff, Sawant, & Prabhudesai (2017) investigated the knowledge and misconception of ADHD among schoolteachers in Mumbai, India. The results indicated lack of knowledge with only 49% correct responses and scoring highest on the knowledge of ADHD symptoms.

Parimala & Timple (2019) Assessed the knowledge on ADHD among government primary school teachers and results indicates 32(53.3%) had inadequate knowledge, 16(26.6%) had moderate level of knowledge and 12(20%) had adequate level of knowledge regarding ADHD.

Ashehri, Shehata & Awadalla (2020) assessed the schoolteacher's knowledge of ADHD and its effectiveness of knowledge improving program among schoolteachers in Abha city, Saudi Arabia and results concluded that all teachers were aware of ADHD but only 22% had

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adequate knowledge and immediately after intervention knowledge increased (70%) and after 3months slight decline (46%) in scores.

Dessie, Teechane, Tesfaye & Gebeyehu (2021) investigated schoolteachers' knowledge of ADHD in Gondar, Ethiopia and result showed about 44.85% and 84.1% teachers had good knowledge and attitude towards ADHD respectively.

Liji, Anaswara, Maria, Rini, Mariam & Sunitha (2022) assessed knowledge on ADHD among primary school teachers in selected schools, Kottayam and result indicates 20% had poor level of knowledge with symptoms, diagnosis, and management, 80% had average level of general knowledge on ADHD.

Learning Disability Studies

Sawhney & Bansal (2014) assessed knowledge level of elementary school teachers regarding learning disabilities in Chandigarh and result showed that in awareness 14% scored low awareness and 86% score moderate awareness on LD.

Shari & Vrada (2016) assessed the attitude of primary school teachers towards children with learning disability in Bangalore and results showed teachers have less favorable attitude towards inclusion of children with LD in regular schools, unaided school teachers and teachers with higher education had positive attitude.

Cornoldi, Capodieci, Diago, Miranda & Shepherd (2018) investigated attitudes and beliefs among primary school teachers from Italy, Spain, and United states regarding learning disability. the result showed in general, teachers in these areas are sufficiently well informed about students with LD and are in favor of policies supporting these students' needs. However, substantial differences emerge among countries about etiology of LD, management and intervention of LD, inclusion, and compensatory provisions; and the range of emotional attitudes that teachers exhibit.

Zamani, Hozeily, Tahmasebi, Ahmadi & Moradi (2018) investigated the role of awareness and attitude of primary school teachers as well as other demographic characteristics on the referral time of students with learning disabilities to speech therapists in Ahwaz City, Iran. The result showed that the Iranian teachers had a relatively low awareness about LD.

Rani & Reddy (2020) investigated awareness levels of primary school teachers on LD in government schools. The result shows that 10% had adequate knowledge on LD, 55% of schoolteachers showed moderately adequate knowledge, and 38% showed inadequate knowledge.

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Minolin, Meena, Beautily & Karthikeyan (2020) investigated knowledge, attitude and compliance regarding specific learning disability among school children in Tiruttani, Tamil Nadu. The result showed 80% had inadequate knowledge and 20% had moderately adequate knowledge regarding SLD and 50% had negative attitude and 50% had neutral attitude and none 0% had positive attitude to deal with LD children. Regarding level of compliance 75% had good compliance, 30% had average compliance and none 0.00% had poor compliance regarding specific language disability.

Koshy, Gamit, Fernades & Chouhan (2021) assessed knowledge and attitude of primary school teachers regarding early identification and management of learning disability in Tapi district, Gujarat. The result showed 0.00% adequate knowledge on LD, 59.3% had good knowledge and 40.66% had poor knowledge on LD, 96.66% had positive attitude and 3.33% had negative attitude towards children with LD and significant correlation between knowledge and attitude.

Need of the Study

A multi-modal treatment with many variables, such as rehabilitation services, medication, parental and teachers education, educational programme is the most efficient therapy strategy for treating childhood ADHD and LD.

Teachers are crucial in the planning of many aspects of ADHD and LD treatment and implementation. Inadequate information and a negative attitude towards ADHD and LD among teachers and its treatment lead to a lack of or ineffective use of management and recommendation. The current study focuses on investigating overall awareness among teachers of two different sectors (private and government), and comparing the awareness inside (between private ADHD vs. LD, government ADHD vs. LD) and outside (between private ADHD vs. government ADHD, private LD vs. government LD) the groups, taking into account the importance of knowledge and attitude towards ADHD and LD among schoolteachers.

Method

Aim

The purpose of the study was to determine the level of awareness on attention deficit hyperactivity disorder and learning disability among teachers of private and government sector from Tamil Nadu in order to facilitate early prognosis and intervention with following objectives:

➢ To determine the degree of awareness of ADHD and compare two sectors
➢ To determine the degree of awareness of LD and compare two sectors
➢ To compare awareness level of ADHD and LD within sectors

Method

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The present study was done in two phases.

Phase 1:
Preparation of Questionnaire

The questionnaire was developed using a range of supporting literature. The prepared questionnaires were validated by 5 speech language pathologists with more than a year experience. The correction and suggestions are incorporated in the preparation of questionnaire.

The first of the questionnaire's three components contains information about the teachers' demographics, work history, and education. The second section consists of 13 questions, including general knowledge of the signs, characteristics and interventions, attitude, perception as well as the role of the teacher on ADHD. The third section consists of 12 questions, including general knowledge of the signs, causes, diagnoses, and interventions, attitude, perception as well as the role of the teacher on LD. Both sections are graded by 3 point rating scale. The questions are attached below.

Phase 2:
Participants With Inclusive and Exclusive Criteria

Total of 65 teachers in and around Chennai who work two different sectors Government (n - 31), Private (n-34) were contacted as part of an online and offline survey by mailing them a questionnaire and survey forms. Teachers with more than 3 years' experience was included by excluding teachers working in inclusive setup.

Procedure

The validated questionnaire was distributed. Everyone who participated provided their informed consent. The participants were given enough time to finish the surveys, and participation was entirely optional. The questionnaire had to be filled out by each respondent privately and anonymously. The participant required to fill up the questionnaire form by selecting the options from 3-point rating scale yes/no/not sure.

Analysis

The questionnaires data collected from the teachers and scored using 3-point rating scale, 1 for yes, 0 for no. The gathered data further statistically analyzed using Maan Whitnney test .

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Result

Table 4.1 *Showing the Mean and SD scores of ADHD awareness among private sector teachers*

Group - PRIVATE	Mean	Standard Deviation
1. Hyperactivity, inattentiveness and impulsivity are symptoms of children	0.79	0.33
2. Children have inability to sit still where they are expected to	0.81	0.33
3. Children often has difficulty in organizing tasks and activities	0.46	0.42
4. Children generally display an inflexible adherence to specific routines	0.87	0.26
5. Affect academic performance	0.63	0.45
6. Teachers play an important role in detecting and treating children	0.96	0.14
7. Children be treated with behavioral therapy	0.91	0.19
8. ADHD behaviorism is not resulted from bad parenting	0.81	0.33
9. Symptoms do not disappear as the child grows up	0.38	0.37
10. Symptoms are not on purpose	0.68	0.57
11. Children do not only exhibit symptoms at school.	0.87	0.26
12. Children usually don't have good peer relations because of their outgoing nature	0.35	0.42
13. Leads to the raise of other problems	0.74	0.35

From table 4.1 the mean values with higher scores show that teachers were highly aware about the symptoms (0.79), teachers' crucial role in management (0.96), management of ADHD (0.91), and characteristic like inability to sit still (0.81), inflexible adherence (0.87), and rise of other problem because of ADHD (0.74). It also shows moderate awareness score on academic difficulty (0.63), organization skills difficulty (0.46), positive attitude by agreeing that ADHD is not because of bad parenting (0.81), symptoms are not on purpose (0.68), do not exhibit symptoms only at school (0.87). They also exhibit a negative perception that symptoms disappear as child grows (0.38), and children have an outgoing nature (0.35).

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Table 4.2 *Showing the Mean and SD scores of ADHD awareness among government sector teachers*

Group - GOVERNMENT	Mean	Standard Deviation
1. Hyperactivity, inattentiveness and impulsivity are symptoms of children	0.60	0.42
2. Children have inability to sit still where they are expected to	0.74	0.25
3. Children often has difficulty in organizing tasks and activities	0.24	0.38
4. Children generally display an inflexible adherence to specific routines	0.31	0.36
5. Affect academic performance	0.53	0.46
6. Teachers play an important role in detecting and treating children	0.81	0.25
7. Children be treated with behavioral therapy	0.87	0.22
8. ADHD behaviorism is not resulted from bad parenting	0.92	0.19
9. Symptoms do not disappear as the child grows up	0.53	0.46
10. Symptoms are not on purpose	0.45	0.39
11. Children do not only exhibit symptoms at school.	0.44	0.42
12. Children usually don't have good peer relations because of their outgoing nature	0.42	0.50
13. Leads to the raise of other problems	0.87	0.22

From table 4.2 the mean values with higher scores show that teachers are highly aware about teachers' crucial role in management (0.81), management of ADHD (0.87), and rise of other problems because of ADHD (0.87). There is moderate awareness on the symptoms (0.60) and characteristic like inability to sit still (0.74), academic difficulty (0.53) inflexible adherence (0.31). Teachers are not aware about difficulty of organization skills (0.24) with ADHD students. Teachers disagreeing that ADHD is because of bad parenting (0.92), symptoms are on purpose (0.45), only exhibit symptoms at school (0.44). And they also had negative perception that symptoms can disappear as child grows (0.53), and children have an outgoing nature (0.42).

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Table 4.3

Showing the Mean and SD scores of LD awareness among private sector teachers

Group - PRIVATE	Mean	Standard deviation
1. Are you aware of the term learning disability	0.85	0.36
2. Are you aware of the different types of LD	0.56	0.47
3. LD affect reading, writing, motor coordination, organization skills	0.81	0.25
4. LD will affect academics of the children in schools	1.00	0.00
5. Early intervention is more beneficial in intervention of LD	1.00	0.00
6. Teachers play a vital role in diagnosis and early intervention of LD in classroom set up	0.99	0.09
7. Rehabilitation services is the intervention of LD	0.50	0.39
8. Children with LD are at high risk of mental disorder	0.26	0.31
9. Acting out, inattentiveness in school and social situation is not on purpose	0.63	0.43
10. Children with learning disabilities do not always have low IQ.	0.87	0.22
11.Medication is not the only way to treat LD	0.62	0.37
12.Children with LD often need extra help and instruction that are specialized	0.90	0.27

From table 4.3 mean scores - it can be seen that teachers are highly aware about the term learning disability (0.85), its symptoms (0.81), the academic difficulty (1.00), early intervention (1.00), a teacher's vital role (0.99), and the need of specialized support (0.90). There is moderate awareness score on different types of LD (0.56), management by agreeing to rehabilitation services (0.50) and disagreeing with medication as the only option (0.62). Teachers deny the fact that students intentionally exhibit LD symptoms (0.63) and also had a negative perception that LD students have low IQ (0.87). There is a low awareness of the high risk possibility of mental disorder with LD students (0.26).

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Table 4.4

Showing the Mean and SD scores of LD awareness among government sector teachers

Group - GOVERNMENT	Mean	Standard deviation
1. Are you aware of the term *learning disability*	0.52	0.51
2. Are you aware of the different types of LD	0.19	0.40
3. LD affect reading, writing, motor coordination, organization skills	0.65	0.37
4. LD will affect academics of the children in schools	0.77	0.40
5. Early intervention is more beneficial in intervention of LD	0.84	0.24
6. Teachers play a vital role in diagnosis and early intervention of LD in classroom set up	1.00	0.00
7. Rehabilitation services is the intervention of LD	0.58	0.47
8. Children with LD are at high risk of mental disorder	0.11	0.28
9. Acting out, inattentiveness in school and social situation is not on purpose	0.92	0.19
10.Children with learning disabilities do not always have low IQ.	0.50	0.48
11.Medication is not the only way to treat LD	0.48	0.42
12.Children with LD often need extra help and instructionthat are specialized	0.55	0.45

From table 4.4 mean scores- it can be seen teachers have moderate awareness on the term learning disability (0.52), symptoms (0.65), and need of specialized support (0.55), management by agreeing to rehabilitation services (0.58) and disagreeing with medication as the only option (0.48). There is high awareness on academic difficulty of LD students (0.77), early intervention (0.84), teacher's importance (1.0). They also shows low awareness score on high risk possibility of mental disorder with LD students (0.11), different types of LD (0.19). Teachers deny the fact that students intentionally exhibit LD symptoms (0.92) and had negative perception that LD students have low IQ (0.13).

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Table 4.5 *Showing the comparison of Mean and SD scores of ADHD and LD awareness among privatesector teachers*

GROUP	Mean	Standard deviation	Mannwhitney test P-Value
ADHD	0.71	0.19	0.435, NS
LD	0.75	0.22	

From table 4.5 it can be seen that there is no significant difference (p value 0.435) between ADHD and LD awareness scores in private sectors

Table 4.6 *Showing the comparison of Mean and SD scores of ADHD and LD awareness among government sector teachers*

GROUP	Mean	Standard deviation	Mannwhitney test p value
ADHD	0.59	0.21	0.862, NS
LD	0.60	0.25	

From table 4.6 it can be seen that there is no significant difference (p value 0.862) betweenADHD and LD awareness scores in government sectors.

Table 4.7*Showing the comparison of Mean and SD scores of ADHD awareness among private andgovernment sector teachers*

GROUP	Mean	Standard deviation	Mannwhitney test P-Value
Private	0.71	0.19	0.030, sig
Government	0.59	0.21	

From table 4.7 it can be seen that private sector have average awareness on ADHD (0.71) compared with poor awareness score (0.59) of government sector with significant difference (p value - 0.030).

Table 4.8 *Showing the comparison of Mean and SD scores of LD awareness among private andgovernment sector teachers*

GROUP	MEANN	Standard deviation	Mannwhitney test P-Value
Private	0.75	0.22	0.008, HS

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Government	0.60	0.25	

From table 4.8 it can be seen that private sector have average awareness (0.75) compared with poor awareness score (0.60) of government sector with high significant difference.

Discussion

This study investigated teachers' overall awareness level of attention deficit hyperactivity disorder and learning disability and compare awareness level among private and government schools in Tamil Nadu. A validated questionnaire based on literature was used. To assess the overall general awareness.

Section - ADHD

In studies conducted by Liji, Anaswara, Maria, Rini, Mariam & Sunitha in Kottayam revealing 80% had average level of general knowledge on ADHD and Parimala & Timple investigation on government primary school teachers showing 53.3% had inadequate knowledge regarding ADHD. The current study also indicates average knowledge among private primary school teachers when compared with government schoolteachers who lack knowledge.

Private school teachers have fair general knowledge. Average scores are seen with characteristics on ADHD students in general routine and classroom, whereas Government school teachers have poor general awareness with characteristics and management. High scoring seen on symptoms, teacher's crucial role in management with both sectors. Overall Positive attitude was seen with teachers about ADHD behaviorism in both sectors. The Common misconception observed with both groups are that symptoms can disappear as the child grows and the students have good social skills with their peer group because of their outgoing nature.

As the result indicates significant difference was seen between groups on awareness of symptoms, characteristics, and on perception, there was a High significant difference seen with awareness of teachers role, ADHD causing difficulties, and on perception like symptoms disappearing as the child grows, and ADHD being caused by bad parenting. No significant difference was seen between groups on awareness of management, other characteristics like organizing difficulty, inflexible adherence, poor academic performance, and teachers denying the fact that symptoms are intentional.

Section - LD

As previous literature studies conducted by Koshy, Gamit, Fernades, Chouhan (2021) in Gujarat on knowledge and attitude on LD among teachers indicating 59.3% have good knowledge ,96.66% have positive attitude ;Rani and Reddy (2020) investigation awareness levels teachers on LD in government schools indicating 55% of school teachers showed moderately adequate knowledge .The current study also indicate average knowledge among

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private primary school teachers when compared with government school teachers.

Private school teachers have overall fair general knowledge on LD scoring high on symptoms, academic difficulty. Moderate score on different types of LD, management whereas Government school teachers have less general awareness with moderate scores on symptoms, rehabilitation, academic difficulty and low scores on different types of LD. Positive attitude seen with both sector teachers on LD student behaviourism and negative misconception observed by both sectors are LD students have low IQ. Both sectors are highly aware about importance of early identification and early intervention, teachers support and need of specialized support.

According to the results no significant difference is seen between groups on awareness of academic difficulty, teachers role, need of special consideration, and perception such as low IQ with LD students, low awareness about risk factors. High significant difference seen between groups on awareness about different types of LD, its characteristics, rehabilitation, and perception that symptoms are not intentional. Significant difference seen within groups on awareness of early intervention, and rehabilitation services.

Teaching Programs

Rajini & Kumari (2021) investigated on the effectiveness of structured teaching program on knowledge and attitude of ADHD in primary school students among teachers in selected primary schools, Khamman, Telangana, India and found significant mean difference (6.98) between pretest and posttest and concluded that a structured program is highly effective. Ambika, Vijayasamundeeswari, David (2019) investigated Effectiveness of planned teaching program among primary school teachers regarding awareness of learning disabilities in children and result indicated teachers had inadequate awareness regarding learning disabilities and 10% had moderate level of awareness, whereas in the post-test, 7.5% had moderate level of awareness and 92.5% had adequate level of awareness.

Bhasin, Srinivasan , Deaver (2018) investigated Effectiveness of Various Teaching Programs on Knowledge and Attitude Regarding ADHD and LD of Children among Primary School Teachers and the results revealed less knowledge and less favorable attitude among primary school teachers regarding ADHD and LD.

Teaching programs were effective in improving knowledge and attitude among primary school teachers regarding ADHD and LD. As the literature suggest the average general knowledge scores on ADHD and LD among private school teachers are shown to be due to familiarity with materials from awareness programs conducted in the school that took part in the study. However, because they acquire less education program, government school teachers are less aware. According to the current study, more training programme on ADHD should be made available to teachers in order to improve their positive attitudes toward the disorder, increase their knowledge, and prevent misconceptions about the ADHD students. This will

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improve the teachers' degree of assistance in the diagnosis and treatment of ADHD, reduce the difficulties that students faced in the classroom environment, and prevent the disorder's potential future consequences.

Summary and Conclusion

School children are more likely to experience learning disabilities and attention deficit hyperactivity disorder, which hinder academic performance and exhibit other deficits. Other difficulties also will increase as a result of LD and ADHD. Thus, by providing such children support and referrals to help them manage the symptoms, characteristics, and long-term issues, the teacher's understanding of ADHD and LD will serve to their advantage.

The purpose of the current study is to assess degree and compare the level of different sector teachers' knowledge of ADHD and LD by using a questionnaire. A validated questionnaire with two sections (ADHD and LD) and general inquiries about symptoms, typical management, and perception of both illnesses was developed utilizing literature references. The study included a total of 65 teachers.

According to the results of the above-mentioned tables, teachers at private sector have more general awareness when compared with government sector in both ADHD and LD with significant difference. However, when it comes to general symptoms, early identification, teacher's role have high awareness scores and acknowledge their importance in both sectors. There is no significant difference between awareness of disorders within same sectors. Overall Positive attitude is seen in both private and government teachers. Negative perceptions are observed with both group teachers about some characteristics of ADHD and LD disorder.

Inclusive education is complex to implement and requires a fine understanding of diverse needs of children and their families across different context. India has made considerable progress in terms of putting in place a robust legal framework and ea range of programs and schemes that have improved enrollment rates of children with disability in schools. The rights of persons with disability act 2016 (RPWD Act) , a social welfare legislation act puts the government sectors and other institutions to ensure that all persons with disabilities cannot be denied of admission and should be provided with considerable concession and support.

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According to the study's findings, schools should implement programme to raise awareness of ADHD and LD among teachers and introduce government act in schools to support and help them deal effectively in classroom set up at early stage to overcome the risk and academic difficulties in future.

Limitation

➢ Sample size is limited.

➢ Schools from specific taluk were selected.

➢ Limited questions were included to assess both the disorders.

Future Direction

➢ Sample size can be increased.

➢ More question can be included to assess the disorder in detail.

➢ Different boards levels can be included and compared.

➢ Pre and post effectiveness of ADHD and LD programme can be included in the study.

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Systematic Review on Neural Basis of Dyslexia

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Abstract

Dyslexia is a learning disability, affecting the literacy skills like reading, writing, spelling or mathematical, occurring in children (Developmental Dyslexia) or in adults (Acquired Dyslexia). In the Indian context, at the school level, it is estimated to range from 3 to 21%, based on the area of study and the methodology used. Research has shown that the causes for Dyslexia are multifactorial, ranging from neuro-developmental, genetic, linguistic to neurobiological in nature. Neurobiology of dyslexia is born from the construct that phonological deficits seen in dyslexics have multiple components (like poor phonological awareness, impaired lexical retrieval and poor verbal short-term memory), and each of these involve different neural networks. The present study is based on a systematic review and analyses of 17 selected research articles. This review revealed that, for good readers, there were patterns of coordination among different regions of the brain, especially the left parieto-temporal region, occipito-temporal and inferior frontal language regions. Within the lobes there were regions with more activation during some tasks than others. Whereas, for children with Dyslexia, different regions of the brain showed, inactivation, under activation or reduced activation in left parieto-temporal and occipito-temporal regions along with increased activation in frontal and right hemisphere language related regions during activities of reading, writing and spelling. Studies also demonstrated changes in the brain activation patterns after intensive evidence-based reading interventions in the dyslexics. Based on neurobiological factors, dyslexics have been explained as a deficit in automatization, a cerebellar deficit and deficits in magnocellular pathways.

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Keywords: Dyslexia, Neurobiology, Systematic Review, Neuroimaging

1. Introduction

Learning to read and write are multidimensional processes, rooted in Language and Cognition. Dyslexia is a form of Learning Disability, neuro-developmental and neurobiological in nature, which affects literacy and/or academic skills (Reading, Writing and Spelling and Mathematics) in children, adolescents and adults, despite having adequate intelligence and instruction. It has drawn attention of researchers from diverse fields such as Cognitive Psychology, Neurosciences, Linguistics, Speech-Hearing Sciences and Education.

Earlier, studies on Dyslexia have indicated that a deficiency in phonological processing was thought to underpin the reading difficulties of individuals with dyslexia. A variety of explanations have been proposed in this regard including deficits in phonological awareness, lack of awareness of the sound structure of words in their language, difficulty in breaking down a spoken word into its individual sounds, difficulty in spelling etc. These deficits were thought to co-occur with visual processing deficits, which were particularly salient for languages having visually complex stimuli (representation of spoken form in the written form) such as Chinese or Telugu. Cross-linguistic research has shown that Individuals with dyslexia performed worse than typically developing readers on phonological tasks, specifically when discriminating between novel visual patterns and in visuo-spatial working memory, which requires greater attention control.

According to International Dyslexia Association (IDA), Dyslexia is defined as 'difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction' (Lyon, Shaywitz & Shaywitz, 2003). Note that not only does this definition indicate exclusionary criteria specifying that dyslexia is not a word level disorder but also that dyslexia occurs because of a specific cognitive deficit, evidence of adequate classroom instruction and absence of other disabilities that would explain the reading problem.

More recently, with advent of neuroimaging techniques, studies using CT scan, MRI, fMRI or combination with other non-invasive techniques, a multidisciplinary approach to Dyslexia has shed light on the involvement of the brain mechanisms and multifactorial causes. Thus, the aim of the current study was to note the neural mechanisms underlying dyslexia.

2. Methodology

The present study is based on systematic review and analyses of research studies in the areas of Phonological Awareness, Working Memory, and Neurobiological aspects of Dyslexia, which was carried out during Covid-pandemic. However, this paper focuses on the neurobiological findings, for comprehensive understanding of Dyslexia. The criteria for selection of the studies for review of this aspect were - a) any one or combination of

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neuroimaging techniques used, b) the sample is based on normal / dyslexic population (no restrictions on the sample size), and c) was an open access full article. Using the above-mentioned criteria, conducting extensive search at each level, 17 articles were finally selected and systematically reviewed. All studies included non-invasive procedures. A chronological approach to present the studies was used as this gives us a chance to note the changes in terms of procedures and equipment used over a period of time. Different languages were included to get a broader perspective.

3. Summary of Systematic Review

Of the 17 studies taken for systematic review, 15 were individual studies, whereas 2 were review studies. The languages used in the individual studies were English (9), German (2), Chinese (1), Chinese-English Bilingual (1), Hindi-English Bilingual (1) and Farsi (1). The neuro-imaging techniques used were Functional Magnetic Resonance Imaging (fMRI), Positron Emission Tomography (PET) and evoked response potentials (ERP) in combination with behavioral methods. The findings discussed here are on the involvement of the different areas of the brain and their connections in relation to the linguistic aspects (specifically the reading, writing and spelling) in dyslexia.

3.1. Cerebellar Deficits and Dyslexia

Reading and Writing, spelling, rapid automatized naming (picture naming speed), phonemic segmentation, automatization, memory, nonsense word repetition is markedly impaired in Dyslexic Children, which is assumed due to cerebellar deficit. Dyslexics also have less increase in activation of the right cerebellar hemisphere and Vermis, as reported in a PET study (Nicolson & Fawcett et. al., 2001) Problems in the rate of reading single words and text reflect the role of cerebellum in precise timing (Eckert et. al., 2003) Decreased activation of left cerebellar regions was seen in poor spellers and readers (Gabauer, et. al., 2012). At the same time in the context of non-dyslexics it was observed that, bilateral cerebellar activities were observed in phrase reading in Hindi—English bilinguals (Kumar et. al. 2010). It was also noted that deficits in balance and muscle tone were greater than other impairments in children with Dyslexia.

3.2. Planum –Temporale and Dyslexia

Dyslexic Children have a larger right planum temporal in the brain. Besides, auditory association cortex in Wernicke's area in Temporal lobe, larger planum temporal is also found in Occipital and Temporo-Parietal regions. Processing of Language in Dyslexic children is possibly affected, as the over activation of the right temporal area and under activation of the left temporal area is due to interference of a larger right planum temporal (Bloom & Garcia et. al. 2013; Morgan&Hynd,1998). Extreme left ward asymmetry of the Planum temporal (PT) and Planum Parietal in Dyslexics were reported by Eckert, et. al. (2003), whereas Hynd et. al. (1990) reported leftward asymmetry of PlanumTemporale in 10% of Dyslexic Children (70% in normal and ADHD children). Typical leftward asymmetry of the planum temporal disrupts lateralization, which results in Linguistic difficulties in dyslexia. Symmetrical Plana were also

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reported to be larger than asymmetrical plana after postmortem of Dyslexic brains (Eckert, et. al., 2003; Morgan & Hynd, 1998).

Symmetrical plana temporal results in poor verbal comprehension and phonological decoding skills, reduced confrontation naming abilities in Dyslexics. Major proportion of Dyslexics has rightward asymmetrical or symmetrical plana. However, there is disagreement, as to whether or not the symmetrical plana are due to a larger right planum or smaller right planum (Morgan & Hynd, 1998).

3.3. Occipito-Temporal Cortex (OTC) and Dyslexia

Occipito-Temporal Cortex (OTC) includes fusiform gyrus and the inferior temporal gyrus. This region is very close to the parts of the brain that process visual information. Researchers believe that this region is used to process familiar visual information- including letters and words. A portion of the fusi form gyrus, called Visual Word Form area has shown activation, when readers process other types of visual information (e.g., images of objects) (Kearns, et. al., 2019).

Decreased activation in left OTC results in impaired object names, letters, words and non words, numbers and abstract symbol strings, written words and sentence reading, which makes dyslexics poor Spellers and readers (Gebauer, et. al., 2012). Damage to fusiform gyrus in the left OTC results in dyslexia and dyscalculia. A reduced activation within the left lingual / calcarine cortex was found when impaired readers orthographically process single letter pairs (You, et al., 2011). There is decreased neural adaptation in OTC in dyslexic readers, while processing written words. Altered activation is also seen in pre-reading studies suggesting early developmental brain alternations prior to reading acquisition. OTC plays a role in reading acquisition and reading proficiency. There was an under-activation in the left Ventral OTC in child and adult dyslexic readers, which is unaffected by Orthographic depth, since decreased neural responses were identified in deep (English) as well as in shallow (e.g., Dutch, Italian) orthographies. Developmental Dyslexia is frequently associated with a decreased activation in OTC for letters and words (Kronbichlar, & Kronbichlar, 2018).

3.4. Brain Connectivity and Dyslexia

Absence or Permanent disruption of connectivity between Visual Word Form area in OTC and left inferior frontal gyrus as well as left inferior parietal lobule results in impairment of orthographical and phonological processing of words during reading. This led to insufficient and slow reading performance. Research has shown that Visual Word Form Area is involved in spelling deficits, while accessing the orthography of auditorily presented words.

Dyslexics show increased connectivity to the left middle and superior occipito - temporal gyri and the left insula (Van der Mark, 2011). An evidence-based intervention at an early age improves reading fluency and facilitates the development of Occipito-temporal neural region that underlies skilled reading (Shaywitz & Shaywitz, et. al., 2004).

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Decreased activation was also seen in inferior fronto-parietal cortex for sentence reading and in inferior parietal region for semantic processing. However, increased activation was seen for incongruous (compared to congruous) sentence endings in inferior frontal and superior temporal areas and bilateral parietal cortices and the precuneus. It suggests that reduced inferior parietal activation during sentence reading is due to a semantic impairment. Functional and structural MRI studies point to a link between Phonological processing and left temporo-parietal cortex, including the arcuate fasciculus and corona radiata.

Impairments in Fronto-Cerebellar network may play a role in delayed reading development in dyslexia (Ebrahimi, et. al., 2019; Eckert, et. al., 2003). Functional imaging studies show activation in the left anterior frontal and right cerebellar hemisphere during fluency tasks, passive listening to clicks, linguistic working memory tasks and rapid production of consonant-vowel stimuli. Study by Richards & Berninger (2008) has documented fMRI changes in the brain of the dyslexic children before and after treatment and found that there is increased brain connectivity after treatment. Predominantly, they brought about significant and durable changes in brain reorganization so that the brain activation patterns resemble those of typical readers.

3.5. Bilingual Activation and Dyslexia

Studies on Chinese -- English (You, et al., 2011) and Hindi --English bilingual (Kumar et al., 2009) dyslexics report that former had reduced left Temporo-parietal (e.g., angular gyrus) activation in phonological processing in reading English, whereas latter had activation of anterior temporal pole, right caudate nucleus, right superior temporal gyrus (STG), left insula and left putamen due to deficits in slow reading and writing in English. Chinese impaired English readers also showed reduced activation with left lingual/ calcarine cortex. There seems to be a universal underlying mechanism in all dyslexics for orthographic processing of reading due to neural disruption in left OTC (You et al., 2011; Kumar et al., 2009).

3.6. Magno-Cellular Pathways and Dyslexia

The visual magnocellular pathway originates in the magnocellular cells in the retina and projects via the magnocellular layers of the lateral geniculate nucleus (LGN) to the primary visual cortex (VC) situated in the back of occipital lobe. This pathway plays a crucial role for focusing visual attention and letter decoding. It is responsible for timing visual events when reading. A deficit in this pathway is likely to be an important cause of reading difficulties. It is involved in normal eye movement control, visuo-Spatial attention, visual search, letter encoding and peripheral vision, which are involved in the development of orthographic skills. Magnocellular system allows the rapid perception of movement form and changes in brightness, but is relatively insensitive to stimulus location and color. Dysfunction of Magnocellular effects have been demonstrated in transparent / opaque as well as alphabetic and logographic scripts.

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Magnocellular system is poorly developed in many dyslexics. Dyslexics often complain that small letters appear to blur and moving around, when they read. These are the result of abnormalities of the magnocellular component of the visual system, which is specialized in processing fast temporal information. - Dyslexics may be unable to process fast incoming information adequately in phonological or visual or motor systems. This may lead to phonological, Visual or motor deficits (Stein, & Walsh, 1997). Visual Magnocellular training improves detection of coherent motion, control of saccadic eye movements in dyslexic children. These improvements result in increased reading accuracy and reduced visual reading errors-like omissions and additions (Ebrahimi, et. al., 2019).

Dyslexics have great variety of visual, kinesthetic, sequencing memory and motor deficits due to differences in the particular magnocellular Systems (Stein, 2008). Poor reading performance of Dyslexics is due to abnormally reduced sensitivity in the magnocellular system. In particular, the visual sensory abnormalities in Dyslexics are the result of magno cellular shrinkage and organization in Lateral geniculate nucleus, whereas the parvo-cells are intact. Postmortem Histology reflects that magnocellular cell in the LGN are significantly smaller and more disorganized in Dyslexic brains than controls. Dyslexics have diminished visually evoked potentials to rapid, low contrast stimuli, but normal responses to slow or high contrast stimuli (Livingstone, et. al., 1991; Greatrex & Dresdo, 1995). Children with high motion detection thresholds would be more likely to make orthographically nonsense 'letter' errors than children with low motion thresholds. Impairment of the visual magnocellular pathway revealed by poor performance on motion detection task could degrade the encoding of the position of letter features, when children read.

Phonological factors play an important role in explaining children's "letter" errors, but these factors are independent of magnocellular function. Phonological or orthographic deficit could produce the same errors in letter/letter cluster to sound/sound cluster mapping (grapheme-phoneme correspondence), which could lead to children making "letter" errors. Hence, reading can be described by a multi-channel model comprising visual and phonological processing and short-term memory components (Cornelissen, et. al., 1998). Research has also noted that Lateral geniculate nucleus in dyslexic individuals contains thinner magnocellular layers in the left hemisphere (Girardo-Chica, et. al., 2015).

4. Conclusion

Neurobiology of dyslexia is born from the construct that Phonological deficits seen in them have multiple components - poor phonological awareness, impaired lexical retrieval and poor verbal short-term memory, each of which involve different neural networks. It was observed that there was inactivation, under activation or reduced activation of brain during reading, writing, and spelling in Dyslexics. It also explains dyslexia based on Automatization deficit, Cerebellar deficit, and Magnocellular pathway deficit. The implications of these finding for parents of children who are acquiring reading skills are many folds, for example they can play phoneme games, can ask the child to segment words and repeat nonsense words etc. These

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simple tasks can help the child to not only acquire reading skills faster but also help to form better neural networks for long lasting memory.

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Reflection of Social Reality in Films:
A Comparative Study of the Movies
Cooper's *Mr. Deed Goes to Town* and N.S. Krishnan's *Nallathambi*

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Abstract

Adaptation of foreign films is not so new to Indian cinema. In particular, the *Kollywood* started adapting foreign films when the narratives of Tamil cinema switched to Non-Mythological Narratives manifesting the socio-cultural and political realities.

The great depression epoch is the most crucial period that the world countries have come across the post-world war scenario. There are a lot of films from the great depression wave across the globe, reflecting their social realities. There is a need of deconstructive studies on such film narratives. *Mr.Deed goes to town* by Frank Capra is noticed as a film reflecting the great depression after the civilian war of America. *Nallathambi,* a blockbuster of N.S. Krishnan, which is an adaptive work of the earlier one, is a film of the same motive. These films from almost the same epoch of the great depression but from two different countries, i.e., two different societies, reflect their social realities with their own narrative aesthetics.

This article pursues a comparative descriptive study of both the films to study the nuances of adaptation in reflecting their social realities.

Keywords: Frank Capra, *Mr. Deed goes to town,* N.S. Krishnan*, Nallathambi,* Social Reality, films, Social Culture, narratives.

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Frank Capra (1897-1991)
Courtesy: https://en.wikipedia.org/wiki/Frank_Capra

1. Introduction

1.1 Societies and Social Realities

Societies are not just made with any pre planned intentions or planning. Societies are formed by people and their varied behaviour towards one another. There are various factors like tradition, culture, socio – political, economic changes and others. Social culture is nothing but the compilation of repeated narration by the society to itself. Such narrations happen to be a part and parcel of the social practices.

Reality is an assemblage of what actually exists. Social Reality can be formally defined as an assemblage of the social realm existence. As John Searle summarizes in his theory, the social sphere is not as real as the concrete, physical world, and it is somehow more dependent on people's minds. Hence, the social reality equips a clarified study on the concern societies.

1.2 Social Realities & Films

Lenin, the Great Russian revolutionary leader in 1922 said, *"Of all the arts, the cinema is for us the most important"*. From its origin both as an art form and as a social practice, Films are known for their ultimate potential to impact the societies they belong to, on their socio-political and economical factors. Film being a serious art form of narration tends to reflect the social reality over decades. Many a times these films happen to be a reflection of realities of people belonging to the sphere of working class.

2. Review of Literature

Robert A. Wilson through his work "social reality and institutional facts: sociality within and without intentionality" questions John Searle's *The Construction of Social Reality* to sketch an alternative way of thinking about the relationships between intentionality and "social facts" or "social reality".

An article 'The ideological project of "Mr. Deed Goes to town".' by Patrick Gerster summarises the social reality of America during 1930s after the civilian war and how the film has helped to define the national preoccupations.

N. S. Krishnan (1908-1957)
Courtesy: https://en.wikipedia.org/wiki/N._S._Krishnan

The biography of N S Krishnan *"N.S.K. Kalaivaanar aana Kadhai"* by Muthuraman drafts the political and ideological approach of N.S. Krishnan towards theatre, cinema and society.

3. Research Sample and Methodology

The entire study operates within Media and Cultural Studies framework. The deconstructive study of films is done on textual analysis approach. Tracing out the research trails on Tamil films scholar have formulated discourse through analyzing texts within the qualitative research structure. Textual studies enable breaking down the detailed characteristics of film text through unveiling various elements like dialogues, plot signs, codes, and ideologies.

Two films Copper's *Mr. Deed Goes to town* and N.S. Krishnan's *Nallathambi* are selected through purposive sampling.

4. Analysis, Interpretation, and Discourse

Novel / text to cinema is the most ancient practice since the evolution of cinema began. Later when film makers started making their own stories from their creativity cellar, every film maker stared practicing the art of story writing too.

Mr. Deed goes to town [1936], an Academia award winning movie by Frank Capra, being an inspired work from the short story "Opera hat" by Clarence Budington Kell and is a notable movie belonging to the great depression era and stands as one of the perfect examples for Text to cinema. At the same time the Tamil film 'Nallathambi' [1949] scripted Debut Screenplay work of *Arignar Annadurai* was adopted from the earlier movie is one of the perfect examples of

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movie-to-movie inspirational works, which at the same time pioneered the Dravidian wave of Tamil Cinema.

Annadurai, known by his title *Perarignar* [Meaning the great scholar] tends to be the impeccable icon of the political sphere of Tamil Nadu. His contributions not only towards the political history of the state but also towards various domains like Teaching, Theatre, Literature, Journalism and Cinema justifies himself for the Title *Perarignar.* His Debut Screenplay work *Nallathambi* which was a tool for his political Manifestation is being analysed here.

Analysing the movies, both *Mr. Deed goes to town* and *Nallathambi* are the movies reflecting the realities of the social background they belong to. Placing on a weigh scale both *Mr. Deed* and *Nallathambi* are no way lesser to one another. Both the films very strongly speak aloud about a depressed phase that their respective societies were going through then. Very wise fully they speak about the society's voiceless people, their problems and the solutions for them. Though they seem to be similar in their principles, but their perspectives vary according to their writers.

This comparative analysis is a deconstructive study of both the narratives to explore how the playwrights have worked upon to portray, shape, and inform their society through their art. Five important scenes from both the movies are randomly selected and analysed breaking down the detailed characteristics of film text by examining various elements like dialogues, plot, signs, codes, and ideologies.

4.1 Hero Introduction

Both the stories begin in a similar pattern. A rich personality of the city passes away, writing a will that one of his nephews in a faraway village has the rights to claim all his properties. The beginning of Cooper's play was so precise in the death episode of one Mr. Martin Semple, richest man of the town. It was made so short without taking much time. Random shots of a car driven wild on the highway run over fence and Mr. Martin gets killed. But on the other hand, in N.S. Krishnan's *Nallathambi,* the *Zamindhaar's* [literally known as landlord in Tamil] death episode eats up almost 10 minutes at the beginning. 'Songs' of the movie being an integral tradition of Tamil cinema stands as the strength as well as the weakness for the film, whereas the first song and a stage play turns one to wonder "why it is needed here?".

The Tamil movie also has a small addition to the will, that the *Zamindhaar* has a daughter and his nephew (Zamindar's sister's son) who has the legal claim should marry her.

Hence the concerned officials go in search of the nephew who tends to be the protagonist of the play and bring him to the city for further proceedings, which is common in both the movies and the play goes on.

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The Stream of differences between both the plays starts from the characterisation of the protagonists itself. Mr. Longfellow Deed or his introduction was so simple that his housemaid introduces him as a Tuba Player and a Post card poet, who writes poems on Post Cards. When she is questioned about his absence, she says he has gone to volunteer for the local fire engine crew. All these frames show that "Longfellow Deed is just a simple and innocent man".

When it comes to *Nallathambi*, as discussed earlier, this part is intensified with a famous song *Nattukkoru sedhi solla…* in a *Therukoothu* [traditional Tamil folk art] format. Nallathambi unveils his face from a *Parai* [traditional Tamil instrument] as a *'Kattiyankaaran'* - buffoon of the play. A 15 min song of this play turns to be propaganda for Periyar's **Self respect Movement**. There is nothing to wonder since both the writer and the protagonist cum director - producer belong to the movement; they have used the film as a weapon for their propaganda.

1949 is the year by which DMK was founded by C.N. Annadurai. Being precise, though this film was released well in advance to date on which the party was inaugurated (*Nallathambi* was released on 4th Feb. 1949; DMK was officially formed on 17th September 1949 - Periyar's birthday), this song penned by *Pattukkottai Kalyana Sundharam* explains the principles, aim and the philosophies of the DMK party as a foreseeing factor. The song was crafted in a way saying that the right-wing rule is going to end and the Rational Sun is going to rise. The song lists various elements in the format *"Andha kaalam"* and *"Indha Kaalam"*, literally meaning "then" and "now".

'Kattiyankaaran'- the buffoon is considered as an important person in the Tamil street-play art. His ultimate role is to introduce the characters, entertain people with comedies, time and again. He alone has the ultimate freedom to speak anything beyond the script to engage people in a jovial way. *Nallathambi*, the protagonist who is a freelance theatre artist in the film, opens his own curtains as a *Kattiyankaaran.* As mentioned above, the song enlists a prolonged list of social reforms that the self-respect movement or the Dravidian movement was aiming for, which includes a society with self-respect, fundamental rights, rational thoughts, women rights, non – alcoholic society (a dry state). etc. N S Krishnan being a representative of the Dravidian movement through this song declares that the Right wing rule of the elite community is going to fall soon and the Dravidian party is going to get into action in future.

Cooper's **Longfellow** has nothing unique on his entry, except being a simple man from a village far away from the city, having no idea about it, whereas *Nallathambi* has intensified the protagonist's entry with a song of ideologies.

4.2 The City Life
Longfellow seems to be a very innocent man at the beginning of the play. He actually finds the entire city lifestyle new and wonders how to cope up with it. He wonders what to do with the huge sum of money his uncle has left behind. He finds something wrong with the system but stays confused sorting it out. The only controversial change he does is that he prevents a huge sum of money being spent lavishly on opera house.

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But *Nallathambi* is portrayed as a social activist from the beginning. Volunteering stage dramas with social messages and other activities would show him as a man of social responsibility. He seems to be a man of ideology. Since his visit to the *Zamindhaar*'s palace, all his activities exhibit that he has some social responsibilities and some uncertain intentions. The only problem he had was how to use the money, benefitting the needy.

4.3 The Rice Hoarding

As the film moves, Mr Longfellow straight away goes to the city as the legal heir as per the will of his uncle Mr. Martin Semple, richest man of the town. Surprised seeing the huge city, its landscape his palace, etc., Longfellow gets confused what to do and what not to do. A dialogue from the film "They created a lot of great palaces here, but they forgot to create the noblemen to put in them" would explain that.

Nallathambi has something different to do with. He jumps out of the train on his way to the town seeing his friend *Raani* (T.A. Mathuram). Meeting his friend, he comes to know through Raani that her stingy father has hoarded a lot of rice in his house. Hearing this Nallathambi asks Raani to take him to her house. There again playing a prank on Raani's father *Nallathambi* makes him to provide free food for the beggars.

1940s, the post independence period of India, was the time by which the entire country was going through a severe economic crisis. 1964 to 1967, the period by which *Bhakthavatchalam* served Tamil Nadu as the Chief Minister, is marked as a dark period of the state's political history. Rice shortage and hoarding was a big problem then, as many landlords and rich men hoarded much rice under their control, which caused shortage, price hike, famine and hunger. Annadurai, the writer of the play, used his very first film to express his opposition against rice hoarding and rice shortage. There is something else to note in the political history of Tamil Nadu -- that same Annadurai after adorning the chief minister's chair of the state in 1967, worked hard to eradicate rice hoarding and shortage. He announced "one unit of rice - one rupee" scheme, as it was promised during his electoral campaign, for the working class through the ration system. Foreseeing his mission, Annadurai expressed it in this film *Nallathambi*.

4.4 The Social Responsibility

Longfellow would realise that there is a group of working class suffering with hunger and poverty due to the great depression as a farmer breaks into his house with fierce anger yelling at Longfellow. Feeding him with food to reduce his hunger, Longfellow realises that he has a responsibility to help the hungry people with the assets he has got through his uncle's death will.

Nallathambi and his friend Raani visit the nearby villages in person to examine the situation there. Their field work results in finding that famine and poverty spread all over the village. They find people suffering for food and some struggling hard for good clothing too. The most shocking thing they find is, though Rice is a prominent crop cultivated in the village,

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people starve for food. Again, Annadurai stresses his view on rice hoarding, shortage, price hike and its affordability indirectly here.

Both the protagonists after these respective scenes turn to be very fierce in their social responsibilities. The social realities they learnt through their experiences turned them to be so. Both the heroes start spending their money for the needy, which irritates the rest of the family hence they file a case against them, framing them as 'mentally unstable persons'. The climaxes of both the plays are extremely unique by their own way.

4.5 The Courtroom

The final episode of the play is a courtroom trail against the Protagonists of the respective films. First analysing Longfellow's trial, we see that he gets accused as a mad man who is incapable of being a legal heir of his uncle. Initially he stays quiet but at a point of time he defends himself and that act is scripted to be the most interesting fact of the play. He pinpoints that everyone in the courtroom has some subconscious action while they think like some are 'O' fillers [filling the letter O on a printed matter], some are ear pullers [pull their ears], doodlers [sketch alienated characters]. The same way he plays tuba while he thinks, which doesn't mean he is insane. He very clearly shows how the huge sum of money by the richest is spent useless and on the other side the poor starve to win their bread. Hence, he states that 'he has decided to give everyone, who is in need 10 acres of land, one cow and one horse each. If they work hard for three years is all their own'. The judiciary panel finds him sensible and ends the trial just by saying 'Longfellow was not only sane, he was the sanest person ever walk into the courtroom'.

The courtroom portion of *Nallathambi* again gets intensified through the visions of Annadurai and N.S. Krishnan. *Nallathambi* is accused as an insane personality as Longfellow was done. But being a sensible man of ideologies *Nallathambi* makes it very clear about his vision and mission towards the society. Being quite different, *Nallathambi* brings the villagers whom he met during his field work into the courtroom for the trial. The most prominent socio-political element of the film is *'Kindhanaar Kadha kalatchebam'. Nallathambi* in trial is framed as an insane man quoting his *'Kindhanaar Kadha kalatchebam',* which is actually a street play of N.S. Krishnan, entitled *'Kindhanaar Chaarithiram'* which is again a spoof material of *'Nandhanaar Charithiram'*. '*Kadha kalatchebam'* is a *Bhraminical* style of religious sermon, where mythological stories are narrated on a public sphere. Annadurai and N.S. Krishnan very wisely have used this space in the film for the exhibition of their political ideology. Dr. Ambedkar, father of Indian constitution is the inspiration of the character *Kindhan* here. It narrates how a boy from an oppressed caste rises as an icon by educating himself. This portion is an absolute rebel against the elite culture *Kadha kalatchebam.* Narrating a nonmythological script, story of *Kindhan*, (from an oppressed caste) empowers himself through education, through an elite style of oration. This was a rebel art form practiced by N.S. Krishnan in his plays. Using the same in the film has intensified the entire script as political propaganda.

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5. Findings and Conclusion

The deconstructive study of the films Cooper's *Mr. Deed goes to town* and N.S. Krishnan's *Nallathambi* finds that both have the same intention of reflecting their social realities.

But on a scale of comparison, *Nallathambi* is found to be more intensified on its intentions. *Mr. Deed* has the only intention to eradicate the economic imbalance of the society. The film's major intention is also the same. Longfellow in the film stresses "They created a lot of great palaces here, but they forgot to create the noblemen to put in them". At the end of the play Longfellow turns to be the nobleman. But *Nallathambi* is portrayed as a man of ideologies from the very beginning, as his introduction song itself frames him so. The same way the entire film *Nallathambi* is not only against the economic imbalance of the society but also focuses on social reform. It has a few more objectives being a propaganda for a political movement. Though Annadurai has intensified the script with his ideological factors, the film nowhere reduces the level of interest from the audience view.

This study concludes that the reflection of social realities in both the films focuses on the poor and working class and the economic imbalance in the society. At the same time though *Nallathambi* tends to be ideologically intensified due to the political stand of the script writer, actor, and the producer.

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Reflection of Social Reality in Films: A Comparative Study of the Movies
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Waterscapes in the Celluloid: Illusory Gratification amidst Parched Reality

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Abstract

It has been long realized that water is an elusive fluid in the medium of films, and it has the power to express the hidden emotions. In this paper it is argued that such water-based narratives do have a 'virtual' interplay with audience who are feeling the 'lack', the absence and it is a kind of gratification for those who toil under this reality. The movie makers make use of images which will satisfy the audience for purposes which are more than one. The paper touches upon the multifarious dimensions of water in the socio-political arena and then focuses on how water becomes a fluidic entity which merges the visual giving a scopophilic sensation to the audience.

Keywords: celluloid, public sphere, waterscape, enwaterment.

Introduction

In various cinematic work, bodies of water have often been represented as romantic spaces where an imaginative and fantastic life can be discovered, encouraging critics to argue that the water-sites within such narratives function 'as the mise-en-sce`ne of desire and sexual liberation'. Water sites are predominantly represented as chaotic spaces beyond the rational plane of society, reflecting the unstable dualism found in local myths and folklore.

In the given context of the paper, scenes taken from Tamil are focused. The rural and semi-urban are often replete with traditional belief systems. The water, as it is going to be argued in this paper, is a precious commodity and this aspect has greatly influenced the film makers to project the folklore wherein gods and goddesses are part of the fertility ritual and water is considered sacred due to its scarcity.

Although such bodies of water frequently foreshadow a fertile, sacred realm, they also possess a darker side because on many film narratives the water could also signify darkness and death. In continuation with the pan Indian belief of the sacredness of watery places such as Ganga, with its all-pervasive presence, it is often considered as a source of fertility and salvation. Further, the fluidity of the film medium goes well with the nature of water as they create a substantive union for the cause of the ultimate image/meaning that is produced.

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Public Sphere and Water Resources

Water is generally viewed as part of common resource. It is often viewed as coterminous with the settlement of a village. The provisioning of water is often the legal responsibility of the administration. The committees constituted for such purposes draw their sustenance from the ecological significance of the community life in such contexts. Further, in the village public sphere, the potability of water depends on the quality of the "source village". Hence it is a common sight that woman folk come forward to draw water from distant villages. Such territorial margins become insignificant when it comes to sharing of water resources in public sphere. Water scarcity has spread to many parts of the world as population and consumption levels have increased against a fixed supply of renewable fresh water. As Sandra L. Postel (2000) states, "meeting the challenges water scarcity poses to food production, ecosystem health, and political and social stability will require new approaches to using and managing water. Greater efforts will be needed to reserve water for the maintenance of ecological functions and, where necessary, to return water to natural systems to restore those functions. Concerted efforts will also be needed to slow the growth in human demands for water".

It may be noted that water thus becomes more than a mere commodity. If it is just a commodity, then the use will be probably only for irrigational (commercial agricultural) purposes, industrial purposes, affluent needs such as recreational facilities. "Man's concern over water includes water quantity; its availability and volume, in time and place; and water quality, its physical, chemical, and biological condition, which directly affect its availability for use." (Hennigan 1969)

The popular perception is that water belongs to the 'commons', the public sphere, because water is a matter of basic right, a human right with all obligations to other species, as it sustains life. "Being an area without any rivers of importance, the southern part of the country is forced to harvest the rains and store the downpours from less than 30 days of contributing rainfall. This is the reason states like Tamil Nadu, Andhra Pradesh and Karnataka have thousands of tanks, ponds, and channels - all artificial. The entire landscape is interspersed with water systems of all sizes, shapes, and type". (Seenivasan, 2016)

The reality regarding the availability of water to the public sphere is still a challenge and this paper may not fully deal with overcoming the shortage of water since the focus is on film and the projection of water. But one needs to state that much depends on decentralization of resources when it comes to the phase of planning. Satyajit Singh (2014) puts it succinctly; the need is to implement "appropriate technology, equitable distribution of developmental benefits and prioritized targeting of the poor, greater gender equality and sustainable use of resources".

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Further, water is also seen as a sacred resource. Eliot has referred to river as a "strong, brown god" in *Four Quartets*. Since time immemorial, the element of water has been associated with the 'great mother,' the one that sustains life on Earth. Aristotle focuses on the interplay between the properties of 'hotness and coldness, dryness and wetness' for sustaining the nature of the elements. In India the classical text *Puranānūru* refers to the preservation of water: "Those who construct dams so that the water collects/ on low ground in the field are assured, in this world, of glory!/ Those who build none will have no renown enduring in this world". (section 18) and "...there is a little bit of water/ from a red place, from a well dug into red-soiled ground/in a ravine, and the water is fit to drink. (section 319). In the Jewish and Christian tradition, "Darkness covered the deep and the Spirit of God hovered over the water" (Genesis 1: 2). In the New Testament, water is a means of purification, a factor of regeneration.

Throughout the traditional narratives such dualities of purification and contamination, life and death, transparency and opacity, blessing and curse, reformation and damnation exist. Still that binary prevails in blue water footprint and grey water foot print. The concept of "Water resources" implies focusing on the relationships between water and the human societies and questioning the various uses of the different type of resources (sea, streams, ponds, groundwater, ice). As Stephane Frioux (2014) opines, "Throughout several millennia, the representations of water drastically changed, evolving from a vision in which water was like a treasure, or a tool, given by divinities to men, to an increasingly anxious point of view, conscious of the non-renewable character of many sources of water and of the multiple risks associated with water pollution".

Interestingly, even in the Sangam literature, water harvesting is referred to extensively. Munneer Vizhavu (the festival of three waters) refers to the three waters that create the soil, nourish, and erode it. As Kavitha Muralidharan (2019) states, "Ancient Tamil literature had different terms to connote different types of water. Munneer refers to the sea – a convergence of water from rains, river and spring. The term also refers to its antiquity, implying that the sea was formed before the lands. Water from river was called Nanneer (good water) and water used for drinking purposes was called Inneer (sweet water)". "The emphasis on water is already evident in the earliest stratum of Tamil literature dated around the beginning of the Christian era. The poetic convention of the five tinais, areas of human geography, associates stages of love and war with geographical features. In no fewer than three of the five tinais, the mountainous region kuriñci, the fertile well-watered riverine zone marutam and the seashore neytal, bathing is cited as people's pastime" (Zvelebil: 1973). In Tamil films, there are films which treated scarcity of water as a central theme and they include *Thaneer Thaneer* (1981), *Desiya Geetham* (1998), *Karmegham* (2002*)*, *Kaththi* (2014), *Aramm* (2017) to name a significant few. Interestingly for creating water based visuals, the Tamil film makers often come to the neighbouring state Kerala (location at Athirappally water falls) and films like *Punnagai Mannan* (1986), *Raavanan* (2010) are made there.

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Marking the Water Sites

The water sites are considered as spheres of comfort and security. But they also stand for loss, dysfunction and death. Many film makers perceive the water body as an emblem of womb. The aesthetics of the medium of film merges with the waterscapes. It becomes a discursive site. Here boundaries are drawn, experiences are externalised and the fluidity of confinement is questioned. The fluid nature of rivers, which is in sharp contrast to the fixedness of landscapes, opens up the dynamics of spatial practices. The pleasure of watching the water bodies, especially documenting the fluidity, produces undeniably a form of art. Spectator merges with the visibility and exquisite transparency.

Anjelika Şimşek (2018) refers to scopophilia, i.e., excessive interest watching the performers in everyday scenes, conditions, acts of violence and privacy (quoted in Metz, 2004), and this is quite integral to the narrative. Water can visually produce multiple layers of meanings in consonance with dark deep human desires and dreams. The deep relationship that binds water with film produces a characteristic harmony and fluidity wherein the spectator voluntary submits himself/herself to the aquatic modes of expression. The highly charged up emotional atmosphere of the film narrative easily blends with the whirlpool created by the waterbody. Film makers have recognized this convenience created by this convergence. The language of film and the potential of water are no different. This semantic fluidity helps the film maker to convince the audience and the viewers in turn voluntarily submit to the flow of visual images. The fluid nature of rivers, virtually counter to the fixedness of landscapes, motivates film makers to visualize and to philosophize the nature of space.

Henri Lefebvre (2004) has proposed different types of space: i.e., "perceived space" (that of everyday social life), "conceived space" (that is theorized by planners, cartographers, and the law, for example), and "lived space" (as it exists imaginatively and is sustained through artistic practices). His "triple dialectic" encapsulates the multidimensional nature of sites. As Andrew Lothian (2021) states "The visual diversity or variety of the landscape is often an important component in generating scenic attractiveness. Visual diversity is the busyness of the scene, the combination of its landforms, land cover (trees and other vegetation), land use, presence of water, colors and textures. In a river context it is all of these plus the characteristics of the river itself – fast or slow flowing, wide or narrow, rapids or smooth, shallow or deep, clear or turbid."

A. Koskina and N. Hasanagas (2013) identify the water-related landscape values as enumerated in Spitalas (2000) They include:

1. The sound of water or water birds
2. The movement of rivers, waterfalls, waves, etc.
3. The colors of water and coasts

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4. The reflections on the water surface
5. The possibility of expanding biotopes of certain species
6. The opportunities of emphasizing structural materials and lighting
7. The opportunities of environmental education

Enwaterment

Adriano D'Aloia (2012) uses the term 'enwaterment' to designate this unique phenomenon of water-based experience. From early days itself, films have realized the potential of water to convey the desires of human beings. By making use of multifarious techniques, films represent emotional intimacy, depression, fear and a whole lot of emotions. Through the technique of enwaterment, film makers conjoin the planes of psychology and cultural codes. The aquatic modes of expression help the film maker to make the spectator to get 'inside the water, a kind of 'embodying' experience, there by binding water and film viewer. They willingly permit themselves to be caught in the whirlpool of emotional experience. "Diving into water, for example, or sinking into a bath, we are not only in the realm of the audiovisual sensorium; all our senses, in fact all of our body, is encapsulated, surrounded. In that sense, it is a haptic experience, not merely an optical one" (Holmberg 2003, 132). It can provide the spectator to merge with the scene. Movies capture this water created illusion to perfection. This can be for stating something thematic- usually in terms of romance, tragedy or even social evils.

What is argued here is not just a film technique but a necessary creation of illusion of water. This waterscape is admired by millions of Tamil movie spectators. There is a kind of 'double illusion' working here. The real life of scarcity of water is gratified in the presence of the plentiful availability of water just as the thematic hero-gets-heroine central narrative. Even if a song sequence is set within the film narrative, the hero-heroine will have to make it out within this waterscape to make it all the more gratifying to the audience. This result in a mode of achievement in the fictional space created. The waters merge, infiltrate and satisfy the long drought drawn helpless viewer. One can discern a synesthetic perception, often engaging the visual and aural stimulation achieved by the medium.

A few examples can be given:

1. Experiencing water in a bodily, immediate, empathetic, and reflexive form. This locates the viewer to the long-range panoramic view of water bodies with community people around. This helps to create a collective water consciousness.
2. Water is a plane of separation and connection between two different but not incompatible worlds viz., the actual world and the fictional world. Generally this is quite subjective. Here the emphasis is on the on-screen associations.
3. The surface of water replicates the surface of the screen. It is a body-image view of the man or woman. Usually romantic or even dramatic but with perfect artistry of the camera crew, it can speak volumes about the embedded multilayered relations.

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4. Visual concretization of the dynamic properties of water. It can thematically represent a mental mode of expression. Water takes the centre stage and it vocalizes the shock, trauma or even a movement of time.

5. A liquid film style that calls for a liquid spectatorship. Generally underwater mode of representation. Here it is more submerged and subtextual.

Conclusion

The medium of films can convey in a deep sense a concept of illusory reality. This is very much evident in the way water is used for conveying the cinematic reality. It plays a crucial role in narrative development of the movie sequence. In Tamil films one can perceive a pattern of using water based narrative modes for gratifying an audience who find it difficult to obtain in real life. The audience merges with flow of the image which sustains the movement of the film as well as giving each one a psychological healing process. The fluid properties of water thus engage the spectator in a 'water-based relationship.'

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Friedrich Schlegel's *On the Language and Wisdom of the Indians*: A Study

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Friedrich Schlegel (1772-1819)

Courtesy: https://en.wikipedia.org/wiki/Friedrich_Schlegel

Abstract

Friedrich Schlegel hails from a prestigious German academic family and was an Indologist like his famous brother August Wilhelm Schlegel who founded the concept of Romanticism in Germany. Sanskrit played a major role in German society in shaping aesthetics and literary styles and helped the new field of study of comparative philology. The Danish government had sent German missionaries to Malabar region and these missionaries took back a lot of knowledge about Tamil Nadu and Kerala, but these early works lost their prominence in German academia. Instead, Sanskrit took over as a leading and influential phenomenon. This paper tries to study Friedrich Schlegel's important treatise "On the Language and Wisdom of the Indians" and understand if there are any reasons for the shift from Malabar languages to Sanskrit.

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Keywords: Friedrich Schlegel, Sanskrit, Germany, Malabar

Friedrich Schlegel (1772–1829) can be regarded as a German literary critic and a poet and philosopher. Early German Romanticism's philosophical importance can now be reconsidered by studying the works of him. He was the youngest of five sons born in Hanover into a culturally prominent literary family. His father, Johann Adolf Schlegel, was a clergyman and wrote literary works; his uncle, Johann Elias, wrote dramas and was a literary critic; and his elder brother, August Wilhelm Schlegel translated Shakespeare's plays into German and also emerged as a leading literary critic. In 1804 Schlegel developed an interest in the study of Sanskrit and Hindu texts. Schlegel's work as explained in the long essay "On the Language and Wisdom of the Indians" studied the links between Sanskrit and the Indo-European languages, and developed the study of comparative grammar, a term which Schlegel himself coined in the text. The study of Hindu metaphysics created a shift in his religious thought, and he converted to Catholicism in April 1808, scholars argue. (Speight)

The Danish King Frederick IV acquired a colony for the Danish settlements in Tranquebar. The Danish East India Trading Company was gaining momentum in and around the place. Its Directors in Copenhagen wanted to get more profits through trading activities. The king also wanted to spread protestantism and Halle in Germany supplied missionaries, thanks to the zealous Pastor Prof. Francke to be sent to South India. All these missionaries, though Germans by birth, came to be called the Royal Danish Missionaries. The Missions Kollegium in Copenhagen failed to give these early German missionaries enough protection in the Danish colony Tranquebar. (Mohanavelu 26)

Mohanavelu's doctoral research was on the investigation of the "origin of German Indology" and he traced its "development over the past three centuries in a particular branch - German Tamilology" (*German Tamilology* by C.S. Mohanavelu, Saiva Siddhanta, Chennai, 1993). He believes that "although German Indology" is historically associated with German Jesuit Heinrich Roth (1620-1668) "significant German interest in Indology" can be located from the year "1706, when Ziegenbalg arrived at Tranquebar, (Tarangampadi in Tamil) with a Royal Danish order to propagate the Gospel among the "Malabarians", as Tamils were known in Europe in those days" (Viswanathan).

> After a ship voyage lasting more than six months, the two theologians Bartholomäus Ziegenbalg (1682–1719) and Heinrich Plütschau (1677–1747) arrived in Tranquebar (today: Tharangambadi), the main bastion of the Danish colonies in Southeast India on 6 June, 1706. Their arrival marked the beginning of an intercultural dialogue that carried on into the nineteenth century between the European representatives of the first Protestant mission in Copenhagen, Halle and

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London and the people living in the South Indian kingdom of Tanjore. The mission undertaking was funded by the Danish Crown, but it received guidance and support from the educational and social institutions in Halle named after the pastor and professor of theology, August Hermann Francke (1663–1727), who had established them. The mission was later also supported by the Society for Promoting Christian Knowledge (SPCK) in London. Thus, the mission in Tranquebar is called the Danish-Halle mission or the Danish-English-Halle mission. (MIDA archival entry)

Germany absorbed these missionary and colonial interactions' inferences resulting in new thought processes and approaches. A century of cultural transactions between South India and later North India brought about seminal changes in thinking traditions of German academia. We notice the shift in Friedrich Schlegel's thought, and also notice his ambiguity in approaching Indian metaphysics and philosophy. He shifts from Protestantism to Catholicism after he intensely interacts with Indian writings. He is unable to interpret the concept of emanation from an autonomous position and ends up interpreting it as caught within the framework of time and space.

"On the Language and Wisdom of the Indians" was written in 1808. Schlegel says that he would prefer "to predict that the Indian study" would influence "European intelligence" and pays tribute to the German missionaries in India on Malabar mission who "devoted their talents to the cultivation of Indian literature." He discusses Heinrich Noth (1620 -1668) who studied Sanskrit in 1664 to argue with Indian scholars (Schlegel 427). The European missionaries took back with them Indian elite learning systems and mythologies. The German scholars slowly began identifying India with one written classical language - Sanskrit. Schlegel mentions the Jesuit Ernst Hanxleden who visited India in 1699 and says that he "produced many works in prose and verse in the old Indian (the Gronthon), and the common language (the Malabar), besides compiling dictionaries and grammars" (Schlegel 428).

Johann Ernst Hanxleden (1681-1732) was known as Arnos Pathiri in Kerala. He was a German Jesuit priest and missionary. The people knew him as a "Malayalam and Sanskrit poet, grammarian, lexicographer, and philologist" and "lived in India for most part of his life" and learnt Sanskrit and Malayalam languages and wrote "Puthen Pana," a poem on the life of Jesus Christ. He also wrote "Malayalam–Portuguese Dictionary, the first dictionary in Malayalam" and also wrote "two linguistic treatises, Malayalavyaakaranam and Sidharoopam" He also learnt Syriac, Portuguese and Tamil." Kerala has celebrated his missionary and linguistic work in many books: *Arnos Pathiri - a Biography* by A. Adappur; *Arnos Pathiri* by Mathew Ulakamthara; *Arnos Pathiri - Jeevacharithram* by N. K. Jos and *Arnos Padri* by C. K. Mattam. "The church and his home in Velur have been declared as a protected monument by the Government of Kerala" Records tell us that he was "the vicar of the main church in Malabar" and "in 1712 he built the Velur Forane Church." From 1729 he moved around "Velur, Sampaloor, Palayoor and Pazhuvil" and "at

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Pazhuvil he suffered a snake bite" and died "on March 20, 1732, at the age of 51." (Indian Christians)

The Christian missionaries looked beyond their horizons of theological thinking and extended their learning to philology and comparative mythologies and literature. Sanskrit as a language began to be identified with refinement, culture, civilization and education, and began to represent Indian civilization:

> Certain German scholars' secular approach to studying Sanskrit in late 18th and early and middle 19th century Europe influenced the establishment of the Wales Professorship of Sanskrit at Harvard. This influence contrasted it with some English scholars' religious concerns. While these English scholars were attempting to aid in the Christian conversion of the Hindus, those German scholars were leading the academy into comparative philology. The establishing of the Boden Professorship of Sanskrit at Oxford, the German dominion of the Sanskrit teaching professoriate in the Continent, and the German mentorship of early American scholars interested in the study of India attested to this interplay between a German secular approach and an English religious concern with and to the study of Sanskrit. (De Sena)

Scholars argue that Germany did not have imperialist goals in India and hence created great oriental scholars like Franz Bopp and August Wilhelm Von Schlegel who perceived Sanskrit with Romantic fascination and understood its philological possibilities. Alexander Hamilton wrote one of these early romantic works to influence the German scholars, "On the Speech and Wisdom of the Indians." Hamilton had taught August Wilhelm Von Schlegel and Franz Bopp who held the first chair of Sanskrit at the University of Berlin, and we have to remember that Max Mueller was Bopp's student (De Sena). Franz Bopp established Sanskrit as a prime player in the comparative study of Indo-European languages and its related study of linguistics and developed a technique of language analysis. His scholarly treatise "Comparative Grammar of Sanskrit, Zend, Greek, Latin, Lithuanian, Old Slavic, Gothic, and German" was a great contribution to comparative linguistics and it studied languages and established a strong link between Asia and Europe. The connection between the East and the West developed academic roots through these renowned oriental scholars and Friedrich Schlegel remembers Hamilton with respect in his preface to "On the Language and Wisdom of the Indians": "I am indebted to the friendship of Mr. Alexander Hamilton, a member of the British Society of Calcutta, and at present professor of the Persian and Indian dialects in London, who favoured me with personal instruction during the spring of 1803-1804" (Schlegel 425).

The vestiges of many valuable works of his are still to be found in Rome. Paulinus St. Bartholomew, well known by many learned writings on Indian antiquity, frequently refers to the

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works and manuscript remains of Hanxleden. Schlegel's understanding of India is a consolidation of ideas from south India and North India. He has had the advantage of belonging to a later period and has had the opportunity to assimilate the varied texts of William Jones as well as Hanxleden, representing Bengal and Malabar respectively. Also, his sibling Charles Schlegel who died in Madras also gave him direct inputs about India (Schlegel 428).

> Captain Wilford, in the English service, but a German by birth, is well known by his treatises, published in the collection of the British Society of Calcutta. I may also remark that my elder brother, Charles Augustus von Schlegel, who died at Madras on the 9th of September, 1789, having in the latter years of his life made many journeys into the country, and had much intercourse with the natives, had commenced a study of the country, the literature and genius of the Indian people, which was prematurely terminated by his early death. (Schlegel 428)

His brother August Wilhelm von Schlegel, one of the most powerful voices of the German Romantic movement and conceived to be the finest German translator of William Shakespeare, was also an Orientalist just as all the other leading academia. He attacked French Neoclassical theatre, praised Shakespeare, and exalted Romantic drama. These lectures were translated into many languages and helped spread fundamental Romantic ideas throughout Europe. He printed the *Bhagavadgītā* (1823) and *Rāmāyana* (1829) and founded Sanskrit studies in Germany. He started the periodical Athenäum (1798–1800) with his brother Friedrich Schlegel, and it became the organ of German Romanticism, which involved the intellectual inputs from Friedrich Schleiermacher and Novalis (Britannica). It is quite interesting to note that he set up a Sanskrit printing press too. German orientalism in its Sanskrit model played a major role in the development of Romanticism in Germany, we can surmise. The academic world was caught up with the Asian metaphysics and languages that travelled through the German missionaries.

Friedrich Schlegel compares Greek with Arabic and argues that there are "far greater numbers of Arabic roots" in Greek language. He says that the "structure and character of the two languages" are "entirely different" and hence "this point of agreement between them is easily overlooked." He brings in the historical perspective that there was "continual intercourse of the Greeks and Phoenicians" in the past which might have resulted in the absorption of words of one language into another. Similarly, there is "a greater intermixture of Celtic and Cantabrian [Spain] roots." Also, the "German language" is closely connected "with the Persian distinctly indicates" how languages operate like a tree and branch out radically and separate themselves from their origin. Hence, there are "numerous radical words, common both in the Teutonic and the Turkish languages" which would indicate "the migratory path" of the people concerned (Schlegel 460). Comparative linguistics takes its cue from history and attempts to explain the way languages grow and branch out into different entities. Schlegel traces the historical movement of languages with

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the ease of a person who knows many languages along with the history of the people who speak them.

The German respect for Sanskrit which the people identified as "Oriental genius" has been shaped by William Jones who established the affinity between Sanskrit, Latin, Greek, German and Persian. Schlegel says that William Jones "first threw a light on this obscure study" and explains how Jones introduced the advanced intellectual position of India to Europeans and its "surprising discoveries" which have been made in the past "which remarkably illustrate the progress of human intelligence in those ancient times." Schlegel recommends the study of "Oriental literature" and anticipates "that still more satisfactory results will attend the further prosecution" of research (Schlegel 465). Sanskrit created this impact on German scholars and developed their philological studies into a strong academic discipline during the nineteenth century, and these ideologies of languages slowly spread across Europe and America as scientific studies of languages and comparative philology. Languages came to be interpreted as human institutions and comparative linguistics approached languages from a historical perspective. Studies of ancient languages and their branching out taught humanity how migrations and cultural contacts influenced languages and constantly created new usages and expressions and finally resulted in the creation of new languages.

Along with a study of languages, Schlegel also delves into a study of mythology and argues that it "presents the most complicated structure ever devised by human intellect." He attempts to examine them too as mythologies show varieties. "The slightest variation of meaning is of importance, and should be considered in its simple individuality, apart from any consideration of time or place," he says. "Greek and Roman mythology" cannot be treated as one and the same. Scholars have to study the differences "between them to feel that Venus and Aphrodite, Mars (Mavors) and Ares cannot justly be regarded as one and the same divinity." Once again, he invokes the study of history to interpret the differences in mythologies. Hellenic cities were different from the Roman lifestyle. "How great is the difference between Corinth and Athens, or between Doriern in Sparta and Sicily," he argues. Each country has "symbolic representation of certain peculiar features in the history" which are represented in their mythologies and "the signification, the idea conveyed by these symbols" can never be transported to another location and will assume a "different aspect" (Schlegel 466). Schlegel's critique of the merging of Greek and Roman cultures brings in a view that holds that every land has its identity and cannot be destroyed by new assimilations. We can sense the roots of identity politics in this historical understanding of geopolitics. Accordingly, human culture is fixed to a certain location, geographical and social period and can never lose its original identity. Somehow, comparative studies of any type bring in solidification of individual cultures and encourages rigidity of human thought processes, one can surmise.

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Perhaps Schlegel senses the route his thinking processes take him and decides to change his route and says, "I must henceforth abandon the system pursued." He further says that " instead of a comparative analysis of the mythology" he would prefer to conduct a "brief inquiry" on the "character of Oriental genius, its distinctive peculiarities, and the most important stages of its progress." He wants to confine his "attention to such peculiar points of Indian mythology" (Schlegel 467).

He decides to analyse "the doctrines of the Metempsychosis and of Emanation" from India. To interpret these ideas, he chooses Sanskrit texts. He takes up "the first book of the laws of Manu" which he considers to be "more ancient than any existing records of European literature." To him this "Oriental system" is "bold and fanciful." It is highly possible that it can be equated with pantheism, he says (Schlegel 468). Understanding the concept of avtar and seven births throws a challenge to the European mind constructed by its mythologies and religions. It assumes quite naturally that its worldview is a fixed and logical one and the rest of the views are only assumptions. Human mind perceives other systems as fanciful and strange; we can argue.

The problem of viewing that all beings have godliness is that "those who are incorrigibly evil will continue separate and divided throughout eternity." To Schlegel it is a "dangerous influence on the moral life and character" as thus the eternal distinction between right and wrong, good and evil, set aside, and finally rejected. Rather, he feels that the "doctrine of Emanation" would bring an inference that "all created existences" would be "rather counted unhappy, and the world itself ruined and guilty in its very essence." He calls such a situation "a state of mournful degradation, sinking deeper and deeper into the abyss." He dismisses the logic in this system and doesn't want to "enter into a dialectic argument concerning the philosophical incorrectness of this system, for it rests not on any logical basis." It cannot be proved empirically through demonstration, he argues. To him the Sanskrit system of emanation "wears the character of an arbitrary invention." It is a "primæval tradition" to him and he feels that "divine origin" has been "ascribed to it" (Schlegel 469). The mind that has accepted the old and the new testaments is not able to accommodate other traditions of interpretations of the world, one can assume. Schlegel views Sanskrit mythology as a system with "rude errors and arbitrary fictions with which this philosophy is everywhere overlaid" and argues that "a fearful and horrible superstition" had "crept into the entire system, profaning and polluting everything it touched, still it cannot he denied that the early Indians possessed a knowledge of the true God" (Schlegel 471).

He infers that the "writings are replete with sentiments and expressions, noble, clear, and severely grand, as deeply conceived and reverentially expressed as in any human language in which men have spoken of their God." Still he has one more question: "how is it possible to account for the existence of such lofty wisdom in combination with errors so great and numerous?" He says further: "Our astonishment is, perhaps, still more excited, by discovering that a belief in

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the immortality of the soul is bound up with the idea of divinity in this most ancient system of superstition, than at the noble purity and simplicity of their conception of God." He understands that "immortality" was not "a mere probability, deduced gradually, the result of long study and reflection." It was "a conviction so certain and decided, that the idea of a future life became the ruling motive and impulse of all actions in this." He sums up saying that "it would be utterly impossible to explain this fact" (Schlegel 472).

> I merely suggest the question, whether it can be correct to seek our proofs of the existence of a God in the usual manner, by syllogisms, probabilities based upon natural appearances, or the evidence of internal necessity; for the footsteps of the Deity cannot be recognised in external nature, or the inner consciousness, unless He be already known and acknowledged ; and this consideration, by destroying the simplicity of the original idea, deprives it of all value. I do not here allude to those who assert that the idea of divinity is capable of being deduced from consciousness or internal evidence and the laws of reason; for another power should be evoked in their place, the very idea of which has long been lost. In a word, the Indian doctrine of Emanation, if treated as the offspring of natural reason, is totally inexplicable. (Schlegel 472)

The mythological and religious concept of emanation has to be tested for its logic step by step, in the style of theological hermeneutic arguments of the Christian system. Stendahl argues how "exegesis, or critical interpretation, and hermeneutics, or the science of interpretive principles, of the Bible have been used by both Jews and Christians throughout their histories for various purposes." Theologians have attempted to discover "the truths and values of the Old and New Testaments by means of various techniques and principles" and attempted also to reach an "unbiased use of exegesis and hermeneutics" (Stendahl).

Schlegel's hermeneutic analysis ends up considering the system of emanation as "a perverted conception of revealed truth." He concludes with his fundamental faith in the Jewish and Christian view of the world that "the same glorious Being by whom man was so majestically formed and highly gifted, vouchsafed to the newly created one glance into the mysterious depth of his own existence." He asks: "how could truths so divinely imparted become involved in the mists of error?" (Schlegel 473) To this question he has an explanation:

> Man, if without the gifts of revelation, would occupy a place with other animals in the general plan of creation; perhaps holding the first and highest rank, perhaps, on the contrary, the most intrinsically wild and savage of them all. Without the free operation and comprehension of divine truth, he would soon become debased into a merely blind and senseless instrument. This primitive error, which sprang from

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an abuse of the divine gifts, and an eclipsing and misinterpretation of holy wisdom, is clearly to be traced in all the Indian records; and in proportion as our knowledge of this, the most highly cultivated nation of antiquity, becomes more perfect and complete, the influence of error and distorted views will be more clearly and palpably evident. The Indian mythology and philosophy is the first system which was substituted for the pure light of truth: notwithstanding some lingering traces of a holier origin, wild inventions and savage errors everywhere predominate, and an impression of anguish and sorrow, naturally resulting from the first rejection of, and estrangement from, revealed truth. (Schlegel 473)

To Schlegel Sanskrit mythology and philosophy has "holier origins" as well as "error and distorted views." As the ancient system does not have the gift of revelations it is more savage in nature and primitive to him. Without the support of divine truth, the human system becomes inferior and "debased" and also further becomes a "merely blind and senseless instrument." His mind has been shaped by his native mythologies and philosophies.

"Revelation to John" is a part of the Christian system that could have been "composed by unknown authors who lived during the last quarter of the 1st century" though scholars say that it could "have been written by an individual named John—who calls himself the servant of Jesus" (Petruzzello).

The copious richness of Indian literature, and the great and valuable assistance that may be afforded by Eastern study in philosophy, ancient history, and philology having been now fully proved, nothing remains except to determine the relative value of Oriental literature generally, as contrasted with European, and to mark the influence which the former has already had, or may hereafter exert, upon the latter. It has, indeed, been the chief object of the present treatise to display the advantages of Oriental study in this respect particularly (Schlegel 515).

Mohanavelu has painstakingly explained how the German missionaries in Tamil Nadu learnt the Tamil medical systems and the later missionaries lived a longer life than the earlier missionaries who died even in their late thirties due to tropical diseases. (Mohanavelu 194)

> Thenceforth came special medical missionaries from Germany to study in more technical detail these native medical secrets, till then unknown in Europe. Some of the medical missionaries collected botanical specimens of the herbs and sent them to Halle most probably for the German medical doctors to find out if those plants could be grown in Europe and medicines prepared for the future missionaries to carry with them, when they set sail to Tranquebar. From the very beginning itself, the Germans were trying to know these medical secrets. Ziegenbalg, when he

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happened to meet a Malabar physician on the 1st of May, 1708, asked him if he would let him see the palmleaves books containing the medical studies. (Mohanavelu 194)

There are many questions left in our minds when we interpret Friedrich Schlegel: Why is it that the German academia is only talking about Sanskrit? Why is there no loud discussion of Thirukkural? Mohanavelu and other Lutheran scholars are discussing only about Ziegenbalg and not about Hanxleden or others, and one wonders the reasons for the same.

Nitin Mehta, the founder of Indian Cultural Centre, London has subjective opinions that do help to understand Germany's stand on Sanskrit. He says that "Germany has had a special affinity for Indian mythology, literature and philosophy, which can be traced back to the country's interest in Sanskrit" (Mehta) and traces the history of Indian-German academic relationship. In 1791, Kalidasa's play *Shakuntala* became popular in Germany. "In fact, so impressed was Goethe with *Shakuntala* that he had decided to learn Sanskrit" and also read other works by Kalidasa. "*Shakuntala* also wooed Johann Goffried Herder (1744- 1803)." German Orientalist Peter von Bohlen translated *The Three Sataks* by Bhartrahari. Mehta says that "Sanskrit continues to be relevant in present-day Germany. The language has enjoyed a great revival in the country, with fourteen universities teaching Sanskrit" and the "Heidelberg University organises Sanskrit speaking courses in Australia, Europe, North America and even in India." He quotes the Danish historian Georg Brandes: "the Germans started to absorb and to utilise the intellectual achievements and the culture of India" (Mehta).

Viswanathan says in his article quoting the German Consulate General in Chennai that "Grammatica Dumulica (1716), a book on Tamil grammar (printed in Halle), by Bartholomaeus Ziegenbalg (1683-1719)" was the first major published Indological work. "This was followed by a number of dictionaries, lexicons and translations of Tamil literary works published by other missionaries." Viswanathan says that these works by the German pioneers did not sustain their reception "that they deserved and soon Sanskrit studies eclipsed Tamil studies in Europe" as the Consul-General said (Viswanathan).

Schlegel's approach to Sanskrit philosophy and his dismissal of Sanskrit metaphysics needs to be analysed further in detailed research. We have to find out if Tamil linguistics helped develop the study of languages in Germany.

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Morphological Processes in Indo-Aryan Languages:
A Case of Magahi

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Abstract

The morphology of the Bihari languages is highly complex and rich. One of the most complex paradigms in Indo-Aryan languages, verb agreement paradigms co-refer to a large number of participants. The verb agreement enables the simultaneous encoding of numerous referents in various case relations (Bickel et al., 1999; Kashyap, 2012). There are only a few affixes for number and gender in Magahi morphology. This paper attempts to study the morphological processes found in Magahi, an Indo-Aryan language spoken in the Indian states of Bihar, Northern Jharkhand, some pockets of West Bengal, as well as in certain parts of Nepal. The data have been obtained from recorded speech samples from twenty native speakers of the language, both - males and females. Findings suggest that affixation, mainly suffixation and prefixation, plays an essential role in the morphological processes in Magahi.

Keywords: Indo-Aryan language, Magahi, morphological processes, word formation

1. Introduction

The morphological process is the process that occurs to change the meaning and/or part of speech (derivational), while others reveal grammatical relations between words. It serves many functions. One morpheme attaches to another in order to form a word and thus functions as the smallest element in the structure of the word. Due to the morphological process, two morphemes combine into a new morpheme or, in some cases, a word. There are many different processes, although not all of them are prevalent in each and every language. Some of these are non-

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concatenative, involving the alternation of internal morpheme features, while others are concatenative, involving the linear combination of morphemes (affixation, for instance). Some of the morphological processes are affixation, concatenation, reduplication, and suppletion. This study, however, only focuses on the morphological processes of Magahi.

Magahi, one of the Bihari languages, is also often referred to as Magadhi. Since Magahi is intimately related to the name Magadhi Prakrit, educated Magahi speakers often prefer to use the term Magadhi instead of Magahi when referring to their language. Grierson (1903) classified Magahi into Indo-Aryan languages. It is spoken in the Indian states of Bihar, Northern Jharkhand, and certain pockets of West Bengal, as well as the Southern Nepal that shares its border with Northern Bihar. Magahi descended from Prakrit, and it is believed to be the court language of the ancient Kingdom of Magadha. The preachings of Budha and the edicts of Ashoka, King of the Mauryan Empire, were inscribed in Magahi and served as the official language of the Mauryan court (Prasad & Mukherjee, 2020). Prominent three of the Bihari languages, Magahi, Bhojpuri, and Maithili, are closely related (Comrie, 2001). There are around 18 million native speakers of the Magahi language. Kaithi and Devanagari are two of its most widely used scripts (Verma, 2007). According to Chatterji (1926), Magahi is a descendant of the Magadhan language along with Bengali, Assamese, and Oriya and is very close to Eastern Indo-Aryan languages. However, the Indian government has not yet acknowledged it as a distinct language. The language has a vast and rich history of folk songs and narratives, despite having little to no historical records.

1.1. Literature Review

The morphological aspects of the language have been noted in some earlier Magahi literature. Verma (2007) focused on the gender, quantity of nouns, and agreement with verbs when studying the noun and verb morphology of the Magahi language. Sinha (1966) has discussed the morphology and phonology of Magahi. Atreya and Sinha (2020) have recently studied the functions of the diminutive markers in Magahi.

2. Method

The data for this study has been gathered through interview methods from the native Magahi speakers who reside in the villages in the Aurangabad district of Bihar. Leipzig Glossing Rules have been employed to show the morpheme-by-morpheme analysis of the collected data. The data have been transcribed and annotated using the International Phonetic Alphabets. This study follows the Item and Process (IP) model (Hockett, 1954) as it fits best with the morphology of Magahi. This study is based on the Basic Linguistic Theory (Dixon, 2010), and the rules were developed using the data that was gathered. The research findings about the morphological processes seen in Magahi are discussed in the following section.

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3. Result and Discussion

The major morphological processes that have been observed in Magahi, including inflection, derivation, compounding, and reduplication, are presented and discussed in this section. Typological classifications of languages around the world include synthetic, agglutinating, isolating, and fusional. Different grammatical structures of indigenous languages have been highlighted by Abiog & David (2020). Like the majority of other Indo-Aryan languages, Magahi belongs to the group of synthetic languages and is morphologically fusional. The morpheme boundaries of Magahi words are usually ambiguous, and words typically consist of many morphemes. Affixes are usually added to the roots or words in Magahi to create new terms. Below is a discussion of the various morphological processes in Magahi.

3.1. Inflectional Processes in Magahi

There are inflections for various grammatical categories in Magahi. Some include tense, aspect, mood, degree, quantity, classifier, and case. The discussion of various inflection processes is provided below.

3.1.1. Number Inflections

There are two grammatical numbers for nominal constructions in Magahi - singular and plural. While plural noun formulations require plural morphemes, singular nouns are uninflected for numbers. In the Magahi language, the plural morphemes are /-ən/, /səb/, and /log/.

	Noun	Suffix	Pl. Noun	Gloss
(1a)	ləɪka	-ən	ləɪk-ən	'children'
	ləɪka	-ən səb	ləɪk-ən səb	'children'
	ləɪka	-ən log	ləɪk-ən log	'children'
(1b)	kuʈʈa:	-ən	kuʈʈ-ən	'dogs'
	kuʈʈa:	-səb	kuʈʈa: səb	'dogs'

As it is illustrated in (1a), *ləɪka* takes all three allomorphs of plural markers, whereas *kuʈʈa:* in (1b) takes only two allomorphs of the plural marker. The allomorph /-log/ is applied to only human nouns, whereas /-ən/ and /səb/ can be attached to countable nouns to express their plural number. It must be noted here that the plural allomorphs are phonologically realised depending on the ending of the base noun in this context, causing morphophonemic alternations. This study, however, does not address the same issue.

When definite article or familiarity inflections are applied to plural nouns, the definitive article marker /wa:/ or its allomorph comes before the number marker morphemes or allomorphs.

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	Noun	Suffix	Pl. Noun	Gloss
(2a)	ləɪka	wa:+-ən	ləɪk-w-ən	'the children'
	ləɪka	wa:+-ən səb	ləɪk-w-ən səb	'the children'
	ləɪka	wa:+-ən log	ləɪk-w-ən log	'the children
(2b)	kuṭṭa:	wa:+-ən	kuṭ-w-ən	'dogs'
	kuṭṭa:	wa:+ -səb	kuṭ-w-ən səb	'dogs'

3.1.2. Classifiers

Magahi numerals can be inflected for classifiers. In Magahi, classifiers follow the numerals. For instance:

Classifiers	Noun	Examples	Gloss
go	ṭin kələm	ṭin go kələm	'three pens'
ʈʰo	ca:r bilaɪ	ca:r ʈʰo bilaɪ	'four cats'

3.1.3. Case Inflections

Nouns in Magahi are additionally inflected for case indicators. A noun and verb phrase are connected syntactically and semantically by a grammatical category known as the case. In Magahi, there are ten cases. The examples below illustrate the case inflections.

Case	Markers	Example	Gloss
Subjective	-Ø	kuṭ-wa: bəɪʈʰəl həɪ	'The dog is sitting.'
Executor	-ke	həm ba:bu ke ɟəgəliəɪ	'I woke the kid up.'
Unmarked objective	-Ø/ke	bauɟi səbbe ke ḍã:ʈləʈʰin	'Father scolded everyone.'
Locative	-me/pər	həm isku:l mẽ hiəɪ	'I am at school.'
Ablative	-se	həm cʰəṭ-wa: per se gir geliəɪ	'I fell off from the roof.'
Direction	kihã:/ḍəne	ṭu Beni kihã: jaiṭ hə	'Are you going to Beni's?'
Benefactive	-ke	u: əppən ija:r ke kita:b ḍeləɪ	'He gave his friend a book.'
Instrumental	-se	u: cəmməc se kʰaɪṭ həɪ	'He is eating with a spoon.'
Sociative	-(ke) saṭʰe	ḍiḍi ṭora: sa:ṭʰe ɟəʈʰun	'Didi will go with you.'
Genitive	-ke	mohiṭ ke ija:r	'Mohit's friend'

3.1.4. Tense Inflections

Magahi has two major tenses - future and non-future tenses. The non-future can also be divided into the simple present and past tense. The past tense verb form in Magahi is marked. The simple present tense is not marked, unlike the past tense, with the exception of stative verb forms.

(3a)	verb	past form	gloss
	pi	pi-ləɪ	'drank'

	suʈ	suʈ-ləɪ	'slept'
(3b)	verb	future form	gloss
	pi	pi-ʈəɪ	'will drink'
	suʈ	suʈ-ʈəɪ	'will sleep'

In the illustration above, (3a) represents the past form of the verb, which takes the -əl/-el form, whereas (3b) takes -əʈ as a simple present marker. However, depending on the person's noun and relationship to the speaker, the surface representations of these two tense markers vary.

3.1.5. Aspect Inflections

The aspect of a sentence deals with the internal constituency of actions, events, states, processes, or situations. It may indicate that an action is completed or still ongoing. Four different aspects have been observed in Magahi. These are illustrated below with examples.

Aspect	Markers	Examples	Gloss
Habitual aspect	-ə	ləɪka: kʰel-ə həɪ	'Kids play.'
Immediate aspect	-ʈe	ləɪka: kʰel-ʈe həɪ	'The kid is still playing.'
Progressive aspect	-iʈ	ləɪka: kʰel-iʈhəɪ	'The kid is playing.'
Perfective aspect	-lele	həm kʰel-lele hɪ	'I have finished playing.'

All these tense aspects are realised along with other morphemes representing the tense of the nouns' action, number, and honorifics.

3.1.6. Mood

Mood conveys varying degrees of the reality or desirability of an event or activity. The action of a verb, when combined with the modal markers, expresses the attitudes of speakers toward the subject in terms of obligation, necessity, contingency, and desire. Magahi has a host of many moods. Below are instances, along with a discussion of these.

Mood	Markers and usages	Examples	Gloss
Obligation	-ke ca:hi	həmni ke pəɽʰe ke ca:hi	'We should study.'
Probability	-səkə	ʈu ɟa: səkə hə	'You can go.'
Intentive	-əl ca:hə	həm suʈəl ca:hə hɪ	'I want to sleep.'
Imperative	-ø/ə/o	suʈø/neho	'Sleep/take a shower.'
Precative	-ʈəɪ/ihə/bəhũ	pəɽʰ-ʈəɪ/ihə/bəhũ	'You will study.'
Optative	ɟa:e/ɟa:ɪ	ʈor nəokri ho ɟa:e/ɟa:ɪ	'May you get a job.'
Permissive	-e ɖə/ɖəhũ	həmra suʈe -e ɖə	'Let me sleep.'
Capability	səkə/pa:wə	həm ɖəuɽ səkə/pa:wə hɪ	'I am able to run.'

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3.1.7. Degree Inflections

When any attribute of a noun is compared to that of another noun, the comparison particle /-se/ is attached to the noun.

Degree	Markers	Example	Gloss
Positive	Ø	nimən	'good'
Comparative	-se	həm ţora se bəɽ hɪ	'I am older than you.'
Superlative	səb se	həm səb se bəɽ hɪ	'I am the oldest.'

3.2. Derivational Processes

Through the process of derivation, a word is derived from another word or additional parts. Magahi makes use of various procedures to form new words. Below is an explanation of the processes.

3.2.1. Derived Nouns

In order to form new nouns in Magahi, certain nominalizing affixes are attached to a variety of grammatical categories, including nouns, verbs, and adjectives.

Noun	Gloss	Suffix	Derived nouns	Gloss
buɽʰa:	old man	-ri	buɽʰa:-ri	'old age'
miţţʰa:	jaggery	-i	miţţʰaɪ	'sweets'
Verb	Gloss	Suffix	Derived nouns	Gloss
piţ	'to beat'	-aɪ	piţ-aɪ	'beatting'
ləɽ	'to fight'	-aɪ	ləɽaɪ	'fight'
Adjective	Gloss	Suffix	Derived nouns	Gloss
gol	'round'	aɪ	golaɪ	'roundness'
ləmba:	'tall'	aɪ	ləmbaɪ	'height'

3.2.2. Derived Verbs

Verbs can also be derived from other form classes by adding suffixes. To form derived verbs in Magahi, the causation process and the addition of two or more verb roots or particles can be used. Even though derived verbs have multiple morphemes, they only have one structural element or stem. The following examples illustrate the many types of verbs found in Magahi as well as newly derived verbs.

Verb	Gloss	Derived verb	Gloss
kʰa:	'eat'	*kʰia:*	'feed'
suţ	'sleep'	*suţa:*	'make sb sleep'

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Nouns	Gloss	Derived verb	Gloss
la:ʈ	'foot'	*la:ʈ-i-ja:*	'to hit with foot'
soʈa:	'stick'	*soʈia:*	'to hit with stick'
Adjective	Gloss	Derived verb	Gloss
sa:ʈʰ	'sixty'	*sa:ʈʰ-ija:*	'to get old'
həriər	'green'	*həriana*	'to become green'

3.2.3. Derived Adjective

Prefixation and suffixation are two ways to derive adjectives. Below are some illustrations of how adjectives are formed through derivation.

Adjective	Gloss	Derived adjective	Gloss
a:ge	'front'	*əgla:*	'front one'
piːcʰe	'behind'	picʰ-la:	'the back one'
Nouns	Gloss	Derived adjective	Gloss
ɖuɖʰ	'milk'	*ɖuɖʰa:ru*	'milk producing cow'
maug	'woman'	*məuga:*	'woman-like'
nin	'sleep'	ninua:l	'sleepy'

3.2.4. Derived Adverbs

In addition to base adverbs, other grammatical categories can also be used to form adverbs in Magahi. Below are some examples of the derived forms of adverbs.

Noun	Gloss	Derived adverb	Gloss
sa:l	'year'	səla:na:	'yearly'
Adjective	Gloss	Derived adverb	Gloss
susʈ	'lazy'	susʈi se	'lazily'

3.3. Compounding in Magahi

In order to form new words through the morphological process of compounding, two free morphemes are often concatenated (Abbi, 2001). Two immediate elements combined to make a sequence. Semantically, endocentric, exocentric, copulative, and appositional compounding is of the four types, according to Brahma (2013a). In terms of structure, compounds can be divided into a number of categories, including Noun-Noun, Noun-Verb, Noun-Adjective, and Verb-Verb. Below is a description of the compounding that has been seen in Magahi.

3.3.1. Endocentric Compound

In an endocentric compound, one of the words becomes the head of the compound. For example:

ɖu 'two' cəkka: 'wheel' = ɖu cəkwa: 'two wheeler'

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3.3.2. Exocentric Compound

In an exocentric compound, none of the constituents acts as ahead. For example:

ca:r	'four'	+	ã:kʰ	'eye'	=	cər ə̃kʰa:	'person who wears glasses'
ga;j	'cow'	+	bʰə̃ɪs	'buffalo'=		ga:j-bʰə̃ɪs	'cattle'

3.3.3. Copulative Compound

In a copulative compound, two or more semantic heads are joined. For example:

bʰaɪ	'brother'	+	bəhən	'sister'	=	bʰaɪ-bəhən	'siblings'
gung	'speechless'	+	bəhir	'deaf'	=	gung bəhir	'deaf and dumb'

3.3.4. Appositional Compound

In an appositional compound, the components provide different descriptions of a single referent. For example:

mũh	'mouth'	+	cor	'thief' =	mũhcor	'who doesn't stand up'

3.3.5. Structurally Classified Compounds

There are several possible structurally classified compounds observed in Magahi. These are shown below.

Noun-Noun

	ka:m	'work'	+	cor	'thief' =	kəmcor	'lazy'

Noun-Verb

	kʰel	'sport'	+	kəriṯ	'doing' =	kʰel kəriṯ	'having fun'

Verb-Verb

	kəha:	'tell'	+	suni	'hear' =	kəha:-suni	'conflict'

3.4. Reduplications in Magahi

Reduplication is a morphological process in which all or a part of a form is repeated. Reduplication in Magahi is used to form collective nouns and adverbs, intensifying the action of the verb, among others. In Magahi, republicans usually appear to the right of the roots or stems. The following types of reduplication have been observed in Magahi based on the data.

3.4.1. Full Reduplication

Full reduplication is a process where the entire word is reduplicated. For example:

ḏin-ḏin	*bʰər*	*suṯəl*	*rəhə*	*həɪ*
day-RED	CLF	sleep.PST	ASP	be

'He/she sleeps all day.'

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3.4.2. Partial Eeduplication

In partial reduplication, only a part of the reduplicated root or stem is reduplicated. For example:

Word	gloss	semantic
caːj-waːj	tea-RED	'tea and snacks'
kʰaːna-unaː	food-RED	'food and all'

3.4.3. Expressives (Morphological Reduplication)

In expressive reduplication (Abbi, 1992), no part of the reduplicated word exists as a word until they are reduplicated. It is only after reduplication that it becomes a word. For example:

kəreɟ-waː   d̪ʰək-d̪ʰək   kəri̪t̪   həɪ
heart   sound of pulse-RED   do.ASP   be
'The heart is beating so fast.'

3.4.4. Rhyming Reduplication

In rhyming reduplication, a rhyme ending is added with the root/stem, which often forms a collective meaning. For example:

cʰə̪t̪-waː   pər   baːnər-unər   rəhə   həɪ
the roof   at   monkey-RED   live   be
'There live monkeys and other animals on the roof.'

3.4.5. Exact Reduplication

In exact reduplication, the word is reduplicated without any alteration. For example:

həm   kʰet̪e-kʰet̪e   əili
I   field-RED   come.PST
'I came running through the field.'

4. Conclusion

Morphological processes observed in Magahi were discussed in the previous sections. Inflection, derivation, compounding, and reduplication were important morphological processes, as was already mentioned. Inflected for number, classifier, case, tense, aspect, mood, and degree are the grammatical categories in Magahi. The process of affixation that is more prevalent in Magahi is suffixation. In Magahi, the numerals come before the classifiers that modify them. In the Magahi language, new nouns, verbs, adjectives, and adverbs are formed through the derivation process by adding affixes to the various roots/words. The causative prefix may also be added to some verbs to derive a new verb. In Magahi, compounding also contributes to the formation of new words. Multiple compounding processes, such as Noun-Noun, Noun-Verb, Noun-Adjective, Pronoun-Noun, Verb-Verb, and Verb-Adjective, have been observed. In the Magahi language, reduplication is another process of word formation. The various varieties of reduplication seen in

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Magahi include full, partial, expressive, rhyming, and exact. In addition to producing new words, reduplication occasionally makes the impact of the adjectives and verbs more intense. This study aims to demonstrate the various morphological processes found in Magahi. As this study was based on limited data, more comprehensive data might reveal some other morphological processes in Magahi.

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Existentialism of Voiceless in the Select Novels of Manju Kapur –

A Thematic Study

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Abstract

Manju Kapur's novels deal with the identity crisis of voiceless in the society by giving a detail description of their socio-economic conditions, humiliation, and physical torture. The resemblances and differences of their lifestyle, the struggle, the problems that they face and the solutions that they come out would be the main element of her writings. The study tries to show how Manju Kapur's handling of the themes is different from that of the other novelists to demonstrate her artistic merits. The hypothesis thus posited is validated on the basis of the textual evidence compiled from the selected novels of Kapur.

The way she presented women might be having resemblance with feminist theory, but it is not synonymous with feminist theory. In fact, it assumes that women have a distinct experience, which requires separate analytical tools to understand, and it is preoccupied with understanding how women's literature both expresses and shapes this experience. The review attempts to find out wretched and pitiable condition of women in post-independence India. It shows the gagging closeness and dangerous limits of Indian family esteems. The review centers on worries and struggles, to find a suitable place for themselves in the society from the people that are trying to dominate by all possible means.

Keywords: Manju Kapur novels, Humiliation, Subordination, Struggle, Patriarchy, Subjectivity, Resistance.

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Introduction

A concept introduced by Elaine Showalter in *Towards a Feminist Poetics,* Gynocriticism refers to a kind of criticism with woman as writer/producer of textual meaning, as against woman as reader. Being concerned with the specificity of women's writings and women's experiences, it focuses on female subjectivity, female language, and female literary career, and attempts to construct a female framework for the analysis of literature. Gynocritics are primarily engaged in identifying distinctly feminine subject matter in the literature written by women, uncovering the history of female literary tradition, depicting that there is a feminine mode of experience and subjectivity in thinking and perceiving the self and the world, and specifying traits of "woman's language", a distinctively feminine style of speech and writing.

Manju Kapur is one of the Indian Writers from India and the image of the suffering but stoic woman eventually breaking traditional boundaries has had a significant effect. She is the most talked about and appreciated contemporary Indian English woman novelist. She has written five novels: Difficult Daughters (1998), A Married Woman (2002), Home (2006), The Immigrant (2009), and Custody (2011). Her first novel Difficult Daughters received a great international acclaim. This novel was published in 1998. Difficult Daughters was awarded the Commonwealth Writers Prize for the best first book (Eurasia) and was a number one best seller in India. In this novel the protagonist is trying to find a place for her in a world where her life is depicted by familiar duties and becomes embroiled in a forbidden affair while the seismic upheavals of the partition surround her.

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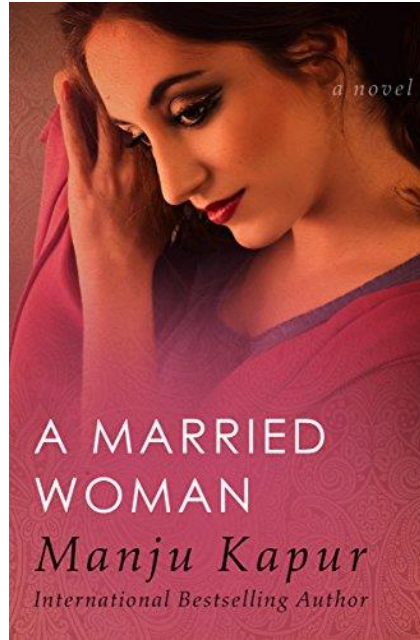
Courtesy: www.amazon.com

Gynocritical Approach in the Novel *A Married Woman*

All the female characters of Manju Kapur are seen as women struggling against all odds. The strains of feminism are obvious in her writing. This is overtly seen in the struggle of her woman characters, their vulnerability, struggle for identity, liberating attitude, the female psyche and the female biological world. Her second novel A Married Woman published in 2002. Is seductive story of love, set at a time of political and religious upheaval- a struggle which still persists today, years after the 1992 destruction of the Babri Mosque – parallels Astha's emotional turmoil, told with sympathy and intelligence. A Married Woman is the story of an artist whose canvas challenges the constraints of middle-class existence. Manju Kapur depicts the gripping political situation with the same fervor and graphic detail as she describes Astha's actions and inner turmoil.

"Astha Vodera, a schoolteacher with an M. A. in English, lives a

comfortable, conventional Delhi Hindu middle class life, within

an arranged marriage with her businessman husband, a self-satisfied

materialist who sells South Korean T.V. Sets, and their two children,

until she meets Aijaz Khan a secular Muslim involved in a progressive

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theatre group" (Rollason, 2009).

Only one thing is sure: beset by Hindus, pleading Muslims and crooked policemen, the mosque, like Astha's marriage, will stand or fall depending on the courage and clout of those willing to fight the aggressors in the name of liberty and tolerance. The present novel is a feminocentric protest against the phallocentric patriarchal culture. The male world imposes unlimited controls on women. Kapur however in this novel empowers her protagonist Astha to give a strong resistance to patriarchy by denouncing the prescribed norms of a society. Astha, resorting to a strange way of life, thus protested her subordination under patriarchy. By choosing this uncommon path, she survives and discovers herself. Through that, she is able to attain the psychological freedom and individual needs in her life. Manju Kapur depicts the character of Astha as a new woman who is conscious, introspective, educated and wants to carve a life for her to some extent. On the verge of retirement from the Indian civil service, Astha's parents every suitor, until she meets Hemant, whose time at University in the States has turned him into a liberal thinker. Or so she hopes. This urge to be treated as an equal being is fully imbibed in as each of her remarks. It appears as if Manju Kapur through the medium of Astha demands the niche which is equal to man in a society.

Gynocritical Approach in the Novel *Home*
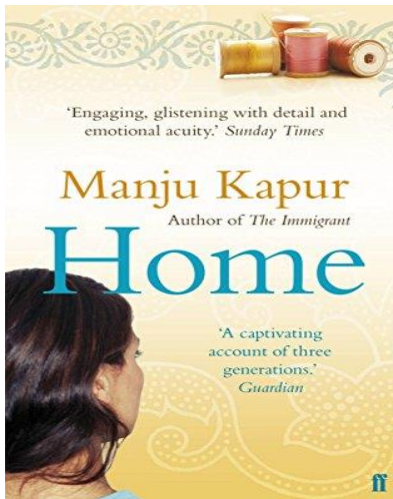
Courtesy: www.amazon.com

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Home is a multi-generation family saga and was shortlisted for the Hutch Crossword Book Award in 2006. The novel is rather more domestic, the generation conflicts that bothers the sub-continent which provide the backdrop of Kapur's other novels. Manju Kapur has tried to put a lot of issues in this book which are commonly encountered in a joint family and are usually kept under the carpet to protect the family honor and name. A lot of scheming and bantering goes behind the curtains while maintaining the outer shame of a big happy family.

Manju Kapur's female protagonists are mostly educated, aspiring individual caged within the confines of a conservative society. Their education leads them to independent thinking for which their family and society become intolerant of them. They struggle between tradition and modernity. It is their individual struggle with family and society through which they plunged into a dedicated effort to carve an identity for themselves as qualified women with faultless backgrounds. The prevailing idea of the homogeneous space of home is contested as it becomes the arena of class, caste, and generational clashes as the old and the new generations struggle to exist within the common house.

In this novel, Manju Kapur takes us through a brisk and strangely captivating account of three generations. Banwari Lal comes to India after partition and, with the help of his wife's jewellery, carves out a sari business in Karol Bagh, Delhi. Success comes slowly, and in the early years he is forced to marry his daughter, Sunita, to a man of dubious credentials. Even as the family gets richer, Sunita is abused and then, perhaps, murdered by her husband - leaving behind a son, Vicky, to be brought up by the Banwari Lals. The author has tried to bring some of those issues to the fore and due to this Home does not remain a simple story of a Karol Baug sari seller but gets a more universal color and makes an invitatory family saga. Kapur presents Nisha, the protagonist, as bold, educated, and balanced and of course, both modern and Indian.

"Lala Banwari Lal dies and Yashpal takes back Nisha to please his mother.

 Now there is less interest in school and Sona expects her in the kitchen all

 the time. Nisha is horrified to discover that "her mother's idea of a

 daughter was one who helped her everybody ate." Sona who is always

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concerned with making her daughter homely and good wife says, "That

Masi of yours as ruined your head. What does a girl need with saying?

Cooking will be useful to her entire life" (Shriwastva, 2008)

Manju Kapur's feminist sensibility has been suppressed to a great extent by patriarchy. Although Nisha undergoes a series of traumas, she finally succeeds to live like a free woman without resorting to any extreme step as in the case of Astha. She asserts her womanhood boldly because she is iconoclastic and modern in her approach to life.

Kapur portrays the picture of Nisha as a 'new woman'. This is a fast-moving story of an ordinary middle class family's life in Delhi. Banwarilal, the patriarch of a cloth business, lives in New Delhi neighborhood of Karol Baug. Banwarilal believes in the old ways and is the firm believer of that man work out of the home, women within. Nisha passes in it and enters in college for getting higher education. She meets a boy and decides to marry him ignoring his cast and creed but fails in doing so and later on she has to wait for a long time in spite of all her physical and mental attainments due to astrological reasons. The fabric of the novel Home is constructed with the thread of familial relationship and the problem of marriage. In The Immigrant her feminist vision has taken a distinctive turn and she probe into feminine psyche not as a sentimental partaker of feminine mystique but as a rational councilor to probe how the balance in sexual relationship. The novels by Manju Kapur deal mostly with the women's sensitive nature from early young adulthood through her early middle years.

Nisha in *Home* undergoes sexual assault as a child at the hands of her teenaged cousin Vicky. After the incidence Nisha is sent to her aunt Rupa Masi where she blossoms as good student. By horoscope Nisha is declared as **mangli**. This again is a torture by fate. Nisha is also forced to observe her first, *karva chouth* fast for her future husband even as a ten-year child.

A good example of the misuse of religion to downscale women is Sona's narration of **Vat Savitri Katha** to Nisha and the other women in the family. Arthi S studies in this context "It highlights how the ideals of womanhood purveyed over and again, in the numerous myths and legends that form the Hindu collective unconscious insidiously enter, capture and mould the minds

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of women in this country leaving them cocooned in ignorance and complacent in their secondary status." Nisha falls in love with Suresh, but her dreams are smothered under the pressure of family. Nisha's affair with Suresh tarnishes her image. She also loses one offer of marriage on this ground. Another trouble for her is her skin disease eczema. Having all these troubles at back, Nisha moves ahead with studies of her choice.

Home, however, carries the reader along with its tender humour, its sparing but effective use of Delhi middle-class English and its subtle retelling of the clichés of north Indian family life. Towards the end of the novel Nisha excels in establishing herself as a designer. However, she is married to a thirty-six-year-old widower who can hardly respond to her passions. It is in marriage and childbearing that she is forced to find ultimate happiness and fulfillment as the society refuses to give her achievement in profession, recognition, and identity. In depicting the inner subtlety of a woman's mind, Kapur displays a mature understanding of the female psyche.

Conclusion

As a writer of new generation in an atmosphere of the nation's socio-political flux, Kapur has recorded the truth in her fictive narrative with Zeal to change the Indian make perception. She described the traumas of her female protagonists from which they suffer and perish in for their triumph. Unfolding the psyche, libidos, and desires of her women characters she presents how they struggle to break the age-old strictures of tradition with moral courage to combat life in their predicament. Most of all, Kapur manages to blend the personal with the external. She speaks as some-one who has lived through the unrest of the communal riots, which in some way affected the lives of all Indians. So, women were suffering from economic and socio-cultural disadvantages in the male governed society. The society was patronized by patriarchy. The women were silent and remained only as rubber dolls for others to move as they wanted. They had been deprived of their basic rights, their aspirations to their individuality and self-reliance. Manju Kapur is quite happy to be dubbed a 'chronicler of Indian families,' but do feel free to choose any label that will float your boat.

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Phonemic Inventory in Mising Language

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Abstract

The present study, "Phonemic Inventory in Mising Language," discusses the Mising language of Assam. The research study has been conducted to find out the phonological features of the language. According to the 2011 Indian Census, the total population of Mising is around 6,000 people.Mising belongs to the Tibeto-Burman language family of the Sino-Tibetan group, residing on the banks of the Brahmaputra Valley in Assam and in some parts of Arunachal Pradesh.

The paper attempts to discuss "Phonemic Inventory in Mising Language." The Mising language has a total of twenty-eight (29) segmental phonemes in its phonetic inventory, including fourteen vowels (14) and fifteen (15) consonants. Firstly, the paper emphasises the consonant sound in the language. Plosive /p, b, t, d, k/, nasal /m, n/, trill /r/, fricative /s, z/, approximant /j/, and lateral approximant /l/ are among the fourteen consonant sounds in the language. Secondly, the paper will emphasise the vowel sounds in the Mising language, including long and short vowels, /i, iː, e, eː, a, aː, o, oː, u, uː, ɨ, ɨː, ə, əː/. The paper focuses on contrastive pairs and the syllabic structure found in the language. Lastly, the paper attempts to find out the variety of consonant sequences in the language: germination, homorganic, and contiguous.

Keywords: Mising, consonants,vowels,contrastive pairs, syllabic structure, consonant sequence.

Review of Literature

The Mising language has drawn the attention of linguists and scholars for many years. The language marks literary works in the language's history. In the Linguistic Survey of India, G. A. Grierson grouped and labelled these languages as the North Assam Group of the Tibeto-Burman family. It has been discovered that even J.H. Lorrain wrote a dictionary of the Abor-Miri language (1910). Tabu Taid discusses on phonology in his work 'A short note on mishing phonology' (1987). Normoda Doley (2021) discusses the typological features of Mising in her work, "Typological Features: A Case Study of the Mising Language." Sarat K. Doley and Mark W. Post, in their 2012 paper "Classifiers in Mising," describe numeral-based classifiers of Mising in general and its morphophonemic types. Sharmila Taye discusses the syntactical study in her thesis, "Hindi and Mishing contrastive study syntaxes" (2015). Sarat K. Doley discusses adjectives in his two works, "Adjective in Tibeto-Burman: A Case of the Mising Language" (2017) and "The Misings and the Question of Adjectives in Mising" (2017). However, a dialectal study has also been conducted by Jugendra Pegu in his work "Dialectal variations in Mising and the interference of dominant languages" (2010). Aside from that, there have been a number of sociolinguistic studies conducted on the Mising language.

Introduction

Mis(h)ing, also known as "plain miri," is a Tani language from the Eastern Tani branch of the Sino-Tibetan subgroup belonging to the Tibeto-Burman language family. It is the second-largest community in Assam. It is one of the endangered languages spoken in the states of Assam and Arunachal Pradesh. A British Administrator named J.F Needham in his publication of Outline of Grammar of Shaiyang Miri language in 1886 was the first to mention that the Miris call themselves 'Mishing' using 'h' in spelling the word(Chetia.M,2020).

Mising has a total population of 5,51,182 people, according to the 2001 Indian census. According to the Mising Autonomous Council 2001, the population is 7,87,436. According to the census of India 2011, the total number of Mising population is 6,00,000 approximately. Mising language speakers are mostly found in Assam's Brahmaputra Valley districts and Arunachal Pradesh's East Siang, Lower Dibang, Namsai, and Lohit districts in the hills of the upper Brahmaputra Valley. The language consists of nine dialects: Pagro, Dílu, Ojan, Sajang,

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Moying, Dambug, Samuguria, Tamargoja, and Bongkhul. The Samuguria, Tamargoja, and Bongkhul groups have largely adopted Assamese (an Indo-Aryan language) in preference to Mising for the majority of language situations (Doley.S&Post.M.W 2012: 3.3). Based on the population and its rich culture, research has been conducted.

Methodology

- ➢ The interview and observation methods were applied to collect the primary data.
- ➢ The data for the present study was collected in several visits to the Mising inhibiting areas of Assam.

Phonemic Inventory in Mising Language

Phonology is the study of the patterns of sounds in a language and across languages. "A branch of linguistics which studies the sound systems of languages. Out of the very wide range of sounds the human vocal apparatus can produce, and which are studied by phonetics, only a relatively small number are used distinctively in any one language" (Crystal, David: 365). The Mising language has a total of twenty-eight (28) segmental phonemes in its phonetic inventory including thirteen vowels (13) and fifteen (15) consonants.

Vowels

Mising has an inventory of thirteen vowel phonemes including long and short vowels, i,e,, /i,i:,e, e:, a, a:,o, o:,u, u:,ɨ, ɨ:,ə/ as illustrated below:

	Front(unrounded)	Central(unrounded)	Back(rounded)
Close	i i:	ɨ ɨ:	u u:
Close-mid	e e:	ə,ə:	o o:
Open	-	-	a a:

Table 1: Vowel phonemes in Mising

Description and Distribution of Vowel Phonemes

Mising has seven short vowel phonemes /i/, /e/, /a/, /o/, /u/, /ɨ/, /ə/. All the seven short vowels occur in all three positions as discussed below.

➔ The phoneme /i/ is close, front unrounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/igiŋ/	'axe'	/apin/	'rice'	/ori/	'coriander
/iraŋ/	'family'	/jikə/	'ridge gourd'	/pəmi/	'eagle'

➔ The phoneme /e/ is close-mid, front unrounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/eg/	'pig'	/eted/	'short'	/gure/	'horse'
/eŋe/	'yam'	/ger/	'work'	/sibe/	'monkey'

➔ The phoneme /a/ is open, back unrounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/ako/	'one'	/bati/	'bowl'	/lotta/	'field'
/aum/	'three'	/sinam/	'death'	/lɨga/	'Wednesday'

➔ The phoneme /o/ is close-mid, back rounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/ori/	'coriander'	/mosolaŋ/	'spices'	/ako/	'one'
/okum/	'house'	/mo/	'make'	/oŋo/	'fish'

➔ The phoneme /u/ is close, back rounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/ukum/	'house'	/ukum/	'house'	/malu/	'mud oven'
/uju/	'tuesday'	/rutum/	'friday'	/abu/	'father'

➔ The phoneme /ɨ/ is close, central unrounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/ɨjiŋ/	'ten'	/isɨŋ/	'tree'	/assɨ/	'water'
/ɨkɨ/	'dog'	/kɨnɨd/	'seven'	/bɨ/	'he/she'

➔ The phoneme /ə/ is close, central unrounded vowels and it occurs in all three positions.

Initial		Medial		Final	
/əsa:la:/	'how'	/pətu/	'Mustard'	/amɨrsə/	'body'

/əlluŋ/   'boat'   /məlo/   'yesterday'   /jikə/   'ridge gourd'

Consonants

Consonants can be defined in terms of both phonetics and phonology. Phonetically, they are sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or so restricted that audible friction is produced. Phonologically, these sounds are consonants, because their role in syllables is the same as that taken by [f], [p], etc.(Crystal.David:103). Mising has fifteen consonants. On the basis of place of articulation consonants can be divided into bilabial, alveolar, palatal and velar. In terms of manner of articulation, the consonants can be further divided into stops, nasal, trill, fricative, approximant and lateral approximant as shown in the table.

Description and Distribution of Consonant phonemes

	Bilabial	Alveolar	Post-Alveolar	Palatal	Velar
Stop	p b				k g
Nasal	m	n		ɲ	ŋ
Trill		r			
Fricative		s	z		

Mising has fifteen consonant phonemes /p/, /b/, /t/, /d/, /ɲ/, /k/, /g/, /m/, /n/, /ŋ/, /r/, /s/, /z/, /j/ and /l/. All the fifteen consonants occur in all three positions as discussed below.

Approximant			j	
Lateral approximant		l		

Table 2: Consonant Phonemes in Mising

➜ The phoneme /p/ is a voiceless bilabial stop consonant. It occurs in all three positions.

Initial   **Medial**   **Final**

/pa:puk/ 'banana flower'   /pa:puk/   'banana flower'   /sikap/   'close'

/pəpit/   'sparrow'   /pəpit/   'sparrow'   /raŋko/   'rabbit'

➜ The phoneme /b/ is a voiced bilabial stop consonant. It occurs in initial and medial positions.

Initial   **Medial**   **Final**

/bati/   'bowl'   /kəbuŋ/   'mouse'   -

/bottan/ 'elder'   /abaŋ/   'zero'   -

➜ The phoneme /t/ is a voiceless alveolar stop consonant. It occurs in all three positions.

Initial   **Medial**   **Final**

/tabad/   'sugarcane'   /bati/   'bowl'   /tamit/ 'mosquito'

/tu/   'kick'   /məto/ 'end'   /taŋut/ 'bee'

➜ The phoneme /d/ is a voiced alveolar stop consonant. It occurs in all three positions.

Initial   **Medial**   **Final**

/do/   'eat'   /muduri/   'guava'   /dumɨd/   'hair'

/duk/   'run'   /ke:di/   'mango'   /eted/   'short'

➜ The phoneme /k/ is a voiceless velar stop consonant. It occurs in all three positions.

Initial   **Medial**   **Final**

/kabə/   'see'   /kaki/ 'mother's brother'   /galuk/   'tshirt'

/kottaŋ/ 'spoon'   /ako/   'one'   /rogporok/   'hen'

➜ The phoneme /g/ is a voiced velar stop consonant. It occurs in all three positions.

Initial   **Medial**   **Final**

/gakɨr/   'Milk'   /salgum/   'knolkhol'   /galug/ 'Tshirt'

/gɨ/   'go'   /səgum/   'vulture'   /leg/   'kick'

➜ The phoneme /m/ is a voiced bilabial nasal consonant. It occurs in all three positions.

Initial		Medial		Final	
/milo/	'husband	/mamoi/	'mother sister'	/makum/	'cucumber'
/makum/	'cucumber'	/ʒamun/	'java'	/məjum/	'last night'

➜ The phoneme /n/ is a voiced alveolar nasal consonant. It occurs in all three positions.

Initial		Medial		Final	
/nig/	'punch'	/pamɨnsupa/	'fight'	/ɡenn/	'green'
/ŋa/	'breath'	/mona/	'make'	/bottan/	'elder'

➜ The phoneme /ɲ/ is a voiced palatal nasal consonant. It occurs in only medial position.

Initial	Medial		Final
-	/aɲi/	'two'	-
-	/iɲə/	'pinch'	-

➜ The phoneme /ŋ/ is a voiced velar nasal consonant. It occurs in Medial and Final positions.

Initial	Medial		Final	
-	/eŋe/	'yam'	/akkəŋ/	'six'
-	/liŋko/	'hundred'	/loːŋ/	'clove'

➜ The phoneme /r/ is a voiced alveolar trill consonant. It occurs in all three positions.

Initial		Medial		Final	
/raŋkop/	'rabbit'	/porok ao/	'chicken'	/ger/	'work'
/rokom/	'naughty'	/soro/	'rhinoceros'	/ɡakɨr/	'milk'

➜ The phoneme /s/ is a voiceless alveolar fricative consonant. It occurs in initial and medial positions.

Initial		Medial		Final
/sibe/	'monkey'	/ɨsɨŋ/	'tree'	-
/silo/	'today'	/isa/	'stand'	-

➜ The phoneme /z/ is a voiced alveolar fricative consonant. It occurs in initial and medial positions.

Initial		Medial		Final
/zalug/	'black pepper'	/sozina/	'drumstick'	-

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/zernam/ 'sliced wood'   /azio/   'little/short'   -

➔ The phoneme /j/ is a voiced palatal approximant. It occurs in initial and medial positions.

Initial		**Medial**		**Final**
/jigo/	'brother-in-law'	/sumjo/	'tiger'	-
/jala/	'false'	/ponmejo/	'narrow'	-

➔ The phoneme /l/ is a voiced alveolar lateral approximant. It occurs in all three positions.

Initial		**Medial**		**Final**
/la/	'bring'	/ʒalug/	'black pepper'	-
/leg/	'kick'	/girilau/	'gourd'	-

Contrastive Pairs of the Phonemes

The contrastive pairs in Mising are schematized below:

Vowel Phonemes

i vs ə

ali   'yam/roots'

alə   'leg/foot'

ipɨ   'to save'

əpɨ   'on gratis'

i vs u

ɨpit   'drop grains'

upit   'to overflow in boiling'

apɨt   'burrow'

aput   'foam'

e vs ə

open   'to wreck'

opən   'to wreck'

pet   'to weave'

pət   'to sweep'

i vs ɨ

i vs o

ipen   'to ruin'

open   'to wreck'

por   'to split in lengthwise'

pir   'to bend, classifier'

i vs a

ipit   'to complete'

apit   'burrow'

ipɨ   'to save'

apɨ   'an egg, heart'

o vs e

apom   'a heap'

apem   'wide, broad'

pot   'to happen(misfortune)'

pet   'to weave'

pi   'to slap/clap/pat'

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pɨ	'to create/dry'	u	'to bark/shout/scream'
bɨ	'he, she'	a	'to roast in pan'
bi	'to give'	ubɨ	'rear/bring up for'
i vs e		abɨ	'address/meaning'
bi	'to give'	**u vs e**	
be	'to be lascivious'	ansu	'alertness'
pi	'to slap/clap/pat'	anse	'showiness'
pe	'to bless/curse'	u	'to bark/shout/scream'
u vs a		e	'to excrete faeces'

Contrastive Pairs of Long Vowels and Short Vowels

i vs iː:		**o vs oː**:	
I	'to made/do /act'	obi	'to give birth for'
iː	'blood, a bow'	oːbi	'to rear, tend for'
ipuŋ	'to purify, clean'	onə	'mother'
iːpuŋ	'to blow nose'	oːnə	'one who rear'
ɨ vs ɨː:		**u vs uː**:	
ɨlen	'to pound out'	upo	'easy to rear'
ɨːlen	'to find out by enquiry'	uːpo	'to cover'
ɨbum	'to bow down the head'	ulu	'there'
ɨːbum	'shoulders'	uːlu	'ape'
e vs eː:		**a vs aː**:	
epo	'to easy to excrete'	apɨ	'heart'
eːpo	'a to turban,to wrap a turban'	aːpɨ	'to dry'
elik	'to evaluate'	ak	'to be angry, annoy'
eːlik	'to bind a turban'	aːk	'to dedicate'

Taid. T (1987), mentioned that "/iː/ and /i/ have qualitative difference. Thus, /iː/ is slightly higher than /i/./eː/ and /e/ has hardly and qualitative difference and /eː/ is lower than cardinal /e/. /oː/ and /o/ have hardly any qualitative difference, /oː/ is much lower than cardinal /o/. Long /uː/

is higher than the short /u/. The long /a:/ is lower and backer than short /a/. Long /ə:/ and /ə/ has hardly any qualitative difference. /ɨ:/ is higher than /ɨ/".

However, contrasting short vowels and long vowels draws line in the sounds and meaning. The long vowels are elongated while pronouncing and short vowels are not elongated. This marked difference makes changes in the phonemes and its meaning, when used in words.

   "All Tani languages seem to distinguish vowel length, the lexical function of which differs from language to language.Most instances of long vowels in modern Tani occur in open syllables and are clearly secondary; yet there is some evidence of length contrast in closed syllables as well, suggesting that distinctive vowel length could be an old feature from Proto-Tani".(Graham. T & LaPolla. J.R, 2003).

Mising, being in the Tani group witnesses this feature, as given below.

/i:/ open		**/i:/ close**	
/i:nə/	'redish'	/i:biŋ/	'molar teeth'
/pi:so/	'kind of reeds'	/ki:saŋ/	'lifting up'
/e:/ open		**/e:/ close**	
/e:po/	'turban'	/e:bom/	'start of fruiting'
/e:nə/	'female pig'	/e:lik/	'to bind a turban'
/a:/ open		**/a:/ close**	
/a:pɨ/	'to dry'(paddy)	/a:put/	'foam'
/a:je/	'teeth'	/ija:lik/	'put inside'
/o:/ open		**/o:/ close**	
/ipo:mo/	'continuity'	/opɨ/	'dry up'(water body)
/aso:pə/	'slowly'	/o:pak/	'miscarriage'
/u:/ open		**/o:/ close**	
/u:lu/	'ape'	/pu:ləm/	'floating'
/pu:mi/	'flood'	/pu:lat/	'floating up'
/ɨ:/ open		**/ɨ:/ close**	
/ɨ:su/	'establishing relation'	/pɨ:ram/	'shortcoming'

/pɨ: ɲi/	'eight'		/bɨ:dum/	'root'

/ə:/ open   **/ə:/ close**

/ə:jo/	'old'		/ə:pak/	'creeping away'
/ə:lo/	'yes'		/ə:pot/	'break something while creeping'

Consonant Phonemes

p vs b

po	'to weave'
bo	'to serve, nurse'
gipo	'to be accessible'
gibo	'to lead to'

p vs m

po	'to weave'
mo	'to make, build'
aup	'handful'
aum	'three'

p vs z

pɨ	'to dry, create'
zɨ	'to soak, dip'
pin	'to pinch'
zin	'to shiver'

b vs m

bo	'to serve, nurse'
mo	'to make/build'
gub	'to brood'
gum	'to tie'

b vs t

ti	'sweet, tasty'
bi	'to give'
tet	'to sit, jerk'

bet   'to break'

b vs d

bu	'to pull, stretch, uproot'
du	'to stay, remain, reside'
buk	'to burst/explode'
duk	'run away'

t vs k

tu	'to kick with leg'
ku	'sour'
but	'to break'
buk	'to burst'

t vs d

tu	'to hang up'
du	'to dig, paddle'
sitə	'elephant'
sidə	'this'

t vs s

ti	'sweet, tasty'
si	'to faint'
tu	'to kick with leg'
su	'now'

d vs n

do	'to eat'
no	'you'

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din	'flesh, meat'		kiŋ	'tu pull, trigger'
nin	'near, close'		giŋ	'to be thin'

ɲ vs n

k vs l

ɲi	'two'		kɨ	'to count, test'
ni	'to wash clothes'		lɨ	'to fade'
lɨːɲi	'hundred'		ku	'sour, to shout'
lɨːni	'eight hundred'		lu	'to say, speak'

k vs m

k vs j

kin	'to know, feel'		ki	'to pain, ache, ill'
min	'to name, ripe'		ji	'to put down'
ŋok	'my'		kiŋ	'to pull/trigger'
ŋom	'me'		jiŋ	'to blow, support'

k vs s

g vs r

ki	'pain, ache'		gu	'to be hot'
si	'to faint'		ru	'to aim with gun'
doko	'place of eating'		bəg	'to be heavy'
doso	'to eat less'		bər	'to look'

k vs r

g vs s

ki	'to pain, ache'		gi	'to migrate, shift'
ri	'to string, spit'		si	'to faint'
tək	'to chop'		git	'to scrape'
tər	'stop, end'		sit	'to strike'

k vs n

g vs j

ki	'to pain/ache'		gu	'to be hot'
ni	'to wash clothes'		ju	'to bury'
ke	'to bite with teeth'		gi	'to migrate, shift'
ne	'to detach'		ji	'to put down'

k vs g

m vs n

ki	'pain, ache'		apon	'width, breadth'
gi	'to migrate, shift'		apom	'a heap'

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pum	'to cradle together'		amɨŋ	'a tree'	
pun	'to bloom'		**n vs j**		
m vs ŋ			no	'you'	
mo	'to make, build'		jo	'mother, night'	
ŋo	'I'		nok	'your'	
gibom	'to go, come with'		jok	'to be lost'	
giboŋ	'to over take'		**r vs l**		
m vs r			ru	'to aim with gun'	
mo	'to make, build'		lu	'to say, speak'	
ro	'early morning'		rɨ	'to set fire'	
pum	'to cradle together'		lɨ	'to fade'	
pur	'to pluck'		**s vs m**		
n vs ŋ			silo	'today'	
apon	'a heap'		milo	'husband'	
apoŋ	'rice bear'		sili	'a spring'	
amɨn	'grinded rice'		mili	"a clan of Mising	

Syllable

A syllable is a sequence of units of speech sound. A syllable consists of a nucleus and consonants. The initial consonant is known as onset, while the final consonant is known as coda. Three types of syllabic structure are found in Mising language: monosyllabic, disyllabic, and trisyllabic structure. The following are some examples: V stands for vowel, and C stands for consonant.

Monosyllables

A word which has one syllable is called monosyllable or monosyllabic word. In Mising monosyllabic words can be found in the following patterns.

Monosyllable (open)

/do/	CV	'eat'
/ki/	CV	'pain'
/lu/	CV	'give'

Monosyllable (Close)

/eg/	VC	'pig'
/i:d/	VC	'heavy'
/i:n/	VC	'color'

Disyllables

A word consisting of two syllables are called disyllables or disyllabic words. In Mising disyllabic words can be found in the following patterns.

Disyllable (Open)

/ɨkɨ/   VCV   'dog'

/imə/   VCV   'Father's brother's son'

/isa/   VCV   'stand'

Disyllable (Close)

/ukum/   VCVC   'house'

/ijiŋ/   VCVC   'ten'

/iraŋ/   VCVC   'family'

Tri-syllables

A word consisting of three syllables are called tri syllables or trisyllabic words. In Mising trisyllabic words can be found in the following patterns.

Trisyllable (open)

/kaŋkano/   CVCCVCV   'beautiful'

/talə:pə/   CVCVCV   'die'(in accident)

Trisyllable (Close)

/igabom/   VCVCVC   'continue' (in work)

/ilɨŋəm/   VCVCVC   'to fulfill' (desire)

Consonant Sequence

The term "consonant sequence" refers to the type of occurrences of two or three consonants with a syllable break. However, Mising has a wide variety of consonant sequences. Gemination, Homorganic, and Contagious are the consonant sequence found in Mising language.

Gemination

A term used in phonetics and phonology for a sequence of identical adjacent segments of a sound in a single morpheme. (Crystal.David:206). The examples are discussed below.

Stop+Stop

p+p

dop.pi.joŋ	'theif'
dop.pak	'to steal'

b+b

pi.gab.bom	'to hold with hand'
tab.bum	'to fall and decay'

t+t

mit.tuk	'head'
tat.tup	'to hear'

d+d

sid.dɨ	'much'
sid.dar	'here'

k+k

pok.kul.up	to shrink
mik.ki	smoke

g+g

pag.gap	'to tie'
pag.git	'to make tight knot"

Nasal+Nasal

m+m

dəm.mik	'to destroy'
gum.map	'to bend down'

n+n

bin.nə	'flowing'
mun.nen	'to dig'

Fricative+Fricative

s+s

mus.sum	'sub clan of Mising'
das.səm	'to crack'

Trill+Trill

r+r

par.rup	'to grow'
bur.raŋ	'brother'

Approximant+Approximant

l+l

pil.lum	'to sow'
mul.laŋ	'honey'

Lateral approximant+Lateral approximant

j+j

bij.jaŋ	'mud deposition by river'
loj.jom	'to make slanting cut'

Homorganic

A general term in the phonetic classification of speech sounds, referring to sounds which are produced at the same place of articulation. (Crystal.David:231). The examples are discussed below.

Stop+Stop

p+m

pim.pir	'crumbs of
	food particles'
pim.put	'foam'

d+p

bed.por	'break'
mud.puŋ	'to blow off'

g+b

lag.bik	'right hand'
lag.biŋ	'the fist'

Nasal+Nasal

n+ ɲ

pin.ɲo	intellect/brain
san.ɲum	to wither

n+m

mun.mit	'to blow out
	light'
kan.maŋ	'unsuitable'

ŋ+m

mɨŋ+mit	'eyebrow'
mɨŋ+mo	'face'

Contiguous

The term ***contiguous*** refers to the sequence of sounds having adjoining relation either in place and manner of articulation. The examples are discussed as:

Stop+Fricative

pi.kab.su	'to cover face with
	hand'
pid.saŋ	'tuck up'
bug.zer	to be protruded
mad.zun	'to straighten the leg'

Stop+Trill

pag.ro	'section of Mising'
bed.rəg	'crack'

Stop+Approximant

pi.dad.lik	'to slap'
pid.lik	'to sow'
bog.loŋ	'open space'
mig.lu	'blind'

Stop+Lateral approximant

mig.jap	'blink'
mag.jaŋ	'weak'
tub.jak	'hit and remove small
	flesh from the body'

Nasal+Stop

pin.pan	'to divide'	sun.lik	'feed'(liquid)
piŋ.kur	'to pierce a hole'	**Trill+Stop**	
buŋ.ki	'narrowed'	par.bot	'to root'
min.poŋ	'ripen/juicy'	par.dor	'setting fire'
Nasal+Fricative		bir.mə	'sister'
pi.kon.su	'pouring from one vessel to another'	bɨ.raŋ	'brother'
		Trill+Fricative	
bom.zə	'large family'	pir.saŋ	'to roll up'
min.su	'together'	ber.sum	'to gather'
tum.saŋ	'hang up'	mɨr.sɨ	'chilly'
Nasal+Trill		mo.tur.su	'to save oneself'
pin.ro	'fresh cooked rice'	**Trill+Nasal**	
bom.ram	'lazy'	tur.nə	'living'
mam.ruk	'womb'	dor.me	'small animal'
ton.ruk	'waste of rice bear'	dar.nu	'stir'
Nasal+Lateral approximant		ser.mik	'tear into small piece'
sum.len	'weave out'		

Conclusion

On the basis of the structural description of Mising, the following conclusions and findings are drawn: The Mising language has a total of twenty-eight (29) segmental phonemes in its phonetic inventory, including fourteen vowels (14) and fifteen (15) consonants. Mising has thirteen vowel phonemes in its inventory, including long and short vowels: /i, iː, e, eː, a, aː,o, oː,u, uː,ɨ, ɨː,ə, əː/. The vowels in "Mising" are oral, and /i/, /e/, /a/, /o/, /u/, /ɨ/, /ə/ occur in all three positions of the word.

Mising has fifteen consonants. On the basis of place of articulation, consonants can be divided into bilabial, alveolar, palatal, and velar. In terms of manner of articulation, the consonants can be further divided into stops, nasal, trill, fricative, approximant, and lateral approximant as /p/, /b/, /t/, /d/, /k/, /g/, /m/, /n/,/ɲ/, /ŋ/, /r/, /s/, /z/, /j/, and /l/. The consonant

phonemes /p/, /t/, /d/, /k/, /g/, /m/, /n/, /r/ occur in all three positions, while the consonant phonemes /b/, /s/, /z/, /j/, /l/ occur in only the initial and medial positions, /ɲ/ in the medial position, and /ŋ/ occur in the medial and final positions of the word.

While the contrastive vowel pairs can be found between /i vs ə/, /ɨ vs u/, /e vs ə/, /i vs o/, /i vs a/, /o vs e/, /i vs ɨ/, /i vs e/, /u vs a/, /u vs e/, /i vs iː/, /ɨ vs ɨː/, /e vs eː/, /o vs oː/, /u vs uː/, /a vs aː/. The short and long vowels distinguish themselves in stress, which results in different meanings. Whereas the contrastive consonant pairs can be found between /m vs n/, /n vs ŋ/, /t vs k/, /r vs g/, /r vs l/, /m vs r/, /b vs m/, /p vs z/, /t vs d/, /k vs m/, /k vs s/, /t vs s/, /b vs t/, /r vs k/, /b vs d/, /n vs d/, /s vs m/, /n vs k/, /t vs b/, /s vs g/, /p vs b/, /p vs m/, /m vs ŋ/, /b vs m/, /k vs g/, /l vs k/, /j vs n/, /j vs g/, /j vs k/, /ɲ vs n/. In terms of syllabic structure, Mising has monosyllabic, disyllabic, and tri-syllabic structures.

Mising language has consonant sequences that include germination, homorganic, and contiguous. The germination sequences are stop+stop, nasal+nasal, fricative+fricative, trill+trill, approximant+approximant, and lateral approximant+lateral approximant. The homorganic sequences are stop+stop and nasal+nasal. And the contiguous sequences: Stop+Fricative, Stop+Trill, Stop+approximant, Stop+lateral approximant, Nasal+Stop, Nasal+Fricative, Nasal+Trill, Nasal+lateral approximant, Trill+Stop, Trill+Fricative, Trill+Nasal.

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Futuristic Schools that can Silently Pave Way for Students to be Future Ready

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Abstract

Education in the 21st century is revolutionary in the sense that it is constantly evolving. Over the years, technological advancement has only accelerated that change. This article highlights the impact of technological advancement in the field of education, and how schools need to be adequately resourced and flexible to ensure that the next generation of students have the necessary skills to thrive in a constantly changing world. Further, schools need to be deeply committed to ensuring that education from the earliest years through to higher education and beyond prepares citizens to navigate an AI-augmented world.

Keywords: ways to become future ready, technology and education, future ready skills, future ready students, futuristic schools.

Some of the most important questions that daunt educationists and parents alike are:

- What will children need to know to face the unimaginable world when they leave school?

- What skills and values will they need to lead a rich and fulfilling lives?

- What will children need to draw on from their school education to thrive in a world where many of the tasks and jobs will be done by machines?

The school leadership must recognize that 21st century education is not all about imparting skills and knowledge for 'utilitarian purpose', as machines are acquiring those skills at a lightning speed. The world we live in is flooded with information and almost everything to learn is available on the internet. Hence, for students to thrive in the future, they will need to be knowledgeable, curious, dedicated, and nuanced learners, equipped with the skills that will enable them to hold their place in the world of machines. (Loble, 2017)

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Therefore, schools should address some of the key issues by aligning, streamlining curriculum and programs for their students. It should impart many of the 21st century skills that help students to adapt and become independent learners for life.

Further, the need of the hour is to deepen students' learning so that they can think about 'big questions, embrace doubt as an opportunity to learn and engage with a diversity of views and give full expression to the things that make them uniquely human-their creativity, insight and empathy.' (Loble, 2017)

With respect to this, schools must focus on imbibing skills that are not only paramount but crucial for them to thrive in the future. The following skills must be at the core of all schools:

1) Cognitive skills: Matter that students need to know and apply. High levels of literacy and numeracy will be necessary but not limited to just that. The school must recognize the importance of deeper understanding of the core curriculum.

2) STEM skills: Offer learners a mindset and skills valued in any profession. It enables students to be flexible, look for patterns, find connections, and evaluate information.

3) Critical thinking skills: Collaborative approach to ideas that is reflective, self-correcting, logical, and organized.

4) Collaborative skills: Help promote teamwork, which in turn builds many non-cognitive skills, such as empathy, ability to listen to opinions of others, curiosity, leadership skills and perseverance.

5) Digital intelligence: A set of social, emotional, and cognitive abilities that enable individuals to face the challenges and adapt to the demands of digital life.

6) Global citizenship: Educate students to understand how connected they are to each other, socially, culturally, economically and politically; to understand both the challenges and opportunities presented by globalization; and to become positive contributors in such an interdependent world. (Chung, 2017)

To conclude, the prime focus of the 21st education is not equipping students with skills that meet the demands of the workplace. Instead, it is about equipping them with the right attitudes and skills to compete globally and locally, where value will be derived largely from human interaction and the ability to invent, innovate, and interpret things that machines cannot.

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The Plight of a Rural Girl in Girish Karnad's *Naga-Mandala*

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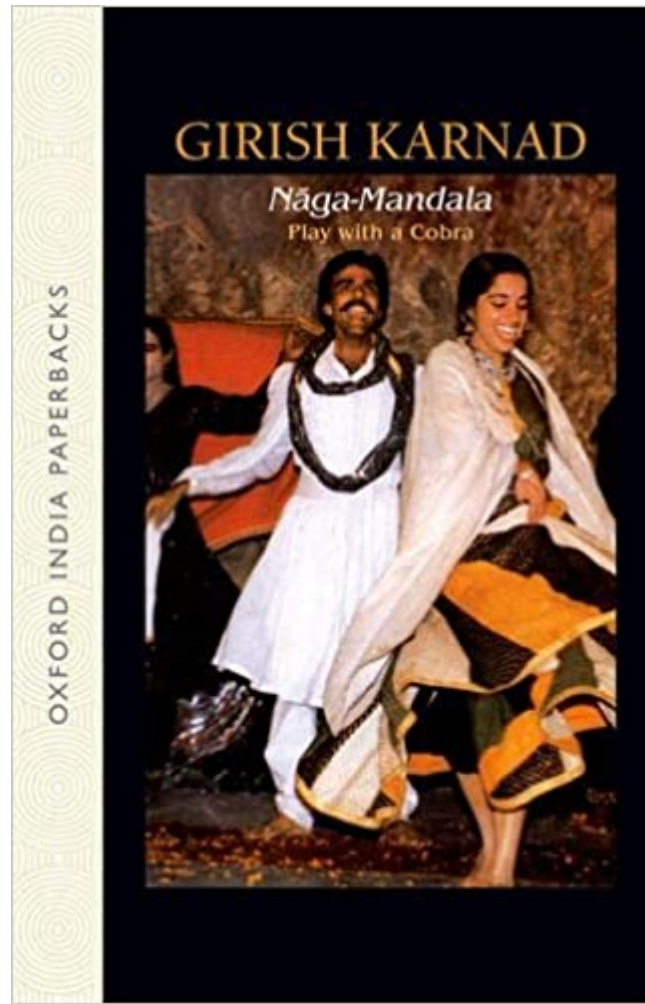
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Abstract

Gender discrimination is a phenomenon that is evidently ascertained in global level. The wretched condition of female gender is quite commonly observed even in this progressive age. Even though the urban women face gender inequality in day-to-day life, their situation is far better

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when compared with the predicament of the rustic womenfolk of the countries like India that value culture and conventions more than humans. The women of countryside undergo awful mistreatment of the conservative patriarchal society in the name of traditional practices. The deplorable condition of such afflicted women is exposed by the renowned Indian playwright Girish Karnad in his play *Naga-Mandala* through the character Rani.

Introduction

Gender discrimination is a phenomenon that is evidently ascertained in global level. The wretched condition of female gender is quite commonly observed even in this progressive age. Even though the urban women face gender inequality in day-to-day life, their situation is far better when compared with the predicament of the rustic womenfolk of the countries like India that value culture and conventions more than humans. The women of countryside undergo awful mistreatment of the conservative patriarchal society in the name of traditional practices. The deplorable condition of such afflicted women is exposed by the renowned Indian playwright Girish Karnad in his play *Naga-Mandala* through the character Rani.

About the Author

Girish Karnad is a famous multifaceted personality who is known as a Kannada writer, translator, actor, and film director. He emerged as a playwright in the 1960s that marked the attainment of maturity of modern Indian playwriting in Kannada. He was conferred Jnanpith Award in 1998, the highest literary honour granted in India. He translated some of his plays into English as well. As an actor, he received Padma Sri and Padma Bhushan awards from the government of India and also won four Filmfare awards.

Naga-Mandala

Girish Karnad, in the preface of the play, states that the story is based on two oral tales of Karnataka which he happened to hear from the famous Indian poet A.K. Ramanujan whom he mentions as his guru. Folk tales, naturally, are the reflections of the lives of the country folks that showcase their customs and traditions. This play, undoubtedly, evinces the plight of rural women who are caught under the agonising clutches of conventions.

Rani, the Protagonist

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The play revolves around the character who is called Rani, that means queen, though it is not necessarily her name. Her father, in accordance with the customs of their culture, marries her, when she is just a little girl, to a parentless rich man. In the Indian system of arranged marriage, wealth is enough to make a man preferable as groom. Being parentless is assumed as a merit, since the girl is spared from the domination of in-laws. Therefore, from the social perspective, it seems that the father's decision is favourable to Rani. Pushpanathan comments:

> Indian parents feel satisfied if they succeed in finding rich boys for their daughters perhaps because they find that earning one's livelihood is terribly difficult and their daughter will live in comfort with her rich husband, forgetting that the emotional comforts which proceed from happy marital relations are far more important. (1)

Start of New Life

As per the customs, Rani is taken to her new home by her husband Appanna after she comes off age. Right from the first day, Appanna locks her inside the house and goes out, and visits the house only for having lunch. As Rani is so young, she is frightened of being alone in the house all the time. When she expresses it to her husband during his visit for lunch, he pays no heed to her plea. He commands, "Look, I don't like idle chatter. Do as you are told." (7)

Chauvinistic Husband

Leaving Rani alone in his home, Appanna spends his time at his concubine's house. This man, though he is love with another woman, brings Rani, whom he has already married, to his house in order to comply with the social norms. He utilises his wife for serving him food which is considered as one of the wifely duties in the system of the patriarchal society. He believes that by having the food prepared by Rani, he fulfils the part of a husband. Locking her inside the house signifies his male chauvinism that he inflicts isolation on her and intends to preserve her chastity by imprisoning her.

Visit of Kurudavva

In Appanna's absence, his house is visited by a blind old woman Kurudavva, a friend of Appanna's dead mother. On knowing the pathetic state of Rani, she feels sympathetic towards her. She assumes that Appanna has gone to his concubine leaving wife, because Rani may not be beautiful. It is quite usual that some menfolk have the temperament of justifying their act of seeking another woman on the grounds that the wife is not good-looking. This is the reason for Kurudavva's surmise. Then she feels Rani's features with her hands and discerns her prettiness. She describes, "Ayyo! How beautiful you are. Ears are hibiscus. Skin like young mango leaves. Lips like rolls of

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silk. How can that Appanna gallivant around leaving such loveliness wasting away at home?" (11) This statement is a substantiation for the principle of the male-dominated society that it is essential for the wife to be beautiful, or else the husband deserves to find another woman.

Manifestation of Naga

Kurudavva offers Rani two roots for the sake of enticing Appanna. As per her advice, Rani grinds the small root and mixes with the milk before serving Appanna. It does not produce the desired effect; he just faints, and after waking up, behaves as usual. When she tries the big root, mixing with curry, it turns blood red. Appalled by seeing this, Rani pours the curry into the anthill outside the house which is resided by a King Cobra. It tastes the curry and falls in love with Rani at once.

It watches Rani being beaten by Appanna for stepping out of threshold. Physical abuse is yet another ill treatment caused to women extensively. Domestic violence is, of course, a proof for the tyrannical tendency of certain menfolk.

After Appanna leaves, it enters the house through the drain in the bathroom. As Cobra has the power to transform to any shape, it assumes the form of Appanna. This character is denoted by the name Naga.

Affectionate Naga

Naga starts visiting Rani during nighttime and he showers love on Rani. Rani, though confused about her husband's changing behaviour in day and night, is pleased by Naga's night visits in which she receives his love and escapes from her bitter seclusion. Mahato makes a comparison between Appanna and Naga:

> The paradox in the play is the behaviour of Rani's husband Appanna and that of the Naga. One is human but not humane, other is not human but humane. One is indifferent to his own wife and gallivants after the concubine. Other one is 'love struck' by the effect of the 'love root' not only expresses his tender love to Rani, but also renders Rani with the opportunities to become a wife, a mother and a woman while her husband who is entitled to and entrusted with these responsibility fails to do so." (20)

Naga, in spite of having affection for Rani, could not clear her doubts regarding his strange behaviour as it may lead to disclosure of his real identity. So, he insists, "don't ask me why" (26), for which Rani replies, "No, I won't. The pig, the whale, the eagle-none of them asks why. So, I

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won't either" (26). This clearly shows how a woman is conditioned not to use her sixth sense, her rational mind, which is a human attribute, and to consider herself equal to the creatures having less senses.

Sexual Relationship

Then Naga begins to have intercourse with Rani who is ignorant about it thus far like most of the Indian women. She feels that it is quite wrong and so accuses Naga: "I didn't know you were such a bad man. I should have known the moment you started using honeyed words" (24). Laughing at her naivety, Naga explains in flowery language that this is the law of Nature.

This is another drawback of Indian culture that the girls are deliberately kept away from the knowledge about sex, and they are expected to undergo that experience right after marriage. Therefore, many a women develop aversion to sex.

Consequence of the Contact

Rani gets pregnant, as a result of their relationship; Naga is worried about it, considering the consequence. As he predicted, Appanna is furious when he comes to know about the pregnancy of Rani. He chastises Rani using vile words: "Aren't you ashamed to admit it, you harlot? I locked you in, and yet you managed to find a lover! Tell me who it is. Who did you go with your sari off?" (33)

Then he beats her, drags her to the street, and tries to abort the child using a stone; but he is diverted by Naga in Cobra form. Rani escapes by running into the house and locks herself in. Appanna swears, "… Open the door, you whore! All right then, I'll show you. I'll go to the Village Elders. If they don't throw that child into boiling oil and you along with it, my name is not Appanna." (33)

Trial at Village Court

As sworn, Appanna makes a complaint to the Village Elders. As per the customs of their village, the woman, who is charged with having committed adultery, should hold red-hot iron in her hand and take an oath pleading innocence. Or else, she can opt for plunging her hand in boiling oil. These horrible practices seem to be the variants of the fire ordeal taken by Sita for proclaiming chastity in *Ramayana*, the Indian mythology. It is undoubtedly a disgraceful convention of the patriarchal society that the wife should remain chaste, otherwise she has to undergo dreadful ordeals whereas the husband can have affair openly. This is the loathsome status of certain cultures of India. Sahoo puts it: "The play questions the patriarchal moral code, which demands the faithfulness of a woman to her husband but not the faithlessness of a man to his wife. Rani sleeps with Naga without

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knowing it, as Naga is in the guise of Appanna. On the other hand, Appanna enjoys extra-marital sex openly and unashamedly. Everybody even the elders in the village know this but do not prove his chastity." (32)

Snake Ordeal

Rani, as per the guidance of Naga, requests for undertaking the snake ordeal which creates excitement in the village, since it is the first time to happen. And so, many people gather to witness it. Even though Rani is scared of taking the Cobra initially, she then proceeds with performing it. Holding the Cobra in her hand, she swears the oath: "Since coming to this village, I have held by this hand, only two … my husband and this King Cobra. Except for these two, I have not touched any one of the male sex. Nor have I allowed any other male to touch me. If I lie, let the Cobra bite me." (39)

Divine Status

Subsequently, the Cobra slithers up to Rani's shoulder and spreads its hood over her head. The whole crowd is astonished to see this miracle and they fall at her feet in reverence. The Village Elders come to a conclusion that she is a Divine Being, and they advise Appanna, "your wife is not an ordinary woman. She is a goddess incarnate. … Spend the rest of your life in her service" (40). Then the crowd takes Rani along with her husband on the palanquin to their house with respect.

Change of Heart

Appanna is bewildered by the event, and he too falls to her feet asking for forgiveness apologetically. Then he turns a devoted husband to her. Furthermore, his concubine, as an act of repentance for her sins, becomes the servant of Rani. Thus, Rani lives happily thereafter with her husband and child.

Conclusion

Even though the story ends on a seemingly happy note, it is a clear representation of male chauvinism. Rani has never taken a decision in her life; her life is steered by several men. Her marriage takes place according to the decision of her father that the father chooses the groom and marries her at young age. After marriage, her husband, due to his selfishness, subjects her to seclusion and maltreatment. Naga, the male Cobra, too plays his role in her life that he impregnates her as per his fancy. The prevailing system of the male-dominated society compels her to undergo the ordeal. The result is also the outcome of the decision taken by the male Cobra. Then the Village Elders, who are also men, pass a verdict that she should be treated reverently by her husband. The

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patriarchal society imposes her to live with a man who has no love for her and is forced to stay with her by the judgment. Hence, a woman, especially in the culture-bound countryside, has no chance to take decisions in her life and live as per her wish.

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The Names of Land, Field, and Soil in Madurai District – A Linguistic Study

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Abstract

Not only language but perception, categorization, cultivation methods, etc. also differ from region to region. Madurai district farmers have categorized lands and soils as cultivable and non-cultivable. Arable lands are two types: one is dry land and another one is wetland. Non-arable lands are divided into land for residence and land for grazing. Farmers are acquainted with many different types of soils and are able to differentiate muds which are treated as complete synonyms in dictionaries (Subramanian P.R, 1992 and Ramakrishnan S, 2020). The collected data reveals two types of naming systems for the fields: one is for the irrigated lands and another one is for the pieces of wet fields. Irrigation tanks and their irrigated lands share a common name and each wet field has a place name for easy reference and identification. As the land is the main property of the farmers, they are referred to by doublets in casual conversations.

Keywords: Nomenclature - land - field - soil - arable land - mud - irrigation tank - irrigated land - farmer.

1.1. Introduction

Agriculture is the second occupation of mankind after hunter-gatherer style of living in human history (National Geographic Society, 2022). Farmers cultivate crops as an occupation and get their knowledge about soils, rainfall expectations, seasons, crop rotation, pesticides, diseases that affect the crops, weeds and their control, etc. "Knowledge, innovations, and practices of indigenous and local communities around the world developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural

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practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general" (Traditional Knowledge, UNESCO). This traditional knowledge about crop cultivation is as important as any other professional knowledge of any field. The compositions of soil, climate, irrigation facility, the choice of crop, method of cultivation differ from region to region. Region to region the variety of language, culture, perception, etc. play an important role in naming the agricultural implements, soils, seasons, weeds, etc.

Agriculture is the major and primary occupation of India and Madurai district is not an exception. Madurai district is one of the 38 districts of Tamilnadu. "Most of the areas of Madurai district contain red loam, black soil and clay loam" (District Diagnostic Reports – Vaazhndhu Kaattuvom Project, tnrtp.org, Madurai).

A Survey on Agricultural occupational terms of Tamilnadu (Rajasekaran Nair et al, 2022) has shown significant dialectal differences. Madurai dialect has some unique words and expressions. While a language community is divided geographically or socially, the language differs, and the different varieties are called dialects.

The present article aims at recording the names of lands, fields and soils in Madurai district of Tamilnadu and unearths the naming methods of them through linguistic analysis of lexical items which are currently in use among the farmers of Madurai district.

1.2. Data Collection

The data for this study has been collected from the farmers of Madurai district by direct interviews. The data is collected from landlords and agricultural workers. The secondary data is collected from the dictionaries and the Tamil Lexicon.

1.3. Analysis and Description

The collected data has been analyzed descriptively and presented in this paper.

1.4. Division of Land

One can easily deduce the system of naming and the categorization of lands, fields and soils from the data of these items by observation and analysis.

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                        Land (nelam)          .


                Arable land              Non-arable land      .
              (saakupadi nelam)           (poTTakkaaDu)


          Wetland    Dryland        Residance    Barren land
           nañja      puñja          viiTTaDi    poTTakkaaDu
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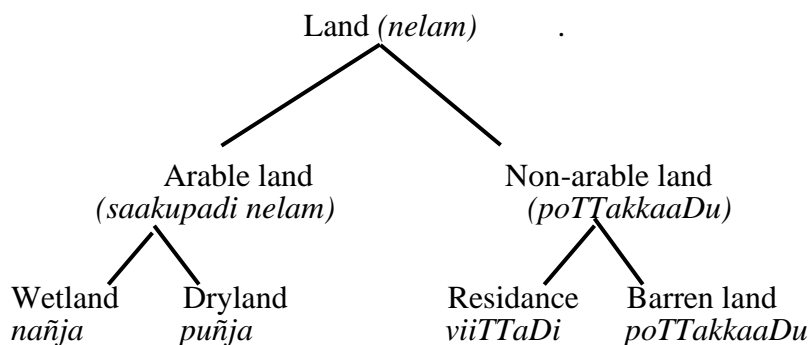
There is a dichotomy in the division of land on the basis of arability: arable land *(saakupadi nelam)* and non-arable land *(poTTak kaaDu)*. This major division further divided into two each. The arable land is divided into two on the basis of irrigation: dry land *(puñja)* which is cultivated with rain water or well water and wet land *(nañja)* which gets irrigation from the water stream, irrigation tanks, etc. The soils of wet land also differ from dry land; while dry land is red soil *(semmaNNu)* and sand, wet land is black soil *(karamba maNNu, karisa maNNu),* or mixed soil *(irusaari)* or clay.

The non-arable land is divided into land of residence *(viiTTaDi)* and barren land *(poTTak kaaDu)* or land for grazing *(meeccak kaaDu)*.

Irrigated Land

Irrigation tanks and their irrigated lands share the same names as the first part of their names in this district. One of the irrigation tank's names is *'aarik kammaa'*, and the irrigated land's name is *'aari vaya*.'   *'aari'* is the shared name and *'kammaa'* (tank) and *'vaya'* (wet field) are the second part of tank and irrigated land respectively.

Synonyms of 'field' and their distribution:

'vaya', 'seyyi', 'nelam', 'kaaDu', 'kaaNi', 'buumi', 'kuNDu' and *'kuRukkam'* are all synonyms for the meaning of 'field.'   However, they have distribution restrictions in the farmer's language use.

kaaNi and nelam

Both are referring to 'a piece of arable land'. Compared with *'nelam'*, *'kaaNi'* is less frequently used among farmers.

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vaya and seyyi

Both are referring to wet land, while *'vaya'* is a common name for a piece of wet land as well as the irrigated land of a tank, *'seyyi'* is a specific name; it is always used as a reference for a piece of wetland. When a farmer has a number of fields, he named them differently to refer to them specifically, for example, *'pana marattu ceyyi',* which means that a wet field with a palmyra tree on its boundary. This type of naming facilitates farmers to talk about particular field and direct the workers to the particular wet field. Most of the time, these types of names are transparent and sometimes they become opaque because they had been christened very long back, generations before.

nelam and buumi

Both are referring to land in general, however, the word *'buumi'* is less frequently used than *'nelam'*. *'buumi'* is used in some set phrases like *'pon veLaiyum buumi'* - 'land which yields gold'.

kuNDu and kuRukkam

Both are referring to small pieces of arable land; however, *'kuNDu'* is referring to a 'wet land' and *'kuRukkam'* referring to a 'dry land'.

Names of Soils

The following are the names of soils available in the Madurai district. The names are being used for many generations. The farmers have deep knowledge about these soils and are able to distinguish between the different types of soils and even the subtle contrasts between the varieties of soils.

'maNNu', 'semmaNNu', 'maNalu', 'karamba maNNu', 'karamba', 'kaLi maNNu', 'iizakkaLi', 'saraLa', 'señjaraLa' , 'poTTa maNNu', 'uvar maNNu', 'uppu maNNu', 'ovaTTu maNNu', 'sukkaa maNNu','karusa maNNu' and *'seeha maNNu'* are different names used by the farmers for different types of soils in Madurai district.

Comparison of Madurai Dialect form with Standard Forms

Madurai Dialect Forms	Standard Tamil Forms
maNNu	*maN* [soil]
semmaNNu	*semmaN* [red soil]

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maNalu	*maNal*	[sand]
karamba maNNu	*karusal maNNu*	[black clay]
karamba	*vaNDal*	[slit]
karusa/ karuppu maNNu	*karisal*	[black soil]
kaLi maNNu	*kaLimaN*	[clay soil]
iizak kaLi		[fine clay]
saraLa	*saraLai*	[soil with small stones]
señjaraLa		[mixture of red soil with small stones]
poTTa maNNu		[infertile soil]
uvar man NNu	*uvar maN*	[saline soil]
uppu maNNu	*uppu maN*	[saline soil]
ovaTTu maNNu		[saline soil]
sukkaa maNNu	*< sukkaan*	[limestone]
seehamaNNu		[mixture of fine soil with organic matter]

Farmers' Knowledge about Soils

Farmers in the study area are acquainted with more soil names as they have perceived many types of soils in this region. Some of them are totally different and some other are differently perceived. The soil names which are not found in dictionaries are *senjarala, iizak kaLi, poTTa maNNu* and *seekamaNNu*. The dialectal word for *'vaNDal'* (silt) is *'karambai'*; however, the standard word is also intelligible for many farmers of this study area. Interestingly, this *'karambai'* has a different meaning in standard Tamil and in some other dialects and means the opposite. *'karambai'* is the slit formed at the bottom of irrigation tanks and it is used to manure the lands in Madurai district. On the other hand *'karambai'* or *'karambu'* is a clayey soil which is unsuitable for cultivation.

Standard Form to Spoken Form Conversion

All words in Spoken Tamil end with a vowel sound. So, the Standard Tamil form *'maN'* changes into *'maNNu'*. Here, the last sonorant doubles to facilitate the addition of the enunciative /u/; The vowels /ai/ and /i/ change into /a/ and /e/ respectively in Spoken Tamil.

Ex. */saraLai/ -→ /saraLa/* (ai → a)
     /nilam/ ---> /nelam/ (i → e)

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Transparent and Opaque Names

The word and its meaning usually do not have any natural relationship. The meaning of a word is mostly conventional. However, there are some words which have some kind of relationship to denote a meaning.

Ex. *naaRkaali ---> naaR (<naanku) + kaali* (four + legged) ---> chair

In Tamil, the word for 'chair' is *'naaRkaali'*. Literally it means an item which has four legs.

Transparent Soil Names

The soil names *'semmaNNu', 'señjarala', 'sukka maNNu', 'poTTa maNNu', 'uvar maNNu', 'ovaTTu maNNu'* and *'uppu maNNu'* are transparent names, as the constituents' parts have meaning, and the compound meaning is the totality of the constituents.

semmaNNu ---> sem + maNNu (*'sem'* is an adjectival form of *'civappu'* = red).
                 red   soil
señjarala   ---->   *señ + sarala* (*'señ'* is an alomorph of the adj. 'sem'
                 red   gravel
sukkaa maNNu   ----> *sukkaa + maNNu*
              lime stone   soil
poTTa maNNu   ----> *poTTa + maNNu* (*'poTTa'* is a dialect word means 'impotent')
             impotent   soil

'uvar maNNu', 'ovaTTu mannu', and *'uppu maNNu'* mean the same soil, that is, 'saline soil'. They are in free variation; they can be interchanged without any meaning change.

Soil and Field/Land Combination

Soil is the constituent of land or field. The possible combinations are listed in the following table:

Soil ↓ Land➔	nelam	buumi	tara	kaaDu	-saari	vaya
semmaNNu	y	y	y	y	x	x
maNalu	x	x	y	y	y	x
karamba maNNu	-	-	y	-	-	x
Karamba	x	x	y	x	x	x
kaLi (maNNu)	y	x	y	x	x	x
iizak kaLi	y	x	y	x	x	x

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saraLa	x	x	x	y	x	x
señjaraLa	x	x	x	y	x	x
poTTa (maNNu)	x	x	y	y	x	x
uvar (manNNu)	y	x	x	x	x	x
uppu (maNNu)	x	x	y	x	x	x
ovaTTu (maNNu)	y	x	y	x	x	x
sukkaa (maNNu)	x	x	x	y	x	x
seeha maNNu	y	x	y	x	x	x
karusa maNNu	x	x	x	y	x	x
karuppu (maNNu)	x	x	x	x	x	x

Names of Soil Mixed with Water

'ceeRu', 'sakadi', 'toLi', 'vadi', 'kaLi', and *'puzudi'* are the different names for the different composition of different soil mix with water or in the absence of water.

'toLi' is the resultant of a well-mixed mixture of soil and water, it is more than a semi solid and it is made by tilling the field in the presence of water. It is prepared to plant paddy saplings easily. If the roots of the sapling are placed on *'toLi'* and pressed very little it would be planted effortlessly. It is mostly prepared for the plantation of paddy saplings. There will be a layer of water over the watery mud.

'ceeRu' is a mixture of soil and water, but there won't be a water layer over the mud. It is formed during the rainy season on the mud paths. It is very loose soil and clay with water.

'vadi' is a wet clay soil and looks like crease; it can stick to anything on which it is applied. It is thicker than *'seeRu'.* Children make dolls out of this wet clay.

'sakadi' is a mixture of wet soil with some other organic matter which is naturally mixed with mud. It is formed with water on the mud roads and paths.

'tuur' is the *'seeRu'* and it is formed at the bottom of a well or pond. It is formed as the soil particles settle down at the bottom of the water body in due course. *'tuur'* is the foot of a tree and

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'seeRu' is visualized as the bottom of the water body. The place name metonymically stands for the *'seeRu'* which is at the bottom of a water body.

'kaLi' means two things: one is wet clay and the other one is dry clay soil. Mostly the wet clay is referred to as *'iirak kaLi'* and sometimes as a short form or due to contextual permission it is called as *'kaLi.'*

'puzudi' is fine dry soil which can fly with strong wind.

Doublets of Land Names

The main property of an agriculturist is the land and it is referred to in doublets during conversations and enquiries. *nañja puñja, nila pulan, nilam niiccu, kaadu kaNNi, kaaDu kara, vaaykkaa varappu, puñjak kaaDu, vayak kaaDu and kuNDu kuRukkam* are the doublets which are referring to land and the surroundings of lands.

nela pulan

It is the combination of *'nela'* and *'pulan'* and mostly used to inquire about the land property of a farmer. The word *'pulan'* is not found in the farmers' dialect, as a separate word. However, it is used as a technical term in the field of land survey and it refers to any section of land that is owned by a farmer.

nelam niiccu

It refers to arable land as the property of a farmer. Land refers to a general meaning of any kind of land and *niiccu* (Subramanian P.R:1992, P. 630) which does not occur as a word in the dialect may mean anything similar to land property.

kaaDu kara

kaaDu and *karai* have their own definite meanings. This doublet refers to any kind of land, but it is vast land, and it may include a vast plain and raised grounds or banks of water bodies.

vaaykkaa varappu

It is an implicit coordinate compound and they mean the shallow part of the channel and its bank.

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Ex. *vaaykkaa varappula nadantu pookumpootu* --'When walk on the channel and its banks

kaadu kaNNi

This pair refers to a general meaning that is outside of the house and the place where works related to agriculture.

Ex. *kaadu kaNNikku veelaikkaip pooka veNDiyirukkum*

It may be needed to go out to the fields (of any kind) for (agricultural) work.

nañja puñja

This doublet is used when the farmers refer to their fields as their assets among themselves. *namakku nañja puñja ellam uNdu.* -- We (exclusive) have all - wet land and dry land.

kuNDu kuRukkam

This pair is used when someone has very nominal land property. It is opposite to *'nañja puñja'*, *nilam niiccu, 'kaaDu kara',* etc. They are referring to the richness of the rich, but this is referring to the meager amount of land property. As it shown earlier, *'kuNDu'* is the small piece of wet land and *'kuRukkam'* is the small piece of dry land.

kaaDu

The primary meaning of '*kaaDu'* is 'forest' and it has the implied meaning of 'vastness' for which the word is the second constituent of some doublets.

Ex. *vayak kaaDu* - (vast) wet fields
    puñjak kaaDu – (vast) dry land

The second part of *'puñjak kaaDu'* can stand for the whole of the doublet; that is *'puñjak kaaDu'* and *'kaaDu'* can be interchanged in contexts without any meaning change in the context of dry land. However, *'vayak kaaDu'* cannot represent the whole of wet fields as in the case of dry land. It is in contrastive distribution with *'vaya'* – 'wet land.' *'puñjak kaaDu', 'puñja', 'kaaDu'* are in free variation, that is they can be used interchangeably in contexts without any meaning difference. On the other hand, *'kaaDu'* and *'vaya'* are in free variation; '*kaaDu'* is not a synonym of *'vayak kaaDu'* and *'vaya'* in the context of wet land.

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Conclusion

The study of names of lands, fields and soils of Madurai district shows a system of naming. Every wet field of a farmer has a place name; it is mostly transparent, however there are opaque names also. The irrigation tank and its beneficiary have the same name. The primary wealth of the farmers is their lands and they are being referred to by many doublets and some other doublets are used to refer to agricultural lands where farmers habitually work every day. Madurai district farmers use more names for the soil than what the dictionaries or lexicons have listed. Farmers are well acquainted with the different names of mud. The naming is guided by the Tamil language structure and culture. In future, linguistic study on weed names, implement names, etc. would bring out the underlying naming systems.

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