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in grateful appreciation of his keen interest
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VERBS OF COGNITION IN TELUGU*

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The semantic and syntactic facts of the usage of the verbs of cognition in Telugu are investigated in some detail and compared with the use of such verbs in other languages like English. An examination of stative predicates reveals that all languages possess mechanisms to express the distinction between a 'being in a state' and an 'entering into a state.' Such a distinction is expressed by different inflection in Telugu, by different predications in Hindi, and by different lexical items in English.

TELUS 'to be known'

The most commonly used verb of cognition/knowledge in Telugu is *telus-* 'to be known' which requires the noun denoting 'experiencer' in the dative case. The subject noun phrase (NP) (including an embedded S)is marked for the semantic feature [+Factive][1] and the finite verb forms have only neuter gender agreement represented by the morphemes *-di* (sg.), *-y* (pl.). In addition to the three positive tense-aspects (?) that it shares with most other verbs of the language, *telus-* has an additional unique tense (or aspectual) form *telusu(N)*[2] which, for want of a better term, I shall call 'Stative.' The inflected forms are as follows :

Future-habitual :	telus-tun-di (sg.) '(It) will be known.'
	telus-tā-y (pl.) '(They) will be known.'
Past or punctual :	telis-in-di (sg.) '(It) was known.'
	telis-iā-y (pl.) '(They) were known.'
Durative (non-future):	telus-t-unnadi (sg.) 'It is/was being known.'
	telus-t-unnāy (pl.) 'They are/were being known.'
Stative (non-future, non-punctual):	telus-u(N) (sg. & pl.) 'It is/was/has been known.'

These forms occur in a typical sentence frame like the following:

$$[X \text{ — } NP_{dat} \text{ — } NP \text{ — } Y \text{ — } Z]_S$$
$$[+Ani.] \quad [+Factive] \quad [V]$$

(X, Y, Z could be grammatical elements or null.)

The semantic and syntactic facts of the usage of these verbs are illustrated below : (*nēnu* 'I', *nā-ku* 'to me', *sangati* 'fact, matter, affair, news')

(1) nāku ā sangati telusu 'I know (knew, have known) that fact.'

(2) nāku ā sangati *padēḷḷakindaṭa* telusu 'I knew that *ten years ago.*'

(3) nāku ā sangati *padēḷḷanunci* telusu 'I have known that *for ten years.*'

Corresponding to (1) and (2) we can say (1a) and (2a).

(1a) nāku ā sangati telisindi 'I came to know that fact.'

(2a) nāku ā sangati *padēḷḷakindaṭa* telisindi 'I came to know that fact *ten years ago.*'

But, corresponding to (3), (3a) is ungrammatical.

(3a) *nāku ā sangati *padēḷḷanunci* telisindi.[3]

From the above examples we gather (1) that *telusu* occurs duratively and refers to a *continuing state of knowledge* whereas *telisindi* to a *completed* or *punctual state* of knowledge; (2) that *telusu* has no future time-reference,[4] and (3) that both of them are non-Agentive verbs as opposed to Agentive *telusukon-* 'to learn, find out.' By the feature 'non-Agentive' is meant the absence of will and/or effort on the part of an animate being in bringing about the situation or at least the absence of this information being expressed or presupposed by the verb.

The following examples further illustrate the durative aspect of *telusu* as opposed to the punctual aspect of *telisindi.*

(4) nāku ā sangati 1960 *nunci* 1969 *dāka* telusu 'I knew that from 1960 to 1969' (but I have since forgotten it).

telisindi cannot occur with the extentive time adverbial in this sentence. On the other hand, one can insert *modaṭisāri* 'for the first time' in (2a) and not in (2), as in

(5) *nāku ā sangati padēḷḷakindaṭa modaṭisāri telusu

(5a) nāku ā sangati padēḷḷakindaṭa *modaṭisāri* telisindi I came to know it *for the first time* ten years ago.'

It is also ungrammatical (or at least odd) to use *telusu* with the emphatic time adverbial *ippuḍ-ē* ' just now ' (*ippuḍu* 'now'-*ē* 'only')

(6) *nāku ā sangati ippuḍē telusu ' I know that now only.'

It is, however, perfectly acceptable to say

(6a) nāku ā sangati ippuḍē telisindi ' I have come to know that just now.'

Also notice how the meaning of the emphatic particle -*ē* is modified by the choice of the verb, when it is added to the time-adverbial in (2).

(7) nāku ā sangati padēḷḷakindaṭ-ē telusu ' I knew that *even* ten years ago.'

(7a) nāku ā sangati padēḷḷakindaṭē telisindi ' I came to know that *only* ten years ago.'

(7a) presupposes that the speaker is disclaiming knowledge of the fact before the time he first happened to know it. There is no claim that he continues to know it since then. On the contrary, (7) presupposes that the speaker is not precluding his possession of knowledge of the fact even before ten years and also implies that he continues to be in possession of that knowledge.

There is another significant difference in the choice of Factive NPs between *telusu* and *telisindi* (*wāḷḷu* ' they ' (human); *antā* ' all ')

(8) nāku *mukhyamantri* telusu ' I know the Chief Minister.'

(9) nāku *wāḷḷantā* telusu ' I know all of them.'

But (8a) and (9a) are ungrammatical

(8a) *nāku *mukhyamantri* telisindi

(9a) *nāku *wāḷḷantā* telisindi

If the italicized NPs are taken as surface subjects, it might appear that the ungrammaticality of (8a) and (9a) would be accountable by the lack of gender-number concord between the subject and the verb. Then one might change the verbal inflexion copying the gender and number of the subjects as follows :

(8b) *nāku mukhyamantri telis-iā-ḍu

(9b) *nāku wāḷḷantā telis-iā-ru

These sentences are still ungrammatical because *telus* can be inflected only with neuter sg. and pl. If then we try non-human animate nouns (neuter-grammatically) in NP position instead of human nouns, the sentences are still ungrammatical.

(8c) *nāku *wāḷḷakukka* telisindi ' *I came to know *their dog*.'

(9c) *nāku *wāḷḷa kukkalu* telisiāy '*I came to know *their dogs*.'

telusu does not have these constraints :

(8d) nāku wāḷḷakukka telusu ' I know their dog.'

(9d) nāku wāḷḷa kukkalu telusu ' I know their dogs.'

However, if we use *sangati* ' fact ' and *sangatulu* ' facts ' as head of NP, the sentences are grammatical even when *telisindi* occurs as the finite verb.

(8e) nāku wāḷḷa kukka sangati telisindi ' I knew about their dog.' (lit. to me about their dog is known)

(9e) nāku wāḷḷa sangatulu telisiāy ' I knew about their affairs.'

From the foregoing illustrations it appears that both *telusu* and *telisindi* require a Factive NP as the subject, and that *telusu* has a property which converts the meaning of the subject NP into a Factive, and that *telisindi* does not have this property when the subject is subcategorized for [+Animate]. That both of them require an NP which carries the semantic feature [+Fact.] can be seen from the semantic interpretation of the following sentences:[5]

(10) nāku āyana illu telusu ' I know his house.'

(10a) nāku āyana illu telisindi ' I came to know his house.'

Just as in English, here ' house ' is not a concrete noun but stands for facts or information about the house like ' the location of the house, how it looks like, how far it is, etc.' It is therefore only the NP subcategorized for [+Animate] that cannot become the subject of *telisindi*. It is interesting to note that a similar difference in the Obj. NP selection also occurs in English between *know* and *learn*:

I knew it. (it=fact, event, building, etc.)
I knew him.[6]
I learnt it.
*I learnt him.

By cross-language comparison it appears that the forms of *telus* (which have tense-contrasts) have deep structure constraints similar to the active verb *learn*, but the problem is complicated by the fact that Telugu has another verb *telusukon* which is used actively corresponding to *learn* of English.

ERUGU

This defective verb is occasionally used in the place of *telus*, mostly in the first person singular.

nēnu ā sangati erugudunu ' I know that.'

ā sangati dēwuḍu erugu ' God alone knows that.'

This verb has the same meaning and behavior as *telusu* except that it requires the ' Experiencer ' to occur in the nominative. The tense form *-du-* is archaic habitual tense marker and occurs in this form alone. *eruka* ' knowledge,' an abstract noun derived from this verb, can occur as a predicate, requiring the ' experiencer' noun in the dative: *ā sangati nāku eruka* ' I have knowledge of that fact.'

TELUSUKON

This verb is used actively with the word denoting the Agent in the nominative case, in the same way that *learn* is used in English. Consider the following sentences :

(11a) nēnu ā sangati *telusukonnānu*$_1$kābaṭṭi (nāku) *telisindi* (or telusu)$_2$ ' I learnt it$_1$, therefore, I came to know it (I knew it).'$_2$

Keeping the coordinating particle constant, we cannot reverse the order of the clauses to say

(11b) *nāku ā sangati telisindi (telusu)$_1$ kābaṭṭi telusu konnānu$_2$ ' *I came to know$_1$ (knew) that, therefore, I learnt it.'$_2$

Learning ' entails ' (logically leads to) knowing, but knowing does not necessarily presuppose ' learning.' By the same token we can negate clause 1 in (12a) and not clause 2 with the coordinator *kāni* ' but.'

(12a) nēnu ā sangati telusukō-lēdu, kāni nāku telisindi (or telusu) ' I haven't learnt it, but I came to know (knew)

(12b) *nēnu ā sangati telusukonnānu, kāni teliyalēdu ' I have learnt it, but I did not know it.'

The foregoing examples show that *telusu* refers to a *passive state of knowledge* that an Animate being possesses (at a given point of time) which inherently has a continuative (noniterative, non-punctual) aspect in time reference. This is perhaps a language universal. Compare for instance :

(13) *I knew it yesterday.*

(13a) *I learnt it yesterday.*

(13) does not preclude the interpretation that ' I also knew it prior to yesterday,' but (13a) does preclude such an interpretation. In the latter case *learn* is active corresponding to *telusukon*. The other inflected forms of *telus* (viz. *telisindi*, *telustundi*, etc.), though they carry tense-contrasts, refer to the ' becoming of a state,' rather than the ' being of a state ' in relation to the experiencer at specific points in time. We may call this aspect of the verb ' en-stative,' i.e., that which causes something to become part of a state without the will or physical effort of the experiencer. Both these contrast with active verbs which obligatorily require the willing participation of an ' Agent ' in bringing about the situation.

None of the manner adverbs implying human will can occur with any usage of *telus-*. Such adverbs are *kāwālani* ' deliberately,' *swatantramgā* ' independently,' *jāgartagā* ' carefully,' etc. According to Gruber (1967 : 943) and Lakoff (1966) this is one of the tests of true stative predicates.

*nāku ā sangati *kāwālani* telusu/telisindi

nēnu ā sangati *kāwālani* telusukonnānu

' I have deliberately come to know (knew) that.' *telus-* cannot be used imperatively but *telusukon* can be.

This shows that both *telusu* and *telisindi* are used ' statively ' as opposed to *telusukon* which is active.

Lakoff (1966) suggests that ' stative ' and ' nonstative ' must be used as inherent features of verbs with corresponding syntactic consequences. Fillmore (1968 : 30-31) considers this difference as a function of the choice of different cases in the ' frame features ' of verbs. Thus :

see (+[—O+D]) versus *show* (+[—O+D+A])
die (+[—+D]) versus *kill* (+[—D (I) (A)])

(O=Objective, D=Dative, I=Instrumental, A=Agent)

Neither of these analyses provides a satisfactory solution to the three-way contrast in Telugu represented by *telusu*: *telisindi*: *telusukon*. *telusu* and *telisindi* are both [+Stative] and *telusukon* [– Stative] by Lakoff's analysis. In Fillmore's approach *telusu* and *telisindi* are both to be defined by the frame features (+[—D+O]) and *telusukon* by (+[—O+A]).

Following Lakoff, we have to say *telusu* ' is known ' is [+Stative] whereas the inflected forms (viz. *telisindi* ' it has been or was known,' *telustundi* and *telustunnadi* ' it is being known ') [–Stative], because these latter correspond to *come to know* of English which is used non-statively. Then the difference in meaning between *telusu* and the other forms is a function of inflexion and does not therefore arise from an inherent feature.

Some questions that immediately arise are :

(1) What is the semantic content of the feature [+Stative]? Could it be more precisely called [–Agentive], where [+Agentive] represents the occurrence of a state or situation willed by an animate participant ?

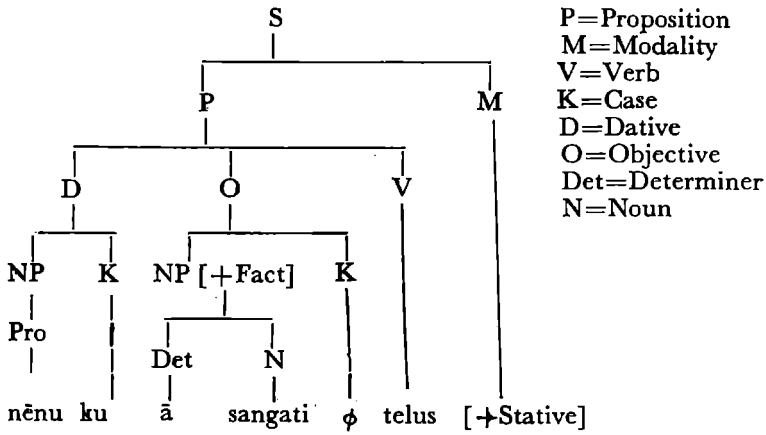
(2) Is the feature [+Stative] or [–Agentive] a language universal ? What are the syntactic consequences that can be predicted from the choice of a predicate in a proposition marked [+Stative]?

(3) Is it an inherent feature of the verb or an aspectual feature having time reference introduced by rules of inflection ? In the latter case, why should such aspectual differences uniquely occur with only a limited number of verbs like *telus-*?

(4) Are there parallels between Telugu and the other Dravidian languages, and between Dravidian and Indo-Aryan in the treatment of verbs of cognition and if so how are these features to be handled in the description of the languages of India ? The technique employed should bring out these parallelisms; compare, for instance, the usage of Hindi *maalum hai, maalum ho* and *jaannaa.*

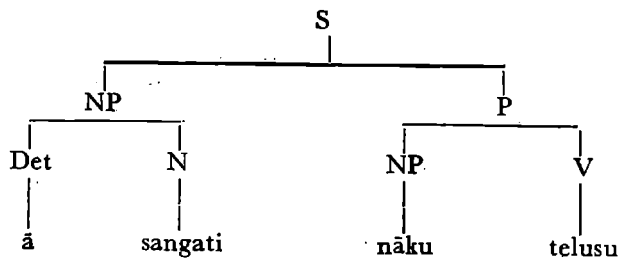
Though I do not know answers to these questions, I will hazard a few ad hoc guesses. Fillmore's case grammar seems to handle the contrast between statives and actives more neatly by introducing the difference in the lexicon of the verb entries. By this analysis *telus-* occurs in the env. (+[—D+O]) and *telusukon* in the env. (+[—O+A]). Sentences (la) and (lb) are therefore represented in the deep structure as follows. (la) *nāku ā sangati telusu*

(14)



Here we have no free choice of moving D to the subject position. In the case of verbs requiring an obligatory D in their features [D+O], only O can become the surface subject. The derived surface structure is represented as

(14a)



Here *telusu* is derived by combining the modality feature [+Stative] with the verb.

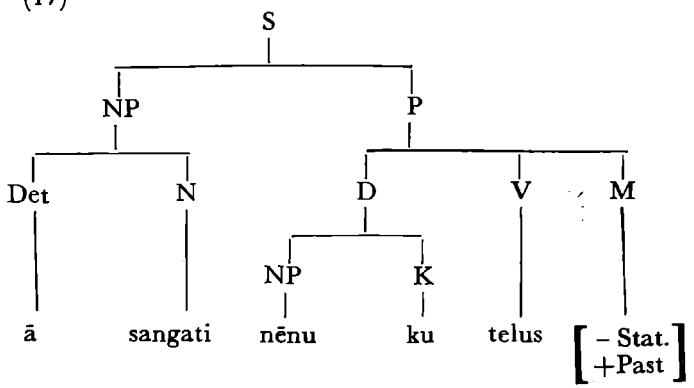
(2a) nāku ā sangati telisindi 'I came to know that.' has the same deep structure representation as for (1a) except that under 'modality' we introduce [−State] with the following rules :

$$(15)\quad \alpha\ \text{Stative} \rightarrow - \alpha\ \text{Tense} = \begin{cases} +\text{Stative} & \rightarrow -\ \text{Tense} \\ -\text{Stative} & \rightarrow +\ \text{Tense} \end{cases}$$

$$(16)\ +\text{Tense} \rightarrow \begin{cases} \text{Past} \\ \text{Dur.} \\ \text{Fut-hab.} \end{cases}$$

The derived representation is :

(17)



A low-level morphophonemic rule changes *nēnu+ku* to *nāku*. With the combination of [+Past] with [telus] we get *telisindi* by a morphophonemic rule which rewrites Past as *-in-* and by an earlier transformation rule of subject agreement copying which adds *-di* (neu. sg.) at the end of the verb. In the place of NP under O we can also embed a sentence which is also marked [+Factive].

(18a) *āyana eppuḍu wastāḍō* nāku telusu

(18b) O(=S) D V

'I know when he will come.'

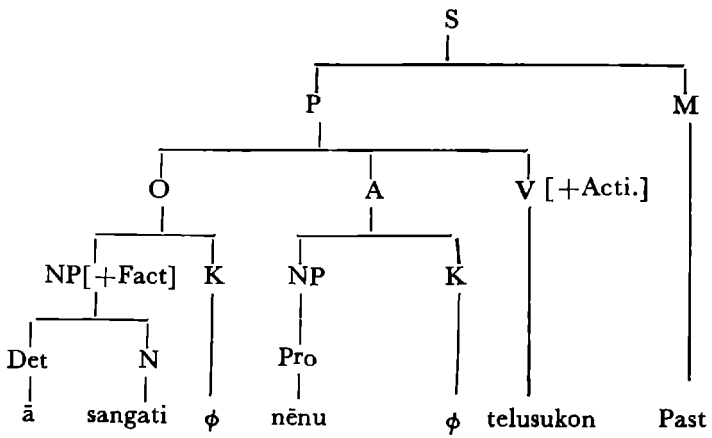
b. *āyana rēpu wastāḍ-ani* nāku telusu

O(=S) D V

'I know he will come tomorrow.'

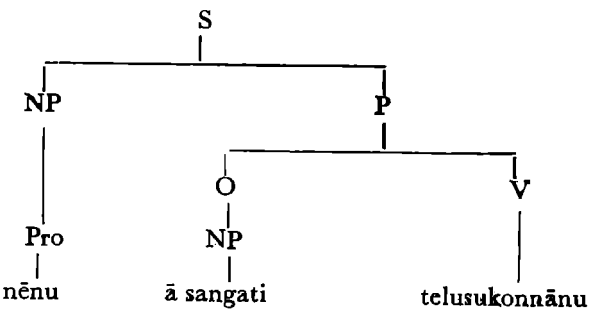
telisindi can replace *telusu* in the above sentences with the corresponding change in meaning and with the same constraints as in a simple sentence. In this kind of description the contrast between the so-called true stative *telusu* and the en-stative non-active *telisindi* is interpreted as a Modality feature rather than as an inherent feature of the verb *telus*. On the other hand, the deep structure representation of a simple sentence with the active verb *telusukon-* is as follows.[7]

(19) nēnu ā sangati telusukonnānu



If there is only one A in the frame feature it carries zero case and automatically moves to the subject position as in (20).

(20)



WACC - ' to come '

One other Telugu verb of cognition which is almost parallel to *telus* is *wacc-* ' skill comes.' This also occurs in two sets : *waccu* ' (a skill) comes, is known, is acquired,' and *waccindi* ' (skill) is learnt,' *wastundi* ' (skill) will be learnt,' *wastunnadi* ' (skill) is/was being acquired.' Even here the experiencer NP is always in the Dative and only neuter inflection is permitted. The surface subject is a noun phrase denoting a skill or faculty or craft. *waccu* is not inflected for number whereas the other forms can occur in singular and plural. Consider the following sentences :

(22a) āyanaku telugu waccu ' He knows Telugu.' (lit. he-to Telugu comes).

(23a) āyanaku telugu padēḷḷanunci waccu ' He has known Telugu for ten years.'

(24a) āyanaku telugu padēḷḷakindaṭa waccu ' He knew Telugu ten years ago.'

(25a) *āyanaku telugu modaṭisāri padēḷḷakindaṭa waccu ' *He knew Telugu for the first time ten years ago.'

(22b) āyanaku telugu waccindi ' He learnt Telugu.'

(23b) *āyanaku telugu padēḷḷanunci waccindi ' He learnt Telugu for ten years.'

(24b) āyanaku telugu padēḷḷakindaṭa waccindi 'He learnt Telugu ten years ago.'

(25b) āyanaku telugu modaṭisāri padēḷḷakindaṭa waccindi ' He learnt Telugu for the first time ten years ago.'

In the place of a name of language, one can use *māṭalu* speech (pl., lit. words).

(26a) mā pillaku māṭalu waccu ' My daughter knows speaking.'

(26b) mā pillaku māṭalu wacciāy ' My daughter has acquired speech.'

Embedded sentences, nominalized like *miṣanu kuṭṭaṭam* ' sewing on a machine ' *ṭaypu ceyyaṭam* ' typing, doing typing,' *waṇṭa ceyyaṭam* ' doing cooking,' etc. can occur as deep structure objects of these verbs. The active counterpart of these verbs is a suppletive *nērcukon* ' to learn ' (through will and effort).

A paraphrase of (26a) and (26b) with the active verb is :

(26c) mā pilla māṭalu nērcukonnadi 'My daughter has learnt speaking.'

Manner adverbs implying human will like *kāwālani* 'deliberately,' *swatantramgā* 'independently,' *jāgartagā* 'carefully,' co-occur only with the active verb *nērcukon* and not with *wacc-*.

As in the case of *telus* we have to interpret the deep structure similarity and contrast between *waccu* and *waccindi* by classifying both of them as requiring the 'feature frames' [D+O] and by positing a modality feature [+Stativity] in the case of *waccu* and [−Stativity] in the case of *waccindi*. *Nērcukon* like *telusukon* has the frame features [O+A]. In the case of *wacc-* as in that of *telus-* it is only the NP dominated by the Objective case that can become the surface subject since [D] is an obligatory feature of non-Agentive verbs.

Other verbs of cognition also have pairs with Dative [−Agentive] and Agentive contrast in their frame features but they do not have the Stative Modality discussed above.

	Non-Agentive	Agentive
(27a)	*kanabaḍu* 'to appear' *kanipinc* 'to appear'	*cūs-* 'to see, look'
(27b)	*winabaḍu* 'to be heard' *winipinc* 'to be heard'	*win* 'to listen'

winipinc also means 'to cause to hear,' 'to read out' [+O+D+A].

On the basis of Telugu evidence, [+Agentive] and [−Agentive] emerge as inherent features, whereas [+Stative] and [−Stative] are set up as Modality features.

A close examination of all true stative predicates shows that all languages possess mechanisms to express the distinction between 'being-in-a state' and 'entering into a state' (called enstative). In the particular cases discussed here, such a distinction is expressed by different inflections in Telugu, by different predications in Hindi (*maaluum hai* vs. *maaluum ho*), and by different lexical items in English (*know* : *learn*). The deep structure of *learn* idiosyncratically combines an enstative meaning of know as 'come to know' and the active meaning of 'learn' (by will of Actor).

I know that JFK died.	(No imperative)
I learnt that JFK died.	(No imperative)
(learnt=came to know)	
I learnt German.	Learn German !

In the majority of cases both statives and enstatives do not have corresponding imperative formations : he is hungry (stative), he is getting hungry (enstative): *be hungry, *get hungry. I have extensively dealt with a semantic study of stative expressions elsewhere.[8]

It may be of interest to note that *telus–*, *erugu* and *wacc-* are the only verbs which have extraordinary tense-aspect forms as *telus-u*(*N*), *erugu-du-nu* and *wacc-u*(*N*), in addition to the usual Past, Non-past, and Durative. Historically *teliyu N* and *waccu N* are the 3rd person forms (unchanged in sg. and pl.), *erugu-du-nu* 1 sg., in the habitual tense known as ' taddharma ' in traditional Telugu grammars. The emergence of a habitual future form with [*tā*∞*tun*] has practically thrown this ' tense ' out of use in the case of all other verbs. The semantic need of the language has apparently salvaged these forms to exploit the ' tense ' inflexion for the expression of durative aspect of the state of knowing identified by these verbs.

NOTES

*This paper was originally presented to a Seminar on 'Regional Universals in Indian Grammar' convened by the Center for South Asian Studies at the University of California, Berkeley, USA, in August 1970. It has not been since revised.

1. Ramarao (1968 :23) calls sentences which are substitutable for *sangati* ' fact ' ' factive nominals.' '. . .These sentences are a kind of fact finding type of sentences which have ' factive nominals ' as their subject or object.'

2. The morphemic analysis of this form is *telus*+*uN*. Final N → ϕ, N → n//——V. *nīku telusun-ā* ? ' Do you know it ?' (-ā question morpheme). For some Telugu dialects the underlying form has no -*N*, e.g. *nīku telus-ā* ? id.

3. This sentence could become grammatical if the tense marker of the verb is changed to durative *nāku ā sangati padē*‖*anunci telustunnadi* ' I have been learning (about) that fact for ten yerars.' Here it appears that the semantic interpretation does not imply an ' uninterrupted state of knowing ' but broadly something like ' I have been hearing about that occasionally over a period of ten years.'

4. It is perhaps also odd to say in English ' I will know.' See the discussion of Schiffman (1970) on this question.

5. A redundancy rule in the lexicon may be included as [+Fact] → [−Concrete.]

6. Hofmann (1966) says that 'epistemic verbs' like know, rumor, etc. '...always allow and in general require an abstract noun phrase such as *fact* or *event* as an object ...but seldom do they permit an object which is human' (p. VII-2). In a footnote keyed to this sentence he says, '...There is a homophonous verb 'know' which takes human objects and which means 'to be acquainted with' (e.g. 'I know her').' The parallel between Telugu and English in this regard will make it hard to believe that the two meanings are a mere consequence of accidental homophony. It should also be explained why *learn* which is not an 'epistemic verb' does not take an object which is human. I also do not think that the semantic interpretation of the verb is different between 'I know her' and 'I know her house,' although in one case the object is human and in the other non-human.

7. A minor adjustment I have introduced here is by not marking *cēta* 'by' (instrumental) as a typical marker of the NP under A. This morpheme typically occurs with the 'Performer Agent' as opposed to 'Causer Agent' in Causative verbs.

(21a) wāḍu nācēta āpani cēyinciāḍu
he me-by that-work do-cause-past-he

(=He made me do that work.)

(21b) nēnu āpani cēsiānu
I that-work do-past-I

(=I did that work.)

Where there is one A, A is the Actor and there is no motivation to add the instrumental meaning in the deep structure. Though passive constructions of non-causative active verbs occur in Telugu they are rare and unidiomatic.

(21c) nācēta āpani cēyabaḍḍadi
I-by that-work be-done-past-it.

Such marginal situations can be handled by marking the V with the features +Cause, + Active, + Passive.The form of the lexical entry is different in each of these cases as *cēs-* 'to do,' *cēyinc-* 'cause to do,' *cēyabaḍu* 'to be done.' Whether the instrumental morpheme is to be inserted in the deep structure or not is a direct consequence of the 'frame features' of the verb.

a. cēs [+Active] [+O +A]
b. cēyinc [+Cause] [+O +A +Á]
c. cēyabaḍu[+Pass.] [+O +Á]

It is the marked Á which carries the instrumental case in the deep structure. It is always the unmarked A which becomes the surface subject of a sentence.

In the case of Passive, since the only A is marked it cannot become the subject and therefore allows O to become the subject of the sentence.

8. Richard Carter has suggested the term 'enstative.' I have benefited from my discussions with him and Bruce Pray on several of the problems discussed in this paper.

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AN APPROACH TO THE DESCRIPTION OF DIALECTS

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An attempt is made to investigate the intrastratal universals of Telugu language by studying regional and social variation of speech concentrating mainly on grammatical and phonological features. It is claimed that the study of intra-language universals give a better understanding of the structure of an individual dialect and through that also of the grammar which is constructed by the speakers of a given language. The frame work used here gives regional and stratal paths for the seeming exceptions in the grammar of the dialects.

The aim of the studies concerning the universals of language is to construct a universal linguistic theory. Interlanguage universals give a better understanding of the nature of the human language. The nature of these universals is enriched by the intensive study of the intra-structure. Certain universals may have to be modified to include apparent but unreal exceptions. By studying the intra-language universals we will get a better understanding of not only the structure of an individual dialect but also the grammar that is constructed by the speakers of that language. The framework gives regional and stratal paths for the seeming exceptions and narrows down the area of exceptionality.

Four dialect areas[1] are recognised by earlier studies based on occupational vocabulary (Krishnamurti 1962). These studies are limited to lexicon. In this paper an attempt is made to investigate the intra-structure of Telugu language by studying regional and social variation of speech concentrating mainly on grammatical and phonological features.

Telugu verb can be decomposed into verb root +tense-mode element +GNP marker. In the underlying form of lexical as well as grammatical morphemes certain alternations occur which

1. South : Cuddapah, Kurnool, Anantapur, Chittoor, Nellore, and Prakasham Dists. North : Nine Telangana Districts. Central : Guntur, Krishna, East, and West Godavari Districts. East: Srikakulam and Visakhapatnam Districts.

vary from dialect to dialect. These variations are taken as diagnostic criteria to separate dialects formally. Certain alternations are common to all the dialects or to some dialects, which are taken either as universals (within the language) or interdialectal features.

The following rules from verb phonology may be taken as diagnostic criteria for separating the regional dialects of Telugu.

Past tense form in Telugu can be constructed as *-inā* to which the following rule applies to derive the verbs used in Coastal dialects (i.e. central and eastern) (Ramarao 1969; Narasimhareddi 1972; Krishnamurti 1972).

(1) NASAL DELETION RULE

$$n \longrightarrow \phi \quad // \quad X + V - V + Y \quad (\text{past})$$

(X=Any root other than *(C)Vn* and *CVḍ* type

Y=Any person other than *adi* 'it' and *awi* 'they')

This rule drops *n* of past tense morpheme in the above stated conditions.

wacc+inā+ḍu ⟶ wacc+iā+ḍu 'he came'.

The phonological sequence iā is phonetically like the vowel sound in the English word 'ash'.

There are two sets of verb roots which have a single short vowel followed by *n* or ḍ like (i) *an-* 'to say,' *win-* 'to hear' (ii) *paḍ-* 'to fall,' *ceḍ-* 'to get spoiled.' After these classes of roots the initial vowel of the past tense morpheme *inā* is dropped.

(2) i—DELETION RULE

$$i \longrightarrow \phi \quad // \quad (C)\ V \begin{Bmatrix} n \\ ḍ \end{Bmatrix} + - nā$$

This rule seems to operate in all dialects but in some dialects it is optional. Hence we have alternate forms like *wininḍu, winnaḍu* 'he heard'; *paḍinḍu, paḍḍaḍu* 'he fell.' Shortening of the vowels in Northern dialects and assimilation of nasal to retroflex stop in non-Southern dialects are described in later rules. Though this rule is not a separating rule its optionality is restricted only to northern dialect.

(3) NASAL ASSIMILATION RULE

$$n \longrightarrow ḍ \quad // \quad CVḍ + — ā$$

After the application of rule (2) the *n* of past tense morpheme assimilates to the preceding voiced non-nasal retroflex stop of the, roots *paḍ-* and *ceḍ-*. The forms derived by this rule are *paḍḍāḍu*. *ceḍḍāḍu*.

The domain of this rule is restricted to only *CVḍ* class. Operation of this rule separates southern dialects from the rest (Narasimhareddi 1972).[2]

(4) VOWEL SHORTENING RULE

$$\bar{V} \longrightarrow V \quad // \quad \text{Root} \quad + \underset{\text{(tense)}}{——} + \text{Person}$$

The tense morphemes with long vowels like *inā* (past tense), *tā* (non-past tense) are taken as underlying forms on which this rule operates to derive the verb forms of northern dialects.

wacc + inā + ḍu ⟶ wacc + ina + ḍu ' he came ' (see rule 5)

was + tā + ḍu ⟶ was + ta + ḍu ' he comes '

Earlier Ramarao (1969) proposed vowel lengthening rule by taking short vowel forms as underlying forms. This process is reversed in Krishnamurti's (1970) analysis which is adopted here. The virtue of Krishnamurti's analysis is that it captures the historical process in descriptive account.

(5) VOWEL DELETION RULE

$$V \longrightarrow \phi \quad // \quad \ldots \quad Vn + —— Y \quad (Y = d, ḍ, r)$$

This is a general sandhi rule in Telugu which has a wider operation in various parts of the grammar. The full version of this rule needs more environments than mentioned above. The wider scope of this rule can be seen in Ramarao (1969). Only the necessary environments are incorporated in this paper. Rama-

2. C. Ramarao favours an internal alternation of doubling of the root final consonant without proposing an assimilation process. The present author proposes the alternative method of assimilation process as it explains regional variations operating in different directions.

rao assumed that this rule is regular in all the dialects. Contrary evidence is available from northern and southern dialects, where the operation of this rule is prevented. For example, *tinaḍu* ' ' he does not eat ' does not get reduced to *tinḍu* in both these dialects. The exact agents of this prevention are not known at present. Probably interjunctural vowel is dropped in these dialects. The operation of this rule is regular in northern dialects except when morpheme boundary immediately precedes the vowel. This may be due to the intonation pattern of northern pronunciation which is very different from that in other dialects.

This rule operates only when *i*-deletion rule (2) and nasal assimilation rule (3) do not operate. Thus we have alternate forms.

win + ina + ḍu ' he heard ' ⟼ { winnaḍu (2 & 4); winiṇḍu (4 & 6) }

paḍ + ina + ḍu ' he fell ' ⟼ { paḍḍaḍu (2, 3, & 4); paḍiṇḍu (4 & 6) }

(6) DEVOICING RULE

$$d \longrightarrow t \quad // \quad s + \text{——} \; \bar{a}m$$

The hortative suffix is *dām* in all dialects. Whether there is any further morpheme division in this form is not quite relevent for this discussion. The initial consonant of *dām* is devoiced in the stated environments of this rule in northern and southern dialects. Hence we have *tin* + *dām*, *pō* + *dām* but *cēs* + *tām*, *cūs* + *tām*. The devoiced forms of hortative are homonymous with non-past tense forms. Thus *cēs* + *tām* in northern and southern dialects may mean ' we will do ' or ' let us do ' which are kept separate in other dialects.

(7) S-ASSIMILATION RULES

$$\underset{\text{(root)}}{s} \longrightarrow d \quad // \quad \text{——} \; dām$$

In coastal dialects the final *s* of the root whether it is of the base form or derived by rule assimilates to the following consonants of hortative suffix. Hence

cēs + dām ⟼ cēddām ' let us do '

cūs + dām ⟼ cūddām ' let us see '

In some northern and southern dialects we have *cēzdām* and *cūzdām* which may be the intermediary stage before (7).

In some northern dialects we have the forms like *cētām* and *cūtām*. To derive these forms the following sequence of rules may be posited. These rules are applied after (6).

(8) s ⟶ t // —— +t

The operation of this rule has wider scope in the grammar. For other details see discussion under progressive assimilation rule (rule 4).

(9) GEMINATE REDUCTION RULE

tt ⟶ t // V̄ ——

cūs+dām ⟶ cūs+tām (6) ⟶ cūttām (8) ⟶ cūtām (9)
⟶ cūtam (4) 'let us see'

The forms derived by (8) in the above examples do not seem to occur. Hence the operation of (9) is obligatory on the output of (8). In southern dialects assimilation process selects a different direction which separates it from the rest of the dialects(Narasimhareddi 1971b, 1972).

The restricted operation of certain rules of verb phonology marks dialectal variation.

(10) C—LENITION RULE

piluc ⟶ pilav // ——+a

piluc+a+lēdu ⟶ 'one did not call'
- pilav+a+lēdu — Northern & Coastal dialects
- pilc+a+lēdu — Southern dialects

piluc+(obligative) ⟶ 'one should call'
- pilav+āli — Coastal dialects
- pilav+āle — Northern dialects
- pilc+āla — Southern dialects

Notice that variation in obligative morpheme also marks dialectal variation i.e. *āli* in coastal dialects, *āle* in northern dialects and *āla* in southern dialects.

(11) PALATALIZATION RULE

$$\begin{bmatrix} t \\ d \end{bmatrix} \longrightarrow \begin{bmatrix} c \\ j \end{bmatrix} \; // \; - \; y$$

The palatalization rule separates coastal dialects from the rest. In northern and southern dialects the following rule is operative.

(12) Y-ASSIMILATION RULE

$$y \longrightarrow \begin{bmatrix} t \\ d \end{bmatrix} \; // \; \begin{bmatrix} t \\ d \end{bmatrix} \; -$$

patyam 'diet'	⟶	pacyam	Coastal dialects
		pattem	Northern & Southern dialects
padyam 'poem'	⟶	pajyam	Coastal dialects
		paddem	Northern and Southern dialects

In all these rules we have seen that a change in language is essentially a change in the set of internalized rules which form the grammar of that particular language. It may be the addition of new rules to the grammar that they have already internalized or reformulation of existing rules. These operations are carried out not only in regional dialects but also in social varieties.

Within an individual dialect there are stratal differences. And these stratal differences can also be identified in terms of rules or rule features. Earlier studies gave general phonetic differences of educated versus uneducated across regional dialects (Krishnamurti 1962).

Educated	Uneducated
ḷḷ (nīḷḷu 'water')	ll (nīllu)
ga (gaṭṭu 'bank of the river')	ge (geṭṭu)
c (caduwu 'education')	s (saduwu)
h (hakku 'right')	ɸ/y/w (akku)
w (weṇḍi 'silver')	ɸ/y (yeṇḍi)
conjunct consonant	i. assimilation
	ii. anaptyxis
	iii. loss of consonant
s, ś, ṣ, (bhāṣa 'language')	s (bāsa)
(śanivāram 'Saturday')	(senivāram)
Aspirated stop (bhayam 'fear')	deaspirated stop (bayam)

Later Krishnamurti added a few more loan features which differentiate standard versus non-standard (1970, 1972).

	Standard	Non-Standard
f	(kāfī ' coffee ')	p (kāpi)
x	(xuṣki ' dryland ')	k (kuski)
pr	(prajalu ' people ')	p (pejalu)
gn	(gnāpakam ' memory ')	g (gyāpakam)

As Krishnamurti puts it, ' maximum amount of phonemic variation between the two (social) dialects occurs in the case of borrowed words from other languages containing non-native phonetic features which gradually attain a phonemic status in the educated speech. Bilingualism of the upper classes is therefore a potential factor which keeps the phonetic and phonemic differences between the educated and the uneducated speech strikingly alive.

We will not discuss these features any further. Here, we will try to show that features exist not only in the area of pronunciation but there are also grammatical differences. However, in this paper further phonological evidence is provided which shows stratal variation across regional dialects. For this purpose we would like to examine each dialect concentrating upon features which show stratal variation.

The complex structure of the social variation in speech is reduced into two broad social strata, i.e. upper stratum and lower stratum, ignoring for the present the specific social parameters like education, occupation/profession, or caste, which may influence the choice of a linguistic variant. Broadly the upper stratum refers to the educated urban speakers and the lower stratum to the uneducated rural folk.

Though there are certain marked features which differentiate lower stratum from the upper stratum, northern and southern dialects show no major stratal variation at the morphological or grammatical level when compared to the rest of the dialects where the clear stratal differences are established. This may be due to social and economic factors which produced a conscious elite in the case of central dialects to differentiate themselves from the rural folk.

In the eastern and central dialects, the habitual- future morpheme in third person non-masculine singular is *tun* in upper stratum, whereas in the lower stratum the regular form *tā* is preserved which shows interdialectal distribution.

upper stratum: pō + tun + di 'it goes'

lower stratum: pō + tā + di—→pō + ta + di

(southern dialects) (northern and coastal dialects)

In lower stratum this form undergoes another change in coastal dialects which show a regular change i.e. dropping of short vowel between specified consonants and assimilation (Narasimhareddi 1972)

pō + ta + di—→po + t + di—→pōddi

The above examples show that the lower stratum reflects continguous regional variation which is of a regular type.

In some northern dialects the use of personal ending of the third person non-masculine singular marks upper and lower strata in negative construction.

(13) du—→di // a +
(person)

cēy + a + du—→cēy + a + di 'it won't do'

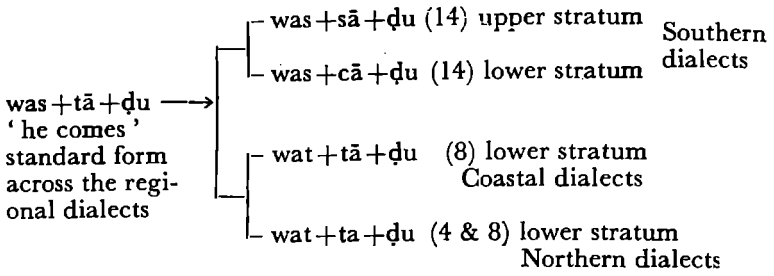
This rule will not operate in monosyllabic roots ending in a long vowel where the negative marker is dropped, e.g. pō+du 'it does not go.'

Assimilation process operates in different directions in different dialects and social strata.

(14) PROGRESSIVE ASSIMILATION RULE

t—→s // s + (upper stratum)
(root)
—→c // s + (lower stratum)
(root)

This progressive assimilation rule is operative only in southern dialects. In the rest of the dialects the assimilation will be regressive in lower stratum, unassimilated form being the standard across the regional dialects.



Alternation of segments also marks stratal variation.

(15) SUBSTITUTION RULES (15, 16, and 17)

$$l \longrightarrow n \quad // \quad \begin{bmatrix} + \\ \neq \end{bmatrix} \ —$$

lēḍu⟶nēḍu 'no'; andu+lō⟶andu+nō 'in it'

This rule separates lower stratum of the eastern dialects from the rest. This is a mark of departure in intrastratal variation.

(16) r⟶l // n + — (+person)

cēs+in+ru (after 4 & 5) cēs+in+lu 'they did'

This rule separates lower stratum of certain northern dialects which is also an intrastratal variation. Alternation between l and r segments can also be found in word initial position, e.g. okkalōju (< okkarōju 'one day')

(17) n⟶l // ≠

nīllu⟶ līllu 'water'

This rule also separates lower stratum of northern and southern dialects from the rest.

The alternation between these consonants (n, l, r) seems to have been operative in various stages in the history of Telugu which is reflected in the present day dialects (Ramarao 1969).

Substitution of segments seems to be the diagnostic feature of the lower stratum. This is also reflected in loanword features listed by Krishnamurti.

Metathesis marks very clear stratal variation in Telugu dialects. As observed in the present day dialects, it is found only when r and l (these segments which undergo this replacement) are intervened by a morpheme boundary.

(18) METATHESIS RULE

$$r + l \longrightarrow l + r$$

ūr + lu —→ ūl + ru 'villages'

ūr + lō —→ ūl + rō 'in the village'

Though the speaker may not be conscious of a juncture in place names like alragaḍḍa (<arlagaḍḍa), a morpheme boundary can be traced historically and it may be even a psychological reality for the speaker.

There is evidence for the metathesis of liquids in many languages as is shown by Ultan (1971). But Ultan shows only the cases for non-contiguous metathesis of r and l type sounds. Telugu presents a case for metathesis of contiguous liquids. Whether the morpheme boundary is necessary or significant for triggering this metathesis or it is co-incidental is not known at present. Notice that the substitution of segments cited in (15) and (16) also require morpheme boundary to trigger the change.

The non-operation of certain regular morphophonemic rules marks stratal variation.

(19) RETROFLEXION RULE

$$t \longrightarrow ṭ \;//\; (C)\ Vn + —$$

win+tā+ḍu—→ win+ṭā+ḍu 'he hears'

ṭ is marked and the unmarked feature (non-operation of this rule) is found only in the lower stratum of the eastern dialects. However this type of change in verbal adjectives is found regularly in the lower stratum of northern and southern dialects.

ceppeṭōḍu—→ceppetōḍu 'one who tells'

(20) LOSS OF SEGMENT RULE

$$w \longrightarrow \phi \;//\; —— a$$

wāna—→āna 'rain'; waccindi—→accindi 'it came'

This rule separates the lower stratum of northern dialect from the rest. The loss of w occurs in coastal dialects only in pronouns. But the loss is common even in the upper stratum of those dialects.

wāḍu——→ āḍu ‘he’; wāllu——→āllu ‘they’

The loss of w before front vowels and before v and r in word initial position is regular in lower stratum of all the dialects. This loss is not uncommon in upper stratum but the retention of the segment marks highly formal setting.

Not only the loss, but also the introduction of certain segments or features marks the lower stratum.

(21) HYPERCORRECTION RULE

$$\left\{\begin{matrix} i \\ e \end{matrix}\right\} \dashrightarrow \left\{\begin{matrix} wi \\ we \end{matrix}\right\}$$

illu ⤏ willu ‘house’; enḍa ⤏ wenḍa ‘sunlight’

īga ⤏ wīga ‘housefly’; ēḍu ⤏ wēḍu ‘seven’

(22) INTRODUCTION OF SEGMENTS RULE

$$\left\{\begin{matrix} a \\ ā \\ i \\ ī \end{matrix}\right\} \longrightarrow \left\{\begin{matrix} ga \\ gā \\ gi \\ gī \end{matrix}\right\} \; // \neq \text{——} \; \text{(proforms)}$$

adi——→gadi ‘it’ (–aproximate) āḍa——→gāḍa ‘there’

idi——→gidi ‘it’ (+aproximate) īḍa——→ gīḍa ‘here’

This rule operates in northern dialect and its operation is restricted to the lower stratum only.

The above observations of the various distinctive and common features of the regional and stratal variations may be tabulated in the following way.

Table 1. REGIONAL VARIATION

Rules	Southern	Northern	Central	Eastern
1. Nasal deletion (1)	—	—	+	+
2. Nasal assimilation (3)	—	+	+	+
3. Vowel shortening (4)		+	—	—
4. Vowel deletion (5)		+		
5. Devoicing (6)	+	+	—	—
6. s-Assimilation (7)	—	—	+	+
7. s-Assimilation (8)	—	+	+	+
8. c-Lenition (10)	—	+	+	+
9. Palatalization (11)	—	—	+	+
10. Progressive assimilation (14)	+	—	—	—

Table 2. STRATAL VARIATION

Rules	Southern		Northern		Central		Eastern	
	upper	lower	upper	lower	upper	lower	upper	lower
1. Regressive assimilation (8)			—	+	—	+	—	+
2. Substitution (15)							—	+
3. do (16)			—	+				
4. do (17)	—	+	—	+				
5. Metathesis (18)	—	+	—	+				
6. Retroflexion (19)							+	—
7. Loss of segments (20)			—	+				
8. do (w before front vowels (20)	—	+	—	+	—	+	—	+
9. Hypercorrection (21)	—	+	—	+	—	+	—	+
10. Introduction of segments (22)			—	+				

Note: + Operation of the rule. — Non-operation of the rule. Columns which are not relevant for the operation of the rule are left off.

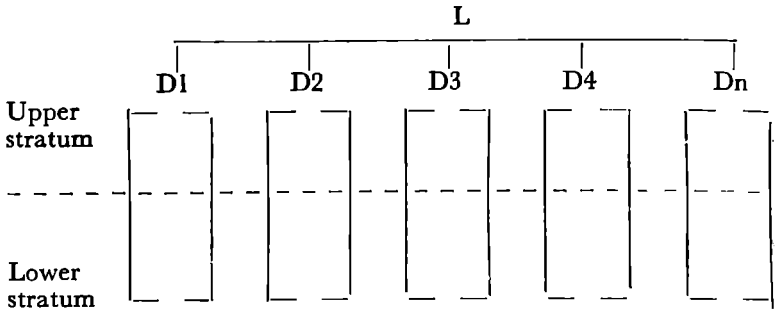


Table 1 : *Observations*

The distribution of the regional features shows that the central and eastern dialects have common features in all the rules listed in the table. Marginal variation which separates these coastal dialects can be cited from table 2 (Substitution of segment rule). But they do not seem to represent any major dialectal cleavage. Only three major dialect areas can be recognised if we take grammar into account 1. Southern 2. Northern 3. Coastal (Eastern and Central). The difference between northern and southern parts of coastal dialect region exists mainly in lexicon rather than in grammar.

Table 2 : *Observations*

Assimilation, alternation (substitution of segments), metathesis, loss of segments, hypercorrection, and introduction of segments seem to be characteristic features of lower stratum. The non-operation of the rules representing these types of features mark the upper stratum.

Notice that rules (8), (15), (16), (17), (18), (19), (20), and (22) not only represent stratum across regional dialects but also demarcate regional dialects, stratum being constant. By studying the stratal variation in a language we can have better understanding of the intrastructure of that language.

The intrastructure of the language discussed in this paper can be seen in the above diagram. Upper stratum and lower stratum are divided by series of social parameters like caste, occupation/profession, and education. D1 .....Dn represent a finite number of regional dialects intersecting in all dialect areas. Regional dialects can also, like social dialects, be viewed as contiguously layered set of speech variation, having high mutual intelligibility in contiguous dialects and low mutual intelligibility in non-contiguous dialects.

We have observed in the above discussion that there are some rules which mark stratum across regional dialects or within a single dialect. If retention of older forms and contact are not the reasons, then we may have to conclude that they are parallel developments or at least parallel features.

Generally lower stratum represents the contiguous speech variation. In the west coastal dialects both northern and southern dialect features are found in lower stratum (Narasimhareddi 1972). The seasonal migration of the speakers of the lower stratum may cause the spread of the features that are non-native and also non-contiguous in nature.

What motivates a particular stratum of a dialect to select a rule which is different from another stratum of the same dialect and similar to the same stratum of another dialect ? And, this can be found more obviously in lower stratum. At present we cannot answer this question satisfactorily, but we can only say that these tendencies are more natural to a Telugu speaker. These can be termed intrastratal universals. An attempt is made in this study towards that direction.

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DRAVIDIAN EVIDENCE FOR ABSTRACT PHONOLOGY

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Kiparsky's arguments against abstract phonological representations and absolute neutralization rules are examined here with data from Dravidian languages. Evidence is presented from Sanketi and the Central Dravidian languages for the representation of phonemes in the underlying forms of some morphemes which do not have surface realization. Simplicity and naturalness conditions require us to recognise such underlying representations to describe the phonological alternations.

The morphophonemics of Konda is examined in detail and is compared with other Central Dravidian languages, after restating it in generative terms. The notion of markedness is also examined in relation to Dravidian retroflex consonants. Dravidian languages show evidence for degrees of markedness from descriptive as well as historical accounts. Functional load, unconditional merger, restructuring are some of the diagnostic features used for this purpose.

Generative phonology has always assumed that underlying representations of morphemes need not directly correspond to their phonetic shapes. The underlying representation is called abstract when there is no isomorphism between an underlying form and any one of its corresponding surface phonetic forms, even though the former is fully specified by a set of distinctive phonetic features, except for redundant ones. An ordered set of phonological rules relate these abstract forms to their corresponding phonetic shapes. This has been the practice of generative phonologists for the past two decades which has contributed many insightful descriptions of languages, capturing linguistically significant generalizations and enriching the hypotheses about human language.

In an unpublished but influential paper entitled 'How abstract is phonology ?' Kiparksy (1968) questioned this assumption and argued for more 'concrete' representation of underlying forms. He suggested that 'the theory of generative phonology must be modified to exclude the diacritic use of phonological features and the phonological use of diacritic features.' Phonological use of diacritic (morphological) features refers to $\pm$ Native, $\pm$ Sanskrit, etc. Since there are varying degrees of assimilations, the use of morphological features of the above sort cannot account for borrowings with any regularity. Instead,

they can be accounted for by rule features of the sort proposed by Lakoff (1965) for syntax. Diacritic use of phonological features refers to the specification of a systematic phoneme with a feature, say, + retroflex, when that segment never has retroflex realization. In the phonetic realization of this segment the proposed underlying feature has to be converted for its feature value by a rule, which Kiparsky calls ' absolute neutralization ' rule, and this, he argues, should be avoided in a description. Thus Kiparsky says 'if a form appears in constant shape, its underlying representation is that shape, except for what can be attributed to low level, automatic phonetic rule. More specifically he recommends ' to enter non-alternating forms in the lexicon in roughly their autonomous phonemic representation.' Though Kiparsky has not specified, I would assume that he rejects the diacritic use of a complete segment because it is an automatic consequence of his proposal.

Since the appearance of Kiparsky's paper, there has been much literature either supporting or rejecting his proposals. The attempt of this paper is to present evidence only for the diacritic use of features and feature complexes, from Dravidian languages. This paper will not be concerned with phonological use of diacritic (morphological) features. I would argue that the data I present here require abstract solutions and alternate (possible or existing) concrete solutions are untenable because they are either unnatural or complex or do not capture linguistically significant generalizations. In some of the cases the proposed abstract representation coincides with historically reconstructible form, though this is not used for the justification of the analysis. No claim is made for the psychological reality of the analysis because simplicity and naturalness conditions are sufficient enough to justify the abstract solutions.

SANKETI

In Sanketi, a dialect of Tamil, we find the following sets of noun paradigms. (See Ananthanarayana 1974) :

		sg.		pl.
1.	Nom.	kōlu	' stick '	kōlha
	Acc.	kōla		kōlhiḷa
2.	Nom.	pallu	' tooth '	pallha
	Acc.	palla		pallhiḷa

		sg.		pl.
3.	Nom.	koṭṭu	'spade'	koṭṭha
	Acc.	koṭṭa		koṭṭhiḷa
4.	Nom.	puli	'tiger'	pulhya
	Acc.	puli		pulhiḷa
5.	Nom.	covi	'ear'	covhya
	Acc.	covi		covhiḷa

One possible solution to account for the data is (1) to consider i-ending stems invariant in nominative and accusative singular, (2) to separate -a as the accusative marker in singular and plural, and (3) to designate *-ha* and *hya* as nominative plural markers with *hya* occurring after *i* ending stems and *ha* after other stems; *hiḷ* may be taken as the non-nominative plural marker. Besides this designation a statement (or rule) would be necessary to drop the final vowel of the stem before a plural marker. This analysis does account for the data. But it fails to account for the similarity in different shapes of the plural morpheme. Though it correctly identifies the environments, it fails to give a satisfactory explanation for the systematic difference and similarity between the plural markers. For example, why do i- ending stems show a *y* in the middle of the suffix, what is the relationship between *ha* and *hiḷ*, why should a non-nominative case change *ha* into *hiḷ*. All these facts are unexplained in the above account. By assuming certain phonological processes with *haḷ* as the underlying form we can describe the above data in a natural way. The accusative marker may be constructed as *ai*. Then the following rules would apply.

(1) $a \rightarrowtail \phi \;/\; h - ḷ + V$

(2) $ḷ\ ai \rightarrowtail i\ ḷ\ a \;/h -$

(3) $ḷ \rightarrowtail \phi \;/\; -$

(4) $ai \rightarrowtail i \;/\; i + -$

(5) $i + h \rightarrowtail + h\ i \;/\; - a$

(6) $V \rightarrowtail \phi \;/\; - + pl.$

SAMPLE DERIVATION

	Nom. pl.	Acc. sg.	Acc. pl.
Underlying Representation	covi + haḷ	covi + ai	covi + haḷ + ai
Rule (1)	— —	— —	covi + hḷ + ai
(2)	— —	— —	covi + hiḷ + a
(3)	covi + ha	— —	— — —
(4)	— —	covi + i	— — —
(5)	cov + hia	— —	— — —
(6)	— —	— —	cov + hiḷ + a

After the application of the above rules all pluses are erased. Sandhi rules would convert *i* into *y* before *a* and drop a vowel before another vowel.

In addition to the above sets, observe also the following :

	sg.		pl.
6. Nom.	tala	'head'	talhya
Acc.	tale		talhiḷa

By positing *talai* as the underlying form the above rules can account for the a-ending stems. Notice this underlying form also can derive, in a natural way, *e* from *ai* a common process in a wide variety of languages.

In the above Sanketi data stems like *talai*, plural *haḷ*, and accusative *ai*, all are abstract forms which do not correspond directly to the phonetic shapes. The abstract shapes have not occurred anywhere with no change. If we do not posit these underlying forms, there is no way of connecting *ha*, *hya*, *hiḷa* except by an accidental connexion with arbitrary environmental difference. It may be interesting to note that the underlying forms are very similar to classical Tamil forms. Had we taken other data into account the plural morpheme would have to be represented as *kaḷ* which is exactly the classical Tamil form (cf. Ananthanarayana 1974). Though the above analysis has taken clues from history, it is motivated purely to account for the data in a descriptive way.

CENTRAL DRAVIDIAN

Konḍa, a South Central Dravidian, presents evidence for diacritic use of features and segments. The data are taken from Krishnamurti's monograph (1969). Since this involves information of a complex nature, let me first give an account of the autonomous phonemic description of the language. This language includes the following set of phonemes relevant to our discussion.

Obstruents—	Stops	t, d	ṭ, ḍ
	Trills	R	r̲
Sonorants—	Nasals	n	ṇ
	Laterals	l	

Krishnamurti rightly considers trills also as obstruents because of their obstruent-like behaviour. In the sonorant system there is no retroflex lateral consonant corresponding to retroflex nasal. The following general type of morphophonemic processes are found in this language.

1. The lateral consonant alternates with an apical nasal consonant (l~n) in certain grammatical environments. This alternation occurs only when the following consonant is an apical or a laminal.

2. A non-retroflex obstruent becomes retroflexed after a retroflex nasal and some occurrences of l.

3. There is also an alternation among the non-retroflex obstruents (t~R, d~r̲) after a morpheme final non-retroflex nasal or some occurrences of l.

4. Besides the above processes there are geminate reduction, obstruent devoicing, etc. with which we are not seriously concerned.

It may be noticed that in the above autonomous phonemic ist there is no retroflex lateral consonant, but a non-retroflex

laminal obstruent becomes retroflexed after a non-retroflex lateral as it becomes after a retroflex nasal. Symbols like L_1 and L_2 are employed by Krishnamurti to account for these facts and the following rules are proposed :

(K5) (a) $V \begin{bmatrix} L_1 \\ n \end{bmatrix} + d \longrightarrow V\ n\ \underline{r}$

(b) $\begin{bmatrix} L_2 \\ \underline{n} \end{bmatrix} + d \longrightarrow \underline{n}\ \underline{d}$

(K6) (a) $L_1 + n \longrightarrow n + n$

(b) $\begin{bmatrix} L_2 \\ \underline{n} \end{bmatrix} + n \longrightarrow \underline{n} + \underline{n}$

(K7) $C\ C \longrightarrow C$

(K8) (a) $\begin{bmatrix} L_1 + t \\ n \end{bmatrix} \longrightarrow R$

(b) $\begin{bmatrix} L_2 \\ \underline{n} \end{bmatrix} + t \longrightarrow \underline{t}$

In the above set (K7), geminate reduction rule, is a late phonetic rule. Among the remaining rules L_2 is an over-abstract representation for the surface l which triggers retroflexion in the following non-retroflex consonant, as the retroflex nasal does. This representation is an attempt to capture this fact which can be formulated in a simpler way in generative phonology by representing the instances with retroflex l in the lexical representation of those forms.

L_1 is the representation for certain instances of surface l which behaves like the non-retroflex nasal. This symbol is employed because there are also other instances of l which do not participate in this morphophonemic process. For (K5) (a), the exceptions are dēl-'to float,' peṛel-'to explode.' The irregular behaviour of these verbs can be seen in the following illustrations.

nil 'to stand' + du 'Imperative' > nin̲u

but

dēl + du > dēldu

peṛel + du > peṛeldu

These few irregular verbs may have to be marked —rule feature, if they are not too many. But l preceded by long vowels does not seem to undergo this process. This can be built into the rules. If these observations are correct, we will have a straightforward opposition between l and ḷ. With proper ordering of the rules (K5) (K7) and (K8) can be simplified in the following way—(the distinctive features used here are highly tentative):

$$\text{(R1)}\quad \begin{bmatrix} +\text{lateral} \\ -\text{nasal} \end{bmatrix} \rightarrowtail \begin{bmatrix} -\text{lateral} \\ +\text{nasal} \end{bmatrix} / \begin{matrix} 1. \\ 2. \end{matrix} \begin{bmatrix} \text{V} \begin{bmatrix} \overline{\quad} \\ -\text{Retroflex} \end{bmatrix} \\ \begin{bmatrix} \overline{\quad} \\ +\text{Retroflex} \end{bmatrix} \end{bmatrix} \begin{bmatrix} +\text{Coronal} \\ -\text{lateral} \\ -\text{Strident} \end{bmatrix}$$

(a) nil ‘ to stand ’

nil + du > nin + du

nil + n > nin + n

nil + t > nin + t

dēl ‘ to float,’ rāl ‘ to fall,’ tūl ‘ to be splashed ’ etc. do not undergo this rule because they have long vowels in the preceding position of l.

(b) mūḷ ‘ to urinate ’

mūḷ + du > mūṇ + du

mūḷ + nu > mūṇ + n

mūḷ + t > mūṇ + t

$$\text{(R2)}\quad [-\text{Retroflex}] \rightarrowtail [+\text{Retroflex}] / \begin{bmatrix} -\text{Obstruent} \\ +\text{Retroflex} \end{bmatrix} + \begin{bmatrix} +\text{Coronal} \\ -\text{Strident} \\ -\text{lateral} \end{bmatrix}$$

mūṇ + du > mūṇ + ḍu

mūṇ + t > mūṇ + ṭ

mūṇ + n > mūṇ + ṇ

uṇ ‘ to eat ’

uṇ + du > uṇ + ḍu

uṇ + t > uṇ + ṭ

uṇ + n > uṇ + ṇ

(R3) $\begin{bmatrix} -\text{Obstruent} \\ +\text{Retroflex} \end{bmatrix} \rightarrowtail \phi \,/\, - + \text{ṭ}$

mūṇ + ṭ > mū + ṭ

uṇ + ṭ > u + ṭ

(R4) $\begin{bmatrix} +\text{Obstruent} \\ +\text{Dental} \end{bmatrix} \rightarrowtail \begin{bmatrix} -\text{Dental} \\ -\text{Retroflex} \end{bmatrix} / [+\text{ nasal}] + —$

nin + t > nin + R

nin + du > nin + ɾu

After the applications of these phonological rules geminate reduction rule converts ṇṇ and nn into ṇ and n respectivly.

A phonological redundancy rule reduces nR cluster into R, since R cannot have a consonant in the preceding position either within a morpheme or across morpheme boundary (cf. Krishnamurti 1969: 196, 198).

The proposed abstract solution applies equally well to **Kui** which does not have retroflex ḷ in surface phonology but has the following verb forms.

mūl + t > mūṭ ‘ to urinate ’

sōl + t > sōṭ ‘ to enter ’

vāl + t > vāṭ ‘ to peel ’

nal + t > naṭ / nalt ‘ to bind the hair ’

nol + t > noṭ / nolt ‘ to ladel out ’

pol + t > poṭ / polt ‘ to peel ’

ēṇ + t > ēṭ ‘ to receive ’

uṇ + t > uṭ ‘ to drink ’

pāṇ + t > pāṭ ‘ to obtain ’

It is obvious from the above data that not only the abstract solution works but the first three of the rules proposed for Konḍa are also necessary except for one modification. For Kui the nasalization rule (R1) is optional if the underlying ḷ is preceded by a short vowel.

Kolami, another central Dravidian language, has also a similar situation. These are the alternations that require ḷ in underlying phonology.

kūl	+	t	> kūṭ	' to flow out '
sūl	+	t	> sūṭ	' to get up '
tūl	+	t	> tūṭ	' to run '
unbul	+	t	> unbuṭ	' to urinate '

Kolami does not present evidence for (R1) which may have been a case of rule loss. (R2) and (R3) correctly produce Kolami forms.

Naiki, another central Dravidian language, preserves underlying ḷ in surface phonology also. But it merges underlying ṇ with n in surface phonology. The following alternations require a retroflex ṇ to be posited in the underlying system.

en	+	d	> eṇḍ	' to say '
un	+	d	> uṇḍ	' to drink '
ven	+	d	> veṇḍ	' hear '

The above forms require only (R2) but there is no evidence for (R1) and (R3). **Pengo**, another central Dravidian language, does not present any evidence, for underlying retroflex ḷ but has alternations, supporting rules (R2) and (R3), proposed for Koṇḍa. Burrow and Bhattacharya (1970) have a statement to this effect. ' The Sandhi appearing in the past stem of roots in ṇ is also an old inherited type '.

uṭ–, nōṭ–, vāṭ– from uṇ– ' to drink '
nōṇ– ' to spin ', and vāṇ– ' to peel, pare '

A comparison of the above forms with Kui suggests that the earlier rule (R1) has been lost in Pengo by restructuring the underlying forms with the products of (R1).

The above discussion, shows that an abstract representation of retroflex lateral in the underlying set of phonemes can alone explain some of the common Central Dravidian processes mentioned above. A concrete solution would have to treat such a general process found in many of the Central Dravidian languages as an exceptional phenomenon.

There is also another case of Koṇḍa where an abstract solution is preferred to explain allomorphic variations. Koṇḍa has the infinitive morpheme with the following five shapes: –teη, –deη, –reη, –ḍeη, and –eη. These forms are considered phonologically conditioned variants (Krishnamurti 1969: 279). –deη may be taken as the basic allomorph and the other forms may be derived

from it. -eŋ can be derived by geminate reduction rule (K7), because it occurs after d-ending roots. -deŋ and -ṛeŋ are derived by either (K5), (K7), and (K8) or (R1) and (R3). For -teŋ the following distribution is given:

(a) Simple or complex stems ending in voiceless obstruents and r and ṛ preceded by a short vowel and (b) simple monosyllabic stems ending in the vowels, a, e, ē, o, ō take -teŋ in forming the infinitive (280).

As noted, earlier, Krishnamurti clearly states that these allomorphs are phonologically conditioned. In fact, non-phonological conditioning between -teŋ and -deŋ would be quite unnatural. The voiceless obstruent condition mentioned in the passage quoted above supports the phonological conditioning and suggests that some assimilation process is involved. But the other conditions stated do not confirm this. But it is also difficult to understand how the duration of the vowels or the height of the vowels can cause devoicing (or alternatively, voicing). Obviously, there must be an assimilation process involved as suggested by the voiceless obstruent condition. By positing a voiceless obstruent that does not occur in the root final position in surface forms assimilation can be accounted for. After assimilation, the root final consonant may be dropped in certain specified conditions. The precise phonetic specification of this voiceless obstruent has to be worked out from the data. I do not venture to give a clearer formulation here *because I do not have* complete control over the data. There is evidence in the other grammatical morphemes. Wherever there is voiceless and voiced alternation in the initial consonant of the grammatical morphemes, the above distributional statement for – teŋ holds true. For example, the imperative plural allomorphs tu ~ du, durative allmorphs sin ~ zin are also parallel in distribution to teŋ ~ deŋ. These facts strongly suggest that the allomorphs with voiceless initial consonants of the suffixes are the resultants of an assimilation process. If a reanalysis could be worked out for the facts with more control over the data, Konḍa would provide a case for the diacritic use of phonological segments.

An interesting parallel exists in **Pengo,** a related central Dravidian language, which has the same infinitive morpheme with teŋ ~ deŋ alternation. For example compare the following sets of cognate infinitive forms in Konḍa and Pengo.

	Konḍa	Pengo
'to bring'	ta-teŋ	ta-teŋ
'to crow'	kre-teŋ	kere-teŋ

	Konḍa	Pengo
' to open '	e-teη	je-teη
' to come out '	sō-teη	hō-teη
' to seel '	por-teη	pro-teη
' to become '	ā-deη	ā-deη
' to do '	ki-deη	ki-deη
' to plough '	ṛū-deη	ṛū-deη

This parallel suggests that Pengo also needs similar solution and the solution for Konḍa is strengthened by Pengo parallel. I do not mean to say that the correspondence is perfectly uniform but this high degree of correlation cannot be ignored.

TELUGU

Telugu, the native language of the author, provides another case for abstract representation.

Telugu noun plural morpheme has two shapes lu and ḷu. Taking lu as basic allomorph, the present author has described the noun plural formation elsewhere (Ramarao 1969, 1970). A different analysis is given by Ramachandra Rao (1973) taking ḷu as the basic allomorph. Observe the following forms.

		sg.	pl.
(a)	' mouth '	nōru	nōḷḷu
	' nail '	gōru	gōḷḷu
	' root '	vēru	vēḷḷu
	' bamboo '	veduru	veduḷḷu
(b)	' time '	māru	mārulu/mārlu
	' separation '	vēru	vērulu/vērlu

To account for the retroflexion in the plural forms of set (a), I suggested to represent a retroflex r in the underlying representation of these forms. Without the difference in the underlying representation, the difference in plural formation cannot be sufficiently explained. I cannot claim this as a natural process for Telugu. Both the sets are closed and set (a) is more so. In fact, it can also be said that this is a receding process. Probably the rule feature solution accounts for it equally well. The rule that converges ṛ and r would be highly arbitrary in my analysis. In Ramachandra Rao's analysis this absolute neutralization rule

would be better motivated because his rule converts a retroflex liquid (ḷ along with ṛ) into a non-retroflex liquid in intervocalic position. His rule obtains both partial and absolute neutralizations with no extra cost of rules. Naturalness considerations motivated him to take ḷu as the basic allomorph. For example, notice the following forms.

nāgali	+	lu	>	nāgaḷḷu	'ploughs'
nemali	+	lu	>	nemaḷḷu	'peacocks'
tiragali	+	lu	>	tiragaḷḷu	'pestles'
goḍḍali	+	lu	>	goḍḍaḷḷu	'axes'
puli	+	lu	>	pululu	'tigers'
uli	+	lu	>	ululu	'chisels'

Here the problem is how to get retroflexion in the first four types of nouns and prevent it from the latter type. I proposed a syllabic condition rule which states that 'the penultimate l of short i-ending nouns in the words that have more than two syllables, become retroflexed in pulral'. This rule has no exceptions. But Ramachandra Rao thinks that syllabic condition for the retroflexion of l is unnatural. To decide either way there is not enough decisive evidence. I further think that syllabic condition cannot be that accidental producing no exceptions. Be it as it may, his solution is to mark both l segments with retroflexion in underlying repesentation and deiive the surface forms by high vowel deletion rule which operates obligatorily between two retroflex consonants. vēṛu+ḷu by high vowel deletion becomes vēṛḷu; a lateralization rule (which is also necessary for ḍu-or ḍi-ending roots) converts ṛḷ into ḷḷ and thus producing vēḷḷu. Singular forms are derived by the neutralization rule mentioned above.

If Ramachandra Rao's analysis is right (which cannot be evaluated at present), it would present a strong case for the diacritic use of retroflexion in Telugu phonology. The Telugu case does not have sympathy of historical linguists, because no Dravidian language has ever had any retroflex trill in its system.

Much of the strong evidence for abstract representation comes from Central Dravidian languages. It is shown in this paper that alternative analyses would ignore the general processes of Dravidian. I have not argued here for or against psychological reality of one or the other solution because I know of no way to decide it either way. I think that simplicity of descriptions and naturalness of the processes (or rules) are sufficient criteria to support or reject the claim for abstract representation.

A historical note may not be out of place here. The proposed underlying forms and analysis for Konḍa are found to be necessary for Kui also. Among the four rules I have proposed (modified from Krishnamurti 1969) (R4) seems to be specific to Konḍa and (R1) to (R3) are common to Konḍa and Kui and (R2) and (R3) are shared by Pengo and Kolami. The following table sums up this rule-sharing phenomenon:

	Konḍa	Kui	Pengo	Kolami	Naiki
(R1)	×	×	—	—	—
(R2)	×	×	×	×	×
(R3)	×	×	×	×	—
(R4)	×	—	—	—	—

From the above table we can observe that Kui is more closely related to Konḍa than the other Dravidian languages. Pengo and Kolami show similarities because (R2) and (R3) are sufficiently in general form to cover the cases of Kolami also. If we narrow down (R2) and (R3) by adding +nasal feature along with —obstruent and +retroflex, only Pengo shares both (R2) and (R3) and Naiki shares (R2). If we assume R2 and R3 are older since they are shared by majority of the above languages, we may say (comparing the sets) (R2) and (R3) are simplified in Kolami and (R3) is lost in Naiki. (R1) (Nasalisation of lateral) seems to be an old rule which is lost in Pengo, Kolami and Naiki. (R4) as formulated looks like a rule addition in Konḍa.

This comparison shows that Konḍa, and Kui are closely related as opposed to other languages mentioned in the above table. This observation more or less coincides with the historical subgrouping. More work on Pengo may bring it also closer to Konḍa as evidenced by the distribution of the infinitive morpheme (-teη, -dcη). Since the comparison is only with four rules, the above results are only tentative but highly (positively) suggestive.

The evidence from Central Dravidian languages is centered around the retroflex feature in sonorant system. In the majority of them retroflex lateral has merged mostly with non-retroflex l. They have retained retroflex ṇ. All of them (examined in this paper) have retained the alternations produced by a retroflex sonorant. It has become necessary to recover the lost retroflex lateral (retroflex nasal in Naiki) in order to account for the alternations that have continued. It has been found that alternative solutions would fail to account for them in a natural way. This recovery is motivated by purely synchronic considerations.

Retroflex is a marked feature and it is progressively marked from obstruents to sonorants and to vowels. As it is well known, only Badaga has retroflex vowels. In any of the Dravidian languages retroflexed consonants are confined to non-initial positions. The distribution also points out that sonorant retroflex consonants are more marked than their obstruent counterparts. In Telugu it is hard to find a non-geminate retroflex sonorant contrast with a non-retroflex sonorant. It is also probably true that a retroflexed lateral is more marked than a retroflex nasal. This suggests that there are also differences of degree in markedness.

In assimilation the general tendency is from unmarked to marked while in merger from marked to unmarked. As we noticed in the above cases of Central Dravidian, ɻ and ɳ merged with their unmarked counterparts. It is also interesting to note in many of the above languages ɳ is preserved or restored but ɻ is completely lost. In some languages ɳ is restored at the cost of ɻ *e.g.*, Pengo. It is tempting to say, that within the marked set of phonemes when there is restructuring, a less marked phoneme replaces the more marked phoneme and not the other way.

We have noted above that retroflex obstruents (perhaps only stops) are least marked within the set of retroflex phonemes. This conclusion is derived not only by their distribution but also by their stability in historical change. Synchronic systems seem to preserve the retroflex stops that are inherited as well as produced by assimilation, while losing retroflex sonorants, either lateral or nasal, that triggered assimilation. As long as these alternations are preserved in the synchronic systems it is always possible, often necessary, to reestablish these retroflex sonorants in the underlying phonological representation. It often reflects the historical reality, if there has not been restructuring. Restructuring, in this specific case may not allow us to determine which retroflex sonorant is involved. But that is a problem for historical linguistics, which is often solved by comparative method. The synchronic considerations require us to recover the retroflex sonorant which may not be historically correct as evidenced in the case of Pengo.

The Dravidian evidence points out that when a more marked phoneme which produces alternations in a less marked set for the same feature, it has to be posited in the underlying structure of synchronic descrpitions, even if it has disappeared from the surface phonology. The simplicity and naturalness criteria require us to do this.

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NOTES ON SOME SPURIOUS CAUSATIVES IN HINDI

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Verbs in Hindi have related forms functioning as simple, causative, acausative, and extended causatives. Some verbs have morphologically marked causative forms which however do not have causative meaning, rather they have the meaning 'to help.' The main syntactic and semantic features of these *sahaaytaa* verbs in Hindi are analysed in this paper.

Hindi clauses/sentences have generally been grouped into the following types :

(i) *simple*

(1) laRkene kahaanii sunii.

'The boy heard the story.'

(ii) *causative*

(2) laRkene kahaanii sunaaii.

'The boy narrated/told the story.'

(iii) *acausative* (i.e. has no causative form)

(3) laRkene rupaye paaye.

'The boy received money.'

It may be useful to set up a fourth category : double/extended causative.

(iv) *double/ extended causative*

(4) laRkene mããse apne mitra ko kahaanii sunvaaii.

'The boy caused his mother to narrate the story to his friend.'

Causative patterns are characterized by a causer NP, an agent NP, and an 'action'—type process. Extended causatives are marked by two causer NPs (one of them being a human instrument), an agent NP, and an 'action'-type process.

causative :	NP_1	V	[NP_2 do something]
	[Causer]	[Cause]	[Agent]
extended causative:	NP_1 cause	NP_2 cause	[NP_3 do something]
	[Causer]	[Causer]	[Agent]

Morphologically too the verbal forms are marked.

Non-causative	*Direct causative*	*Extended causative*
paRhnaa	paRhaanaa	paRhvaanaa
'to read'	'to cause someone to read'	'to use an agency to cause someone to read'

First/direct causatives show a causer NP causing something to happen or causing another NP to perform an action. Extended causatives show a causer NP_1 making use of an agency (a human instrument : NP_2) to cause NP_3 to do something.

There are certain verbs in Hindi which are similar to causatives in their morphology-i.e., they have causative-type suffix -vaa(naa), but they do not have any causative meaning. They do not have any 'causer' participant and may be called spurious causatives. Infact, they are *sahaaytaa*-'aid' verbs. An attempt is being made here to explore the main syntactic and semantic features of these *sahaaytaa*-marked verbs. Consider the following sentences :

(5) usne naukarse meraa kamraa saaf karvaayaa.

'He caused (made use of) a servant to clean my room.'

(6) usne meraa kamraa saaf karvaayaa.
'He helped me clean my room.'

Sentence (5) is an example of extended causative. The participants involved are : a causer NP_1 (*usne*), an agent NP_2 (i.e. a human instrument : *naukar*), and an objective NP_3 (*kamraa*). The

underlying network of relations into which these NPs enter can be shown as :

NP_1	V	[NP_2	V	NP_3]
(causer)	(+cause)	(agent)		(objective)

Sentence (6) is ambiguous. According to one interpretation it is like (5) with an indefinite and unspecified agent.

NP_1 Cause [NP_2 (someone) clean NP_3]

According to another interpretation the verb in this sentence is marked ' +help ' (+*sahaaytaa*).

NP_1	V	[NP_2	V	NP_3]
[Agent]	[help]	[Agent]		[Objective]

It means NP_1 helped NP_2 do something. Underlying this sentence there are two sentences :

(7) mãĩne meraa kamraa saaf kiyaa.

' I cleaned my room.'

[Note : *meraa* in the context of mãĩ is realized as *apnaa* as a result of reflexivization.]

(8) usne meraa kamraa saaf kiyaa.

' He cleaned my room.'

(7) and (8) can be put together in two ways, giving us (9) and (10):

(9) usne aur mãĩne meraa kamraa saaf kiyaa.

' He and I cleaned my room.'

(10) usne mere saath meraa kamraa saaf kiyaa.

' He along with me cleaned my room.'

In both (9) and (10) we have two agents : *usne* and mãĩne (i.e. *vah* and mãĩ). In (9) the two agents are of the same status and the relation between them is that of coordination. (10) has a covert agent underlying *mere saath*. In fact, this covert agent is the primary agent and *usne* is the secondary agent playing the role of a ' helper.' (9) can be rewritten as (11) without any change in the status of the agents.

(11) mãĩne aur usne meraa kamraa saaf kiyaa.

We will now reexamine (10) :

(10) usne mere saath meraa kamraa saaf kiyaa.
'He along with me cleaned my room.'

One of the meanings of *usne mere saath* is *usne aur* mãĩne *milkar* 'he and I together.'

In terms of this analysis (10) and (9) are alike : they are examples of coordination. (10) has another meaning in terms of which it may be said to be a realization of (12) and (13).

(12) mãĩne meraa kamraa saaf kiyaa.
'I cleaned my room.'

(13) usne merii sahaaytaa kii.
'He helped me.'

(12) and (13) put together would mean :

(14) usne [mãĩne meraa kamraa saaf kiyaa] sahaaytaa kii.

Here the process is *saaf karnaa* (*kisii kii sahaaytaa se*).

The time reference is 'past,' primary agent is mãĩ secondary agent (or helper) is *vah.*

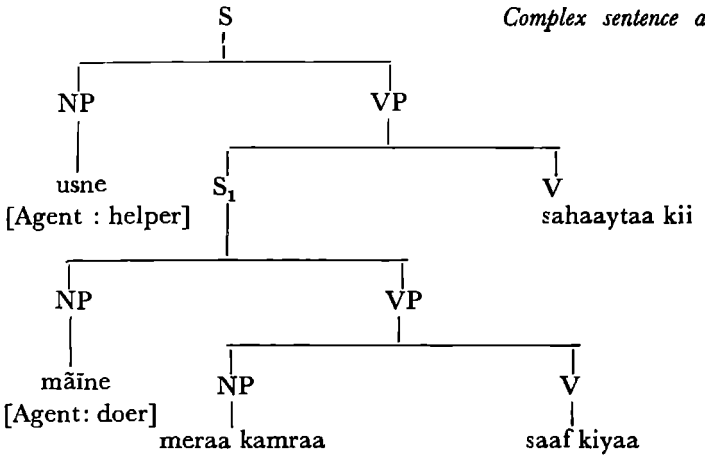
The primary agent did something: *kamraa saaf kiyaa.*

The secondary agent helped the primary agent perform this action.

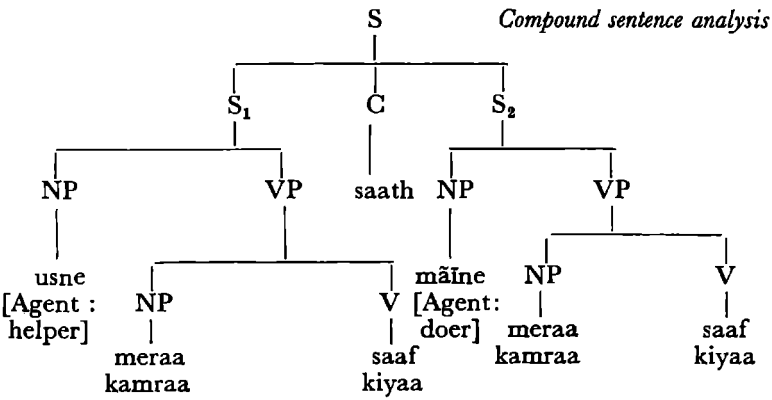
It is clear now that *kisii ko kuch karne* mẽ *sahaaytaa karnaa* 'help someone do something' is realized in the morphological shape of the main verb : *karnaa* becomes *karvaanaa, dhulnaa* becomes *dhulvaanaa, uThnaa* becomes *uThvaanaa* and so on. It has already been mentioned that *vaa* morpheme has been treated as a causativizer morpheme in Hindi linguistics, but the point raised in this paper is that it is also used in non-causative contexts where instead of having NP_1 (Causer) $+NP_2$ (Human Instrument) $+NP_3$ (Agent) $+$ NP_4 (Objective) $+V$ we have :

$$NP_1 \text{ (helper)} + NP_2 \text{ (Agent)} + NP_3 \text{ (Objective)} + V$$

Sentence (6) may be analysed in two ways—as a complex sentence and as a compound sentence.



In surfacing these relations the agent NP of S_1 is deleted because it can be recovered referentially from *meraa*; the meaning of *sahaaytaa kii* is recorded in the verb—*saaf kiyaa*—of the embedded sentence producing its *sahaaytaa*-marked form : *saaf karvaayaa.* The surface sentence thus generated is : *usne meraa kamraa saaf karvaayaa.*



In terms of functional constituents, the inter-sentence relation may be represented as :

S_1	+	S_2
S O V	[saath]	S O V

[S=Subject, O=Object, V=verb]

Here O and V of S_1 and S_2 are identical creating conditions for the backward gapping of identical constituents and also compounding of the non-identical constituents. So we get :

SOV+SOV

that is, S+S OV
[saath]

(15) usne aur mãĩne saath meraa kamraa saaf kiyaa. This construction again has two meanings. In terms of one of its interpretations both the Subjects (*usne* and mãĩne) have equal status. According to the second meaning (with which we are concerned here) there are two agents—primary agent (mãĩne) and secondary agent or helper (*usne*). The secondary agent is realized as the surface subject and its secondary role is recorded in the verb as a result of which *saaf karnaa* is transformed into the *sahaaytaa*-marked verb *saaf karvaanaa* and the primary agent is deleted. I am not at present in a position to say which of the two analyses is more powerful.

Some of the distinctive syntactic and semantic features of these *sahaaytaa* constructions are listed below :

(i) It demands two agents—a primary agent (i.e. a doer) and a secondary agent (i.e. a helper). It is the secondary agent which always appears as the surface subject.

Subject	*Object*	*Verb*
usne [secondary agent or helper]	meraa kamraa	saaf karvaayaa

(ii) Since it is a joint-agent verb, none of the agents can individually negate the main activity.

The following is ungrammatical :

(16) * usne meraa kamraa saaf karvaayaa,
par mãĩne kamraa saaf nahĩ kiyaa.

* He helped me clean my room, but I did't clean my room.

This means that negative transformation will follow *sahaaytaa*-marking transformation, generating sentences like (17).

(17) usne meraa kamraa saaf nahiĩ karvaayaa.

'He didn't help me clean my room.'

(17) may be said to be a realization of (18) and (19).

(18) mãĩne meraa kamraa saaf kiyaa.

'I cleaned my room.'

(19) usne sahaaytaa nahiĩ kii.

'He didn't help me.'

It is clear from this that nahiĩ in (17) negates the activity of the secondary agent, for we can say :

(20) usne meraa kamraa saaf nahiĩ karvaayaa.

phir bhii mãĩne akele hii saaf kar liyaa.

'He didn't help me clean my room, even then I cleaned it myself.'

(iii) This construction-type can take manner adverbials, but they will modify the verb of the outer sentence and not of the embedded sentence. Consider the following :

(21) usne khushiise meraa kamraa saaf karvaaya.

'He cheerfully helped me clean my room.'

Underlying (21) there are two sentences : (22) and (23) :

(22) mãĩne meraa kamraa saaf kiyaa.

'I cleaned my room.'

(23) usne khushiise sahaaytaa kii.

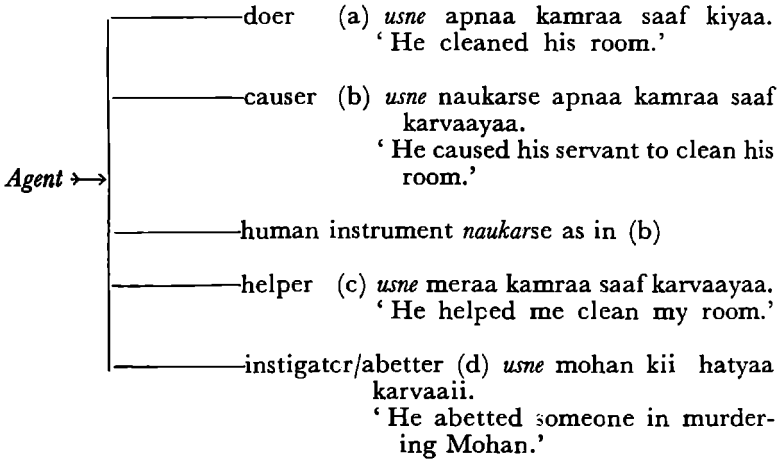
'He helped me cheerfully.'

Consider a few more examples of sahaaytaa-marked construction :

(24) usne mere kapRe (dhulvaaye) (phaelvaaye) (rangvaaye)

'He helped me (wash) (hang out) my clothes.' (dye)

In all these examples there are three participants—a primary agent or doer (not realized in surface structure), a secondary agent or helper (realized as the subject of the surface sentence) and an objective NP which is marked '-human.' The primary agent or doer cannot be the surface subject of this type of sentences. Another general point that emerges out of this discussion is that there are different levels and types of 'agent roles.' Each role has certain distinguishing syntactic and semantic features.



I must say that I have simply jotted down some of my ideas about a neglected aspect of, what I have called, *sahaaytaa*-marked constructions in Hindi. I have not attempted to present this analysis in any rigorously formalized frame-work.

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AN EXCURSION INTO THE SEMANTICS OF SOME PARTICLES IN INDIAN LANGUAGES

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Hindi, Tamil, and Telugu, though belonging to two different language families, are shown to have agreement in the semantic functions and syntactic behaviour of some of the particles. The major functions in which these particles are used in the three languages are enumerated and their syntactic characteristics are discussed in some detail.

This paper is a study of the particles *hii* in Hindi (Hi.), *taan* and *ee* in Tamil (Ta.) and *ee* in Telugu (Te.). These particles cannct he given any one single meaning in these languages as they serve to perform several different functions. Each of these functions is marked by certain grammatical characteristics. What is, however, interesting here is that although the languages in question belong to two different families, they show parallelism in the functions in which these particles are used. The syntactic and other grammatical factors which characterize the different functions of these particles are also similar in the three languages. In a recent article Emeneau (1974) has shown that although Sanskrit *api* and Dravidian *-um* have different phonological representations, they have the same semantic ranges in the two language families, viz. Indo-Aryan and Dravidian. The agreement strengthens further the concept of an Indian linguistic area. The present study is an attempt to confirm this concept by pointing to one more shared linguistic feature by members of different language families.

Morphologically, the particles under study are added to any of the major constituents of a sentence. However, there are restrictions on their occurrence with the constituents of a sentence depending on the particular function they serve to perform in a sentence.

In the following instances the particles in question go with a noun phrase (1-3), with a verb phrase (4-6) and with an adverbial phrase (7-10).

Hi. (1)	kal	raam	hii	nahīī	aayaa	baakii	log	
	yesterday	Ram	alone	not	came	rest, other	people	
	aaye.							
	came							

Ta. (2) neettikki raaman taan varale mattavaaL vantaaL.
yesterday Raman alone did not come rest came

Te. (3) ninna raamuDee raa leedu migataavaaLLan- occiāru
yester- day Ram alone come not daru rest of the people came

'Yesterday Ram alone did not come, the rest of the people came.'

Hi. (4) aaj māī miiTing mẽ gayaa hii nahīī.
today I meeting to went particle not

Ta. (5) innikki naan miiTingkku pookav-ee illai.
today I meeting-to went-particle not

Te. (6) ivvaaLa neenu miiTingkki veLLan-ee leedu.
today I meeting-to went-particle not

'To-day I did not go to the meeting at all.'

Hi. (7) gaaDii tej hii jaa rahii hai.
train fast particle going is

Ta. (8) vanDii veekamaaka taan pooradu.
train fast particle is going

Te. (9) banDii veegamgaanee pootondi.
train fast-particle is going

'The train is going fast.'

The particles in question are found to express the following functions in the three languages.

(1) Exclusion, (2) Absoluteness, (3) Identification, (4) Moderation, (5) Intensification.

As must have been noticed Tamil employs two particles whereas the other languages use only one. Of the two particles in Tamil, *ee* is used in the second and *taan* in the rest of the functions enumerated above. We may now take up each one of these functions in some detail.

1. EXCLUSION. As a marker of 'exclusion' the particles serve to exclude a particular proposition from the others. A sentence with an exclusive marker implies another sentence which

excludes the proposition of the main sentence. Thus if the main sentence is in the affirmative, the implied sentence will be in the negative and vice versa. This will be clear from the following sentences in which the particles are used as markers of exclusion. (The implied sentences are given in parenthesis.)

Hi. (10a) mãĩne hii kaapii maarii aur
I particle copy others

kisiine kaapii nahĩĩ maarii.
anyone copy not

'I alone copied (and no one else did).'

(10b) mãĩne hii kaapii nahĩĩ maarii
I particle copy not

(baakii sabne kaapii maarii).
rest all copy

'I alone did not copy, (all the others did).'

Ta. (11a) naan taan paaDineen (veera otturum paaDale).
I particle sang other no one did not sing

'I alone sang, (no one else did).'

(11b) naan taan paaDale (mattava ellaarum paaDinaar-kaL).
I alone sang not rest all sang

'I alone did not sing, (all the others sang).'

Te. (12a) darjiivaaDu cokkaayee kuTTaleedu
tailor shirt-particle did not stitch

(migata baTTallanni kuTTiāDu)
rest clothes stitched

'The tailor did not stitch the shirt alone. (He stitched the rest of the clothes).'

(12b) darjiivaaDu cokkaayee kuTTiāDu
tailor shirt-particle stitched

(migata baTTalanni kuTTa leedu).
rest clothes stitched not

'The tailor stitched the shirt alone. (He did not stitch the rest of the clothes).'

Further, these particles used in the sense of exclusion can co-occur with certain adjectivals of exclusion like *sirf* 'only,' *keeval* 'only' in Hindi, *maatram*, 'alone,' *maTTum* 'only' in Tamil and *okkaDe* 'one person' *okkaTe* 'one thing' *maatram* 'only' in Telugu. For example,

Hi. (13) sirf mãĩ hii gayaa (aur koi nahĩĩ gayaa).
only I particle went (others any did not go)

'I alone went (no body else did).'

Ta. (14) na maTTum taan pooneen (veeree yaarum pooka ille).
I alone particle went (others anyone go not)

'I alone went (no body else did).'

Te. (15) vaaDu okkaDee veLLiāDu (migata evaru veLLa leedu).
He one-particle went rest no body go not

'He alone went (no one else did).'

2. ABSOLUTENESS. The absolutive sentences in these languages can be roughly translated into English with a 'not at all' phrase. The following are a few examples of what are here called the absolutive sentences.

Hi. (16) mãĩ vahãã gayaa hii nahĩĩ.
I there went particle not

Ta. (17) naan ankai pookavee ille.
I there go-particle not

Te. (18) neenu akkaDki poonee leedu.
I there go-particle not

'I did not go there at all.'

There are a few grammatical differences observed between the two functions, viz. exclusion and absolutiveness.

First, unlike the sentences in which the particles are used as markers of exclusion, the sentences in which the particles are used as absolutive markers can be only in the negative. That is, there are no corresponding affirmative sentences for the absolutive use

of these particles. Second, where the ' exclusive ' sentences imply or presuppose other sentences, the absolutive ones do not have any such implication. Finally, whereas the particles can go with *any* of the constituents of a sentence in their function of exclusion, this is not possible in their absolutive function.

For example :

Hi. (19a)	aaj	bazaar	mẽ	caaval	milaa	hii	mahĩ.
	today	market	in	rice	available	particle	not
(19b)	aaj	bazaar	mẽ	caaval	hii	nahĩ	milaa.
	today	market	in	rice	particle	not	available
Ta. (20a)	innikii	maarkeTle		arisii	kaDaikkavee	illa.	
	today	market in		rice	available	not	
(20b)	innikki	maarkeTle		arisiyee	kaDaikale.		
	today	market in		rice-particle	available not		
Te. (21a)	ivvaaLa	maarketlo		biyyam	dorakanee	leedu.	
	today	market in		rice	available	not	
(21b)	ivvaaLa	maarkeTlo		biyyamee	doraka	leedu.	
	today	market in		rice-particle	available	not	

' Today rice was not available in the market at all.'

In the above examples the (a) sentences have the particle going with the main verb whereas in the (b) sentences the particle goes with the subject phrase and both the (a) and (b) sentences retain their absolutive meaning.

But sentences (16a), (17a), and (18a) which differ from the absolutive sentences (16), (17), and (18) in that the particle is moved from the verb to the subject noun-phrase, cannot have the absolutive interpretation.

Hi. (16a)	*mãĩ	hii	vahãã	nahĩ	gayaa.
	I	particle	there	not	go
Ta. (17a)	*naanee	anka	pokalle.		
	I-particle	there	go not		
Te. (18a)	*neenee	akkaDaki	poo	leedu.	
	I-particle	there	go	not	

Note that sentences (16a), (17a), and (18a) are not acceptable if they are given the absolutive interpretation. They are all acceptable in the exclusive function.

It may be noted that in the absolutive use the particles can be moved within a given range without affecting the meaning of the sentence. This is not the case with the particles as markers of exclusion. The exclusive markers always exclude the proposition with which they are associated and hence a change in their position would affect the meaning of the entire sentence.

With regard to the range within which the absolutive markers can be moved within a sentence the following postulation can be made. The absolutive marker in the deep structure is associated with the verb. But it can optionally be moved to non-specific noun phrase, other than the subject of a transitive sentence. In the following examples all (a) sentences are the source sentences from which the (b) sentences are derived by optional movement of the particles to a constituent other than the verb.

Hi. (22a) kal miiTing mẽ aurtẽ aayĩĩ hii nahĩĩ.
yesterday meeting in women came particle not

(22b) kal miiTing mẽ auratẽ hii nahĩĩ aayĩĩ.
yesterday meeting in women particle not came

'Yesterday in the meeting women did not come at all.'

Ta. (23a) neettikki miiTingkku pombLakal varavee illai.
yesterday meeting-to women came-particle not

(23b) neettikki miiTingkku pombLakaLee varale.
yesterday meeting-to women particle did not come

'Yesterday women did not come to the meeting at all.'

Te. (24a) ninna miiTinguki aaDavaaLLu raaneeleedu.
yesterday meeting-to women come particle not

'Yesterday women did not come to the meeting at all.'

Compare the above sentences with sentences (25a) to (27b) The (b) versions are again derived from the (a) sentences by a movement of the particle. But unlike (22b) and (23b) where the particle is moved to a non-specific Noun phrase, in these sentences the particles are moved to a specific NP and are un-

acceptable in the absolutive interpretation, although they can have the exclusion interpretation. Incidentally, the Hindi sentences (25a) and (25b) can also have the 'inclusive' interpretation when they are followed by another sentence with the particle *bhii* 'also.' But such sentences are not included in the present study.

Hi. (25a) *kal mãĩ miiTing ko gayaa hii nahĩĩ.
yesterday I meeting to went particle not

'Yesterday I did not go to the meeting at all.'

(25b) *kal mãĩ hii miiTing ko nahĩĩ gayaa.

'Yesterday I alone did not go to the meeting.'

Ta. (26a) neettikki naan miiTingkku pookavee illai.
yesterday I meeting-to go particle not

'Yesterday I did not go to the meeting at all.'

(26b) *neettikki naanee miiTingkku pookale.
yesterday I-particle meeting-to went not

'Yesterday I alone did not go to the meeting.'

Te. (27a) ninna neenu miiTinguki veLLanee leedu.
yesterday I meeting to went particle not

'Yesterday I did not go to the meeting at all.'

(27b) ninna neenee miiTinguki veLLa leedu.
yesterday I-particle meeting-to went not

'Yesterday I alone did not go to the meeting.'

3. IDENTIFICATION. In equative classes the particles in question can also function as an identifier. The particles can have this function only in the positive sentences and not in the negative. Following are a few examples where the particle can be said to be used as an identifier.

Hi. (28) ye hii meraa ghar hai.
This particle my house is

'This alone is my house.'

Ta. (29) itu taan en pustakam.
This particle my book

'This alone is my book.'

Te. (30) idee maa illu.
This- our house
particle

'This alone is our house.'

Notice that sentences (28) to (30) are all ambiguous in the sense that besides the 'identification' they can also be given the 'exclusion' interpretation

However, the above sentences can be assigned correct interpretation on the basis of the intonation carried by them. First of all as a sentence expressing the identification these sentences carry the intonation of a completed sentence whereas in the 'exclusion' intepretation the intonation would be that of an incomplete sentence. Second, as different from the exclusion interpretation in the identification interpretation, the identifier namely Hi. *ve*, Ta. *itu* and Te. *ide* can be stressed

Third, sentences (28) to (30) can have negative counterparts in the exclusive sense alone but not in the identifier-interpretation

For example:

Hi. (31) ye hii meraa ghar nahīī hai.
This particle my house not is

'This alone is not my house.'

Ta. (32) itu taan en pustakam illai.
This particle my house not

'This alone is not my house.'

Te. (33) idee maa illu kaadu.
This-particle our house not

'This alone is not our house'

Sentences (31)-(33) have only the 'exclusion' interpretation'

Finally, the adjectivals of exclusion cannot occur in the 'identifier' sentences as they can in the 'exclusion' sentences.

For example, the sentences given below cannot have the identifier-interpretation.

Hi. (34) sirf ye hii meraa ghar hai.
only this particle my house is

'Only this house is mine.'

Ta. (35) itu oNNu taan en pustakam.
This one particle my book

'This one book alone is mine.'

Te. (36) idi okkaTee maa illu.
This one-particle our house

'This one alone is my house.'

4. MODERATION. The particles in question are also used for characterizing a person, thing, action, situation or state as neither too good nor too bad. The moderative function of the particles is possible only in the affirmative sentences.

For example:

Hi. (37) laDkii acchii hii hai.
girl good particle is

'The girl is alright.'

Ta. (38) poNNU nannaa taan irukkaaL.
girl good particle is

'The girl is good alright.'

Te. (39) ammaayi baagaanee undi.
girl good-particle is

'The girl is good.'

In the moderative use the particle can go with the attributives but not with any other constituents.

Hi. (40) vo acchaa hii paDhtaa hai.
He good particle studies

'He studies alright.'

Ta. (41) avaL nannaataan paaDaraaL.
She good-particle sings
'She sings alright.'

Te. (42) vaaDu baagaanee caduvutunnaaDu.
He good-particle studies
'He studies alright.'

But notice that the following sentences in which the particles go with the subject or object NP cannot have the moderative function. They have only the 'exclusion' interpretation.

Hi. (43) mãĩ hii roTii khaataa hũũ..
I particle roti eat am
'I alone eat roti.'

(44) mãĩ roTii hii khaataa hũũ.
I roti particle eat
'I eat roti only.'

Ta. (45) naan taan rotti saapaDareen.
I particle roti eat
'I alone eat roti.'

Te. (46) neenee roTTe tinTunnaanu.
I-particle roti eat
'I alone eat roti.'

(47) neenu roTTee tinTunnaanu.
I roti-particle eat
'I eat roti alone.'

5. INTENSIFICATION. The particles also function as intensifiers. In this function they can make a statement more emphatic or definite, a request or command stronger. In all these the particles go with the predicate phrase. In Tamil and Telugu the main verbs can also be reduplicated when the particles are used in this function. The following are a few examples.

(a) *Request*

Hi. (48) aapko hamaarii madad karnii hii paDegii.
You our help do-particle must
'You must help us.'

Ta. (49) ninkaL enkaLukku ottasai seyyataan seyyaNum.
You us help do-particle do

'You must help us.'

Te. (50) miiru maaku sahaayam ceyyaalsee unTundi.
you us-to help do-particle will be

'You will have to help us.'

(b) *Command*

Hi. (51) tumko ghar khaalii karnaa hii paDegaa.
You house vacate do particle ought

'You have to vacate the house.'

Ta. (52) nii viiTTai kaalii seyyataan seyyaNum.
You house vacate do-particle do

'You must vacate the house.'

Te. (53) nuvvu illu khaaLii ceyyaalsindee.
You house vacate do-particle

'You must vacate the house.'

(c) *Obligation*

Hi. (54) mujhko ab jaanaa hii paDegaa.
me now go particle must

'I will have to go.'

Ta. (55) naan innikki pookataan pokaNum.
I today go-particle go

'I will have to go.'

Te. (56) neenu ivvaaLa kaalejikki poovaalsindee.
I today college-to go-particle

'I have to go to the college today.'

(d) *Defying*

Hi. (57) mãĩ corii hii karũũgaa.
I steal particle do

'I will steal.'

Ta. (58) naan tiruDataan tiruDuveen.
I steal-particle steal

'I will steal.'

Te. (59) neenu dongatanamee ceestaanu.
I stealing-particle do

'I will steal.'

To sum up, we have seen that in all the three languages the particles in question are used in the same functions namely, exclusion, absoluteness, identification, moderation, and intensification. The languages also share the grammatical features which characterize each of these functions.

I would like to conclude that these observations are based upon a very preliminary study of the use of these particles in Tamil, Telugu, and Hindi. It is likely that they have other functions also which I have not been able to observe. It would be interesting to know how other Indian languages behave in their use of parallel particles so that a typology of this feature may be worked out.

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HOMONYMY OF CASE REALIZATIONS A TYPOLOGICAL STUDY

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A typological study of homonymous realizations of case categories is undertaken here with data from Indo-Aryan and Dravidian languages. It also traces the development of certain case markers extending their exponential domain to more than one case function at a later date in the history of a language. The paper ends with a suggestive note that the relative markedness of a category may have something to do with the general directions or tendencies of homonymic developments.

Of the several approaches developed for describing the syntax of a language, the most fashionable these days is the one known as case grammar expounded largely by Charles J. Fillmore (1968). In this model a sentence is interpreted as consisting of the constituents, modality and proposition. The proposition consists of a predicator in construction with one or more noun phrases, each of which is related to the predicator in one of the semantic functions known as Deep Structure Cases. The Cases identify the roles which the noun phrases serve in the predication, these roles taken from a repertory defined once and for all for human languages. They include such roles as the Agent, Experiencer, Instrument, Object, Source, Goal, Place, and Time. The question as to how many of these semantic functions are represented in the syntactic system of a given language may be answered by investigating the surface syntax and the uses of the case forms. The syntactic relationships and through them the semantic functions may be expressed by morphological case inflections in some languages, by prepositional or postpositional constructions, and even by word order in other languages.

The Cases are thought to exist in a hierarchy and this hierarchy serves to guide the operation of certain syntactic processes in particular that of subject selection. Certain predicators have their own lexically determined subject choices and there are furthermore certain subject choice options provided by the languages.

In describing a language within a case framework, it is shown that numerous examples may be found of homonymy of surface realizations (Starosta 1972). In English, for example, Instrument

and what is called Comitative (secondary Agent—apradha:na karta:) are realized by the preposition 'with':

John cut the tree with an axe.

John cut the tree with his wife.

Similarly, Experiencer (Dative) and Goal (Direction) are homonymously realized by the preposition 'to':

The teacher gave a book to the student.

The teacher sent a book to Madras.

Typologically it is of interest to note that the same groupings of Case relations are homonymously represented in a number of different languages. For example, Instrument, Manner, and Comitative may be realized in English by 'with,' in Telugu by the single postposition 'to:' and in Sora (a Munda language) by 'batte' They may also be realized by homophonous case markers in certain languages, like Sanskrit ablative and dative plurals, or Māhārāṣṭrī instrumental and locative singulars, of certain nouns. When we see, therefore, the same patterns emerging in unrelated languages, we need to explain them and can not put aside as accidentally similar. An attempt is made in this paper to show that homonymous surface case manifestations or case forms realize the same groups of Case relations in the genetically unrelated languages of India and to an extent explain some of these surface neutralizations. We may be also able to suggest the directions of such neutralizations. It is hoped that the evidence advanced here will contribute towards our understanding of the nature of human languages.

Following Fillmore (1971), we may accept for the purpose of this paper that both Dravidian and Indo-Aryan require among their Deep Cases the following relations. Their primary representation in surface structure is indicated in parenthesis following each Case : Agent (nominative), Experiencer (dative), Means[1] (instrumental), Object (accusative), Source (ablative), Goal (dative), Place (locative), and Time (locative). Some examples may be given to illustrate these Cases. Dravidian belonging to an agglutinative type uses generally the same set of suffixes for both singular and plural. The case suffixes are added to an oblique base (different from the nominative) after suffixes indicating number. Old Indo-Aryan being an inflected language uses different sets of inflections in singular and in plural ; there is no

1. I have used 'Means' instead of 'Instrument' to make a distinction between Deep Cases and Surface case forms.

oblique form here. The inflections express at the same time, number, gender, and case. Modern Indo-Aryan languages, however, have developed a system more like the one in Dravidian.

DRAVIDIAN : TELUGU

a:me	tana	bhartani	kattito:	campindi.
A		O	M	
she	her	husband	knife-with	killed.

ra:ma:ra:wuki	jwaram	vaccindi.
E		
Ramarao-to	fever	has come.

kriṣṇamu:rtiga:ru	ikkaṇṇinci	maysu:riki	ninna	velliā:ru.
A	S	G	T	
Mr. Krishnamurti	here-from	Mysore-to	yesterday	went.

praka:śam	u:ḷḷo:	le:ru.
	P	
Prakasam	town-in	is not.

INDO-ARYAN: SANSKRIT

guruḥ	śiṣya:ya	grantham	dada:ti.
A		O	
The teacher	student-to	a book	gives.

śareṇa	vya:ghram	hanti.
M	O	
An arrow-with	the tiger	(he) kills.

ba:laka:ya	rocate	modakam.
E		O
The boy-to	is agreeable	sweetmeat.

ra:mo	vanam	agacchat.
A	G	
Rama	to forest	went.

pra:k	pa:dayoḥ	patati.
T	P	
First	feet-on	(he) falls.

gra:ma:d	a:gataḥ	pita:
S		A
The village-from	came	the father.

In Dravidian languages as well as in Modern Indo-Aryan languages, the nominative is generally the unmarked form and is therefore preferred to function as the subject of the sentence. The accusative which marks the object of the sentence has two forms: one without a suffix and thus undistinguishable from a nominative form, and the other with a suffix. The suffixed form is used when the object noun denotes an animate being. When the object is an inanimate thing there is free variation between the two forms, the form without the suffix being the most frequent.

Examples are, with the suffix: (the hyphen separates the suffix from the stem).

Pa.[2] e:nu manj-en cu:ṛoto 'The elephant saw the man.'

Te. atanu kukka-nu pencutunna:ḍu 'He is raising a dog.'

Hi. nɔkər-ko bazar bhejo 'Send the servant to the market.'

Be. ra:m-ke ḍakun 'Please call Rama.'

Without the suffix:

Oll. a:n kis siṭton 'I put out fire.'

Sa. avũ maru vaṭṭaṇã 'He cuts a tree.'

Ma. ramani boṭ kaplə 'Rama cut (his) finger.'

Be. ba:gh moś mereche 'The tiger has killed the buffalo.'

The normal word order in Dravidian as well as in Modern Indo-Aryan languages is SOV. But when the object is expressed out of its usual order, it almost invariably appears with the accusative termination, even when the object noun denotes an inanimate being.

Pa. ti:ta koḍkomo mer-in 'The bird is pecking the tree.'

Ka. avan ogda baṭṭe-na 'He washed the clothes.'

Hi. ram-ne giraya peṛ-ko 'Ram felled the tree.'

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2. Abbreviations used: Ass. Assamese, Be. Bengali, Br. Brahui, Da. Darai, Ga. Garo, Go. Gonḍi, Guj. Gujarati, Hi. Hindi, Ka. Kannada, Kas. Kashmiri, Kha. Kharia, Kol. Kolami, Ko. Konḍa, Ku. Kurukh, Ma. Marathi, Mal. Malayalam, Oll. Ollari, OTa. Old Tamil, Pa. Parji, Pe. Pengo, Pj. Panjabi, Sa. Sanketi, Te. Telugu, Tu. Tulu.

We may now look into some of the homonymic instances of Case relations. We may distinguish between complete and partial neutralizations of Case relations on the surface level. By complete neutralization, we mean the representation of two or more Deep Cases by a single suffix all the time. In partial neutralization, two Deep Cases, while they are differently represented most of the time, are represented by a single suffix in some instances. We shall be discussing however only instances of complete neutralization in this paper.

1. The widely represented homonymic representation is the one involving the Object and Goal relations. Here, the accusative marking the Object Case and the dative indicating the Goal Case have the same form at the surface level. Among the Dravidian languages, this situation is found in Koṇḍa, Gonḍi, Pengo, and Brahui. Among the Aryan languages, Hindi, Panjabi, Marathi, Bengali, Gujarati, Oriya, and Sindhi attest this feature. It is also found in Darai, an Indo-Aryan language, spoken in Nepal. Kharia, Korku, and Sora are reported to have this feature among the Munda languages.

Ko. r̲e:to-di-η astan 'He held a crab.'

bu:ḍ-di-η sona 'I go for a bath.'

Pe. nekuṛt-iη pe:zaṭ 'Drive away the dog.'

idaη ma: ṭonḍen-iη hiyaṭ 'Give this to our brother.'

Go. nanna: ko:nda:-t-u:n taha:nto:n 'I raise bulls.'

nanna: ko:nda:-t-u:n ehk si:nto:n 'I give water to the bulls.'

Br. shwa:n duzz-e halk 'The shepherd caught the thief.'

i: k̲ha:n-e rase:naga:ṭ 'I came up to the Khan.'

The suffix marking both the accusative and the dative case forms is historically of the dative[3] in Koṇḍa and Pengo while it may be of the accusative in Gondi. It is difficult to decide the Brahui situation. It may possibly have been the dative marker.

3. The dative suffix for common Dravidian is reconstructed as *ung (Shanmugam 372). 'Assimilation of *n* into ṅ before *g*, the disappearance of -g, and the loss of vowel before another vowel should have taken place...' (p. 236). 'The reflexes of (V)nk are found in Koṇḍa -ṅ, Pengo -iṅ.....'. (P. 372).

Hi. pulis-ne cor-ko pəkṛa 'The police caught the thief.'

mẽ-ne ram-ko pãc rupye diye 'I gave five rupees to Rama.'

Pj. mẽ us-nu dekhya 'I saw her.'

mẽ us-nu ek seb ditta 'I gave her an apple.'

Ma. ramani si:te-la vənat paṭhəvlə 'Rama sent Sita to forest.'

ramani si:te-la sev dila 'Rama gave an apple to Sita.'

Be. ami tomar bhai-ke ḍakbo 'I shall call your brother.'

ama-ke tomar chelęṭa dao 'Give your son to me.'

Guj. ra:me si:ta:-ne vanma: mokli: 'Rama sent Sita to forest.'

ra:me si:ta:-ne phaḷ a:pyu 'Rama gave a fruit to Sita.'

Da. may ghaas gaai-ke dela 'I gave leaves to the cow.'

may mera chaaim-ke ikra uyaakaa paataala 'I sent my dauther to her mother.'

The suffixes marking both the accusative and the dative in the Modern Indo-Aryan languages do not go back to the inflections of Middle and Old Indo-Aryan. They are shown to have different sources. The suffixes having k- (Hindi *ko*, Bengali *ke*, Oriya *ku*, Sindhi *khe*, and Darai *ke*) are traced by Bhandarkar (1914 : 247 ff.) to pronominal forms attested in the Apabhraṃśa, viz. *ke:hiṃ* used as postposition in the sense of 'for.' Katre (1966 : 123), like Trump before him, derives them from Skt. *kṛ-ta* (< *kṛte*), and Chatterji traces them to Skt. *kakṣa*. The Marathi suffix is traced to Apabhraṃśa *la:ũ* 'for applying.' The Gujarati suffix *ne* and the panjabi suffix *nu* are traced to Apabhraṃśa *taṇeṇa* (instrumental) and *taṇahũ* (ablative), respectively. It appears that here the suffixes were extended first for the dative and later were also used in the accusative, since the dative is always marked and accusative is marked only when the object has an animate reference.

Kha. beṭa bha:lu-te yoyog 'The boy saw the bear.

tuyu-te ma:ste terog 'He gave meat to the jackal.'

2. The Means and the Source are similarly expressed by a single suffix, i.e., the instrumental and ablative case forms are not formally distinguished. Among the Dravidian languages, this situation is present in Koṇḍa, Kannada, Sanketi, Pengo, and Kurukh. Hindi and Gujarati attest this phenomenon among the Aryan languages. Korku, among the Munda languages, presents this homonymy.

Ko. mulu ḍuḍu-d-aṇḍ ... ḍaŋna 'I shall strike (her) with (my) pointed stick.'

aya samasram-d-aṇḍ piɾu pa:listad 'From that year on, it continued to rain.'

Ka. ko:l-inda hasu:n hoḍda 'He beat the cow with a stick.'

beṅgḷu:r-inda ya:va:g bandri 'When did you come from Bangalore ?'

Sa. ca:ku:-ṉṉu paḷta arte 'I cut the fruit with a knife.'

u:r-aṇṇu iṇḍenu vande 'I came to day from the town.'

Pe. vil-t-aŋ eccar koyhiŋ 'They shot their sister with an arrow.'

ba:ḍaytiŋ joyl-t-aŋ pistar 'They released the carpenter from jail.'

Ku. panna:-ti: ninga:ge laṛna: mano: 'Thou shall have to fight with the sword.'

a: ṭorang-ti: nanna: ṭoṛang kerar 'From one wood, they went to another.'

The suffixes marking both the instrumental and the ablative case forms may be traced to an instrumental suffix in Koṇḍa, Kannada, and Pengo. It may be historically the verbal participle *iruntu* (which was used to express the ablative of motion) that has prevailed over the instrumental in neutralization in Sanketi. The suffix in Kurukh may go back to the locative. Possibly, it may have been used also for the ablative and extended later to the instrumental.

Hi. ra:m pensil-se pətr likhta: hɛ 'Rama writes a letter with a pencil.'

aj-se sku:l bənd hɛ 'The school is closed from today.'

Guj. ra:me jha:ḍṇe kulha:ḍi:-thi: ka:pyu 'Rama cut the tree by an axe.'

hũ: mumbəy-thi: madra:s gayi 'I went from Bombay to Madras.'

The suffix in Hindi is traced to an independent word *sama* or *saha* meaning 'with' in Sanskrit. It is thus used in the instrumental first and then was probably extended also to cover the ablative. On the other hand, the Gujarati suffix *thi:* (which is derived from the loc. sg. *tahim* of Apabhraṃśa) was the ablative which is extended also to the instrumental.

3. There is a homonymous representation of the two Cases, Means and Goal, in Assamese and Garo (a Tibeto-Burman language), and Means and Place, in Tulu, Gondi, and Santali.

Ass. ta:r ha:t-e pa:lõ 'I received from his hand.'
mok-e iba:r karuṇa: kara: 'Show mercy towards me this time.'

Ga. rua-ci de'n-a-ha 'I cut with an axe.'

nok-ci kat-ba-jok 'I ran to the house.'

The homonymous suffix in the above instances may have been firstly an instrumental which later took over also the function of a dative.

Tu. ko:lu-ḍu no:te 'He beat with a stick.'

ko:lu-ḍu oṭṭiā uṇḍu 'There is a hole in the stick.'

Go. nanna: kayṭa:t-e: tara:su:n pa:to:n 'I beat the snake with a stick.'

ke:ṛa:t-e: tara:s manta: 'There is a snake in the forest.'

In Tulu and Gondi above it is historically the locative suffix which is used also for the instrumental.

4. There is also a homonymous representation of Place and Goal in Marathi, Gujarati, Parji, and Malayalam, and of Place and Source in Old Tamil and Parji.

Ma. mi: ghar-i: a:he 'I am at home.'

mi ghar-i: ja:to 'I go home.'

Guj. hũ: ghar-e rahũ: chũ: 'I stay at home.'

hũ: ghar-e ja:ũ: chũ: 'I am going home.'

Pa. nēdil-ti unded mēdad 'He is sitting on the ground.'

cakurtol-ti cenda 'She will go to the cattleshed.'

Mal. ña:n vi:ṭ-il a:nu 'I am at home.'

ña:n ka:le:j-il po:yi 'I went to college.'

In all these instances, historically it is the locative suffix which is extended also to the dative.

OTa. malaiy-in iḻiyaruvi '(Waterfalls) which is descending from the hill.'

maruk-iṉ a:rkkavampaṭume: '(Someone) will be ridiculed in the street.'

Pa. o:d mer-t-i urked 'He fell from the tree.'

i: polub-t-i mēdad 'He stays in this village.'

The locative suffix is extended in the above instances also for the ablative.

5. Instrumental (Means) case form is distinguished formally from the Sociative (or Comitative) in some languages while in others the instrumental case marker is also extended to the sociative. In the literary languages of the Dravidian group (except in Telugu), the Sociative sense is expressed, as in Sanskrit, by a lexical item meaning 'with' standing after a genitive form of a noun, while in the non-literary languages the instrument and sociative meanings are expressed by a single suffix. Among the Aryan languages it is found in Panjabi, Hindi, and Kashmiri.

Ka. ra:manu heṇḍatiy-oḍane bandanu 'Rama came with his wife.'

a:ḷu koḍaliy-inda maravannu kaḍidanu 'The servant cut the tree by an axe.'

Sa. nã: avundjote:l pohaṇi 'I go with him.'

katti:ṇṇu pulla arvaṇi 'I cut the grass by a sickle.'

Mal. aricikoṇṭu niṉve:tika kaṭavar 'Let them worship with rice.

a:riyaro:ṭu po:yi '(Someone) went with Aryans.'

Pa. ce:pid-oḍ aŋgoḍ aypur 'Sweep the courtyard with a brush.'
o:n-oḍ polubti cenden 'I went with him to the the village.'

Oll. koṭal-na:l tukuṛ koṭudanḍ 'He will dig ground with spade.'

kuse-na:l karṣe tin 'Eat rice with vegetables.

Kol. gollin-aḍ taraktan 'I cut with the axe.'

servi i:r-aḍ ninḍtin 'The brass pot filled with water.'

Te. a:me tana bhartani kattito: campindi

'She killed her husband by a sword.'

a:me tana bhartato: sinema: veḷḷindi

'She went to the movie with her husband.'

Pa. mẽ us-na:l gaya 'I went with her.'

mẽ apṇi: ungli: ca:ku:-na:l kaṭlay 'I cut my finger with a knife.'

Hi. us-ne təlvar-se sir kata 'He cut the head by a sword.'

rukumiṇi:-ka: viva:h kriṣṇa-se hua: 'Rukumini's marriage took place with Krishna.'

Kas. maji sə:tin a:yi ši:li 'Sheela came with her mother.'

ra:man kh'av athi sə:tin bati 'Rama ate food with his hands.'

The evidence presented here may lead to some far reaching conclusions. Since the same groups of Case relations have homonymic representation in the unrelated languages, the phenomenon proves typologically very interesting. The feature is found across linguistic families. If it could be possible to decide that this phenomenon was peculiar to any one genetic family in India and was not found in others, we could have suggested a long-range contact between the families as a contributing factor for such a development. This is difficult to establish as it is found only in some of the languages in each family. Although Dravidian influence may be seen in the morphology (differentiation in the stem but the suffix being the same for the sg. and pl. as opposed to earlier differentiation in the suffix and stem being the

same) of Modern Aryan languages, it still can not be explained how this phenomenon is found extensively in the non-literary languages but not so much in the major literary languages of the Dravidian group with which Aryan languages came greatly in contact. It will similarly be difficult to prove the Aryan origin for this feature and a later extension in the languages of the Dravidian group, again mostly in the tribal languages. It may therefore be suggested that case neutralization on the surface level is a fairly common tendency in languages and is observed both in historically inflecting as well as agglutinating types. It has also been noted in languages other than those found in Indian subcontinent. It appears that the kinds of homonymic representations observed here are generally the common types. As in the case of phonetic changes, we may therefore hazard only to suggest the general directions or tendencies of homonymic developments.

1. In the homonymic situations where one of the Deep Cases involved is the relation of Place, then the morphological representation of that case will be the common form for both the Deep Cases.

2. If one of the Deep Cases in the homonymic representation is that of the ' Means ' then *frequently* it is the case form of the Means which will be the common form for both the Case functions.

3. In the Means-Comitative homonymy, it is the form of the Means which is used also for the Comitative.

4. Although there seems to be some counter evidence in the Object-Goal homonymy, there is a stronger tendency for the morphological representation of the Goal to persist and the Object also to be represented by the same form.

In this context, we may suggest that the relative markedness of the Cases may have something to do for such developments of Case relations. The Object, for instance, is more often the unmarked case while the Goal is generally the marked case. When both of them occur together the Goal is always marked. The Object is marked only when it has animate reference. We may say therefore that Goal is more marked than the Object, and the movement in homonymic representation is more often from the unmarked towards the marked (Ramarao 1974).

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THE STATE OF THE THEORY OF GENERATIVE PHONOLOGY

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The theory of generative phonology is presented here for the purpose of general assessment. The paper shows with evidence that Readjustment component of GP is a motley group of rules with different consequences. It claims further that this component is redundant and that its supposed function will better be served by postulating a formal structure which is both syntactic and phonological.

In this paper we shall try to describe the state of the theory of Generative Phonology (hereafter *GP*). We will discuss *GP* under four headings : (1) Readjustment component, (2) Process phonology, (3) Formalism, and (4) Markedness.

1. READJUSTMENT COMPONENT. The phonological component for Generative Phonologists comprises a system of rules that applies to a surface structure and assigns to it a certain phonetic representation drawn from the universal class provided by the general linguistic theory (Chomsky & Halle 1968 : 9). The surface structure must meet two conditions: it must result from the application of syntactic rules-i.e., it must be ' syntactically motivated,' and it must be appropriate for the rules of phonological interpretation which means that the surface structure must be ' phonologically oriented ' (*P*-oriented). In reality, however, we find that syntactically-motivated structures are not tailored to phonological orientation. For such an orientation we need extra rules which are called ' Readjustment rules ' (*R* rules). Some of the *R* rules are called morphological features and exception features in Postal's version of *GP* (1968 : 123-125, and 131). They have various functions. (i) Some *R* rules delete syntactic bracketings and adjust the surface structures into phonological phrases (Chomsky & Halle 1968 : 10). (ii) Some of them replace certain syntactic markers with *P*-oriented matrices (e.g. mend+past= mend+d). (iii) Some other rules mark irregularities or subregularities in the lexicon so that correct *P* rules will apply to them (11). In other words the *R* rules change ' syntactically motivated ' surface structures into ' phonologically oriented ' surface structures. (iv) There are also some *R* rules generally called ' lexical redundancy rules ' (*LR* rules), which refer exclusively to the internal structure of formatives. About their exclusive reference to the internal structure of lexical items some doubts are convincingly raised by Gillian Brown (1970, 1971; Fromkin 1971).

LR rules fill in unspecified squares of lexical matrices, without violating invariance principle (Chomsky & Halle 1968 : 171). (v) They also state morpheme structure conditions whereby they restrict the class of possible lexical entries (163). A detailed discussion of 'Redundancy Rules in Phonology' is provided by Stanley (1967). Chomsky & Halle point out however that they are unable to provide a more explicit theory of readjustment rules, partly, due to the limitation of their investigation of syntactic determination of phonetic shapes (372).

The rules performing functions (i) and (ii) are 'phonological orientation rules' and those performing functions (iii)—(v) and restricted to internal structures of lexical items are the 'lexical redundancy' or 'morpheme structuring' rules or conditions. The latter set of rules do not perform any semantic function. The rules that perform function (ii) are some kind of 'minor lexical specification' rules and in that sense have a realizational value but not direct semantic content. On the other hand the rules of type (i) have a very important semantic function to perform, if one recognizes the message value of phonological phrase-structuring: this one can call 'informational value' of an utterance (Halliday 1970). In this sense the grouping of different rules into *R* component seems arbitrary and defective. If one wanted to account for phonological structures in their entirety, theoretical provision should be made to bring in specifications involved in Halliday's notion of 'information unit,' 'attitudinal' and 'speech-functional' values of an utterance. To do this *GP* practitioners might have to specify all these features in *R* component. But as *GP* usually considers different components as successively arranged and since phonological structure is not directly related to semantic structure, one might be led to ignore the informational features in a description within the framework of *GP*.

We can here illustrate our point by showing how the semantic features can be incorporated in a description. This kind of description presupposes sequence-free but functionally-ordered semantic structure and grammatical processes to change the semantic structure into sequence-bound formal structure. If in a semantic structure we have the following configuration (for English):

(1) $\left\{\begin{matrix}\text{Actor}\\ \text{process}\\ \text{goal}\end{matrix}\right\} + \left\{\begin{matrix}\text{Actor-orientation}\\ \text{question}\\ \text{New:Process}\end{matrix}\right\}$

the grammatical processes of the following type:

(2) Place the actor first, and goal final, (3) Actor and process groups share concord, (4) Choose 'Rise' category of tone, (5) Place

tonic stress on 'New' bit of information and bracket the following ' given ' with it

will change the semantic structure into a formal structure of the following type :

(6) //; Actor + ; Process+C /+Goal/ ; [+rise] //.
(C=Concordial element)

The dotted lines and braces for the intonational category of ' rise ' specify details of phonological (formal) structuring which are generally omitted in a purely syntactic bracketing. Phonological rules will then change the formal structure into phonetic structure. What we have done here to solve the problem is to specify the phonologically realizable semantic information in a complex (syntactic-phonological) formal structure. In other words we reject the formula where phonological structuring should only follow the syntactic structuring and thus, we don't need the readjustment component.

2. PROCESS PHONOLOGY. As Kiparsky (1968: 1) mentions, Generative phonology can be categorized as process phonology—neither completely abstract nor concrete (Chomsky & Halle 1968 : 296). Lexical and phonological matrices are abstract in the sense that they are not necessarily sub-matrices of the phonetic representations. The relation between the abstract representations and the concrete phonetic ones is not conditioned by the 'linearity' and 'invariance' conditions and to that extent the relation is an indirect one but they are properly related by a system of *P* rules. The abstract representations are not totally abstract because the facts of pronunciation (phonetic facts) induce the representation of an item in lexical and phonological matrices (297). The relationship between abstract and concrete matrice is, therefore, natural and motivated as in the case of prosodic and phonetic representations of Prosodic Phonology. The abstractness of the phonological features is also maintained in the fact that they are classificatory categories and binary in their oppositions. But when these features are mapped onto or translated into phonetic features—that is, features with phonetic function, not classificatory function—the oppositions are not necessarily binary. The phonetic features are physical scales which may assume numerous coefficients as determined by *P* rules. The problem whether there is any need to recognize a linguistically significant intermediary unit between abstract phonological and concrete phonetic levels is seriously discussed in *GP* (Schane 1971).

3. FORMALISM. In the field of formalism in which linguistic statements are framed, Generative Phonology has a decided advantage over other models. But one should never equate for-

malism with the content of the theory. We discussed elsewhere (Prakasam 1972, 1973) how some critics wrongly think that Prosodic Analysis misses the componential character of phonological segments. This misunderstanding about prosodists' understanding of the nature of phonological segment arises from the confusion between formalism and content of a theory. Prosodic phonology recognised the componential nature of phonetic units but insisted on treating different kinds of features in different ways—prosodic categories and phonematic units. The advantages of such a treatment of *PA* have been achieved, to some extent, by *GP* by rejecting the condition of 'linearity' in the relationship between phonological and phonetic representations and also by positing 'root markers' (Lightner 1965) or 'morphological features' (Postal 1968). But on the other hand, by bracketing the features that have syntagmatic value with those that do not, it seems *GP* loses some valuable generality. For example, in Telugu the features of laminality, dorsality, labiality, and apicality do not have syntagmatic value but the other features like voice, laterality, nasality, and retroflexion do. By not separating them at phonological level one would not know their potential values until one goes through all the rules of phonological component. On the other hand, in Prosodic Analysis and Systemic Phonology one will be able to predict what features are going to motivate or get affected by *P* rules (Prakasam 1972).

An important aspect of *GP* formalism is the use of column-row matrix to represent the simultaneous (rows) and successive (columns) nature of categories or features but this does not however completely overcome the disadvantages of a unidimensional (paradigmatic) characterization. It does of course capture the difference between a feature replacement and the change of the whole segment which does not become explicit in a non-column-row matrix.

Another aspect of *GP* formalism is the one used to formulate the *P* rules. The different notations (parentheses, braces, etc.) used to collapse several related rules into a single rule constitute a useful formalism which expresses an important fact of the content of *GP* namely, its insistence on evluating the economy of a grammar as to how broad the generalizations are. If a grammar makes one more comprehensive generalization instead of three less comprehensive ones it is more economical which is also reflected in its formalism.

4. MARKEDNESS. The theory of 'Markedness' in *GP* is a recent phenomenon (Postal 1968: 165-193, Chomsky & Halle 1968 : 402-435). The Praguian notion of 'Marked' and 'Unmarked' values of features has been with some modifications

brought into *GP* by Chomsky & Halle to capture the 'intrinsic content' of the distinctive features (400) and to give a more explicit and coherent explanation about the 'naturalness' of a phonetic class, about the 'simplicity' of *P* rules (401), and about certain 'lexical redundancies.' In Praguian Phonology 'Markedness' stands for the presence (+) and 'Unmarkedness' for the absence (—) of a feature (Vachek 1966 : 55). This restriction is absent in *GP* where *U* and *M* along with '+' and '—' appear in the lexical matrices. Some universal rules of interpretation will then systematically replace *U* and *M* by '+' and '—' (Chomsky & Halle, 402-3). The complexity of a lexical item depends on the number of features that are not left 'unmarked' in its matrix, each marked entry distinguishes the item from the 'neutral,' simplest lexical item (403). In other words the complexity of a system depends on the sum of the marked features of its members (409). Postal's explication of 'Markedness' is slightly different, though the purpose the notion serves in both versions is the same. In both the versions the matrix where markedness-unmarkedness are entered in is more abstract than the matrix where '+' and '—' alone occur. In Chomsky & Halle, *M* and *U* occur along with '+' and '—' in the more abstract matrix (403), but in Postal the more abstract level contains only *M* and *U* and the less abstract level contains only '+' and '—' markings (Postal 1968 : 166-7). In both cases however the more abstract and the less abstract representations seem to belong to lexical matrices only before the *R* rules apply to them. The *U* and *M* markings however achieve economy in *R* component but make use of certain universal conventions before *R* rules. Where the universal conventions do not yield correct results, a special feature specification will be marked in the lexicon (Chomsky & Halle 1968 : 404). The *R* component will not contain most of the lexical redundancy rules because all matrices are now fully specified at all times (415). Before the application of universal conventions the specification is a four-way one and after their application it is just two-way for Chomsky & Halle, whereas for Postal on both the levels the specification is only two-way.

Postal says that *M-U* theory incorporates the claim that underlying the particular phonological system of every language there is a universal phonological structure involving particular universal rules which convert the input matrix of *U-M* values into an output matrix containing + and — values (1968: 168). The normality (*U*) and non-normality (*M*) of features seem to derive support from physiological and perceptual investigations. It is normal to voice sonorant sounds because they do not build up back pressure on the vocal cords to impede voicing which happens in nonsonorant sounds and for this reason voicing is a marked coefficient in non-sonorants (171).

6.

To sum up, we can say that *GP* is decidedly an improvement on the American structuralist phonological theories. It recognises the componential character of different phonic features but fails to exploit the distinction between syntagmatically significant features and paradigmatically significant features. The theory also mixes up features with completely different kinds of functions and brackets them in a single component, as we have mentioned above. The theory has not made explicit provision to account for the phonological realization of certain semantic features which are not lexicalized in a generative way. In the formulation of different phonological processes and properties, the formalism of *GP* is highly developed and is the strongest part of the theory (Chomsky & Halle 1968 : 390-399).

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NOTES AND REVIEWS

OPiL 1.83–84 (1975)

THE ENGLISH 'r' AND ORDERING OF PHONOLOGICAL RULES*

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Let us examine the R.P. variety pronunciation of the following sentences:

(1) Peter had some trouble with his wife.
/ pi:tə 'hæd səm trʌbl wiδ(h)iz waɪf /

(2) Peter had some trouble with his wife.
/ pi:tə həd səm trʌbl wiδ(h)iz 'waɪf /

(3) Peter had some trouble with his wife.
/ pi:tər ədæd səm trʌbl wiδ(h)iz 'waɪf /

A narrow phonetic transcription will have to show *ə* in *həd* of (2) as a palatal variety and *æ* in *æd* of (3) as a shorter and centralized variety. We are interested however in a different aspect of these sentences, namely the pronunciation of the first word with reference to the second. It is only in the third sentence the first word has a final *r* and the second word is without the initial *h*.

The two phonological processes (rules) that are to be considered here are: (1) *r* deletion in word final or before a consonantal sound and (2) the reduction of *hæd* into *həd* or *æd* when it is unstressed main verb, *əd* when it is unstressed auxiliary verb after a consonant and 'd' when it is unstressed auxiliary verb after a vowel [e.g. / aId / for I'd]. To formalize these rules:

(1) $r \rightarrowtail \phi \quad / - \left\{ \begin{matrix} C \\ \neq \end{matrix} \right\}$

(2) hæd ⟶
(i) həd / æd / unstressed main verb.
(ii) əd / $\frac{\text{unstressed aux. verb.}}{C—}$
(iii) d / $\frac{\text{unstressed aux. verb.}}{V—}$

These two phonological processes should operate on an abstract lexical representation and give us the surface pronunciation of (3). This means we have to take the 'abstract-representation' approach for granted in lieu of allomorphic approach. To take

The ability to learn a language goes on diminishing as the persons advance in age and after a certain age, it is completely lost (p. 32). A second language is easy or difficult to learn depending on the closeness or remoteness of its system to the one the learner has already mastered (p. 1). Any new sound, sound sequence, or grammatical distinction not found in one's language may pose some difficulty in learning a language with such features.

Just as our vocal organs are trained to articulate certain sounds and sound sequences, our ears are similarly trained to hear and distinguish between certain sounds and sound sequences. Because of unfamiliarity of certain features of the new language, one might find them difficult. All such statements about language are only subjective and betray a person's restricted linguistic background (p. 2-3).

In his second article, Bhat points out how a language may be said to be lost or dead when the last speaker of that language dies or when the speakers of a language take to another language because of the latter's importance, political or otherwise (p. 6). Discussing further on the origin of language, he refers to the modern theories in this regard and says that ' speech ' develops as a result of certain internal modifications in man during the evolutionary process (p. 10). It may be added that the first communicatory system was a call system which is still like that among the apes. This call system which was finite in number developed by necessity into a productive open system among the hominoids. Thus by further evolutionary changes developed the properties or productivity, traditional transmission and displacement, and became incipient languages which in next stages added the most characteristic feature of human language, the duality of patterning, and became true language.

Speech is not natural to man as much as 'eating' and ' walking ' are, and one does not get to speak without learning it (p. 10). What is true is that every normal child is born with the innate equipment of learning a language which however has to be learned.

In the next article, ' oldness ' and ' newness ' in languages, Bhat lists (p. 12) three kinds of phonetic changes observed from old Kannada to modern Kannada. His second type is ' the change that is extended also to languages outside Kannada country '. This would mean that the change originated in Kannada and spread to other languages. What is probably meant here is that there are certain phonetic changes which are shared by Kannada and some languages outside Kannada area.

It is not correct to say, of the synchronic varieties of a language, any one variety is ' old ' or 'new' because it shows a feature which is charateristic of a historically earlier or later stage (p. 12). The ' old ' and ' new ' in a language may be correlated accordingly

with the native and borrowed elements at any stage of its development.

Under ' language independence ', the author considers various arguments for distinguishing a dialect from a language. The parameter of intelligibility may also be added as a criterion for this distinction. It has not been possible however to measure intelligibility for purposes of deciding whether a speech is only a dialect or an independent language.

' Is language logical ' is a well written article and may be singled out here for the neat presentation within a short compass. The following one is a detailed discussion of a subsection, counting systems, in the previous article (p. 22).

One of the biggest wonders of man, viz., his acquisition of a language as a child is discussed in the seventh article. Bhat rightly observes here that children acquire a language to which they are exposed at their early age. It is not necessary for the child to repeat everything that older people around him will be saying, but it is of great importance that he is endowed with the faculty of hearing. Dumbness is in more cases connected with deafness and the child that cannot hear cannot therefore learn a language (p. 34). Although the child may not be performing speech at all the time, he will surely be assimilating the speech and comes out with proper expressions when they are called for. Learning a language as a child is very much unlike learning a subject in a classroom. In the classroom, there is direct teaching whereas in learning a language as a child the teaching is indirect and the child may more often be even a passive observer.

The next five articles, 8-12, point out in clear terms some of the drawbacks in teaching of Kannada in the schools indicating at the same time how some of them can be remedied for the benefit of the learner. The instance of Kannada is taken here by the author as the material was prsented primarily to teachers of Kannada. The situation does not appear to be any better in the case of teaching of other Indian languages and what is suggested for Kannada may be taken as equally applicable to other languages.

The same techniques of teaching a second language at the school are not useful for the mother tongue since in the case of the latter the child already knows his language by the time he enters school (p. 36). What is therefore necessary in the case of mother tongue teaching in the schools is to teach them to match written forms with the spoken words.

The spoken sound and the written symbol need to be distinguished and the alphabet used for writing a language should not be taken as representing all and only the sounds of that language.

There is not always a neat correspondence between the two (p. 50). There are either unnecessary symbols or the symbols are not sufficient to represent all the sounds. Taking over a writing system used for a language of a different system is partly responsible for this disadvantage (p. 51). Since the changes in speech are not matched similarly in the writing system, we often find some extra symbols which have nothing to represent of speech and also no symbols for certain new sounds which may have emerged in the system. We do not know of any writing system which is completely phonemic in representation. Some systems may be said to be nearer to such a situation than others and the system used for Kannada may join the latter group.

One of the great handicaps of grammars of Kannada or for that matter any other Indian language, is that they are under the strong influence of Sanskrit. Bhat has justly pointed out that 'this ghost of Sanskrit' plagues through Kannada grammars (p.52). Until recently, this was also the fate of English and other European languages for which Latin model had been used. It is true that there are things common between grammars of two languages but there are also points of difference between them. A grammar lesson needs to be presented to bring out both these points, especially in comparison with the language of the learners (p. 60). The learning of a new language and teaching of its grammar may be made lively and interesting by such comparison, since students will get the feeling of their participation, as they learn.

'Is it necessary to have a single script for all Indian languages' is another well-written article in this collection. Among the supporters of a single script there are unfortunately more politicians than academicians (p. 78). There are more vital problems to be solved to achieve national integrity and script problem is probably not one among them. The argument of the supporters for a single script that it will act as an inducement for learning one's neighbouring language has not been convincing (p. 79). If for some reason we decided to adopt a single script, then it is true, as the author rightly notes, that Devanagari is clumsier than Roman (p. 83) but his arguments that even Kannada script is better than Devanagari are not very clear and substantial (p. 81).

Bhat has a very interesting style of presenting difficult topics and he has said so much in such small space. He has certainly cleared a lot of mistaken notions about language and has given very useful suggestions for improving teaching techniques in the schools. It is only to be hoped that people for whom it is presented will benefit from this collection of articles.

The get-up is good and there are not many printing mistakes. The book is very moderately priced and is within the reach of many people.

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NEWS OF THE DEPARTMENT

The Department of Linguistics at Osmania came into existence in 1962. As part of its Decennial celebration, the Department hosted the Third All-India Conference of Linguists in December 1972. The Department consists of the following staff members:

1. Dr. Bh. Krishnamurti, Professor and Head
2. Dr. H. S. Ananthanarayana, Reader
3. Dr. C. Ramarao, Reader
4. Dr. B. Lakshmi Bai, Lecturer
5. Dr. V. Prakasam, Lecturer
6. Mr. J. Venkateswara Sastry, Lecturer
7. Miss C. Pushpalata, Research Associate
8. Miss Y. S. Shantha, Technical Assistant

International Collaboration:

The Department has undertaken research-cum-training project in speech pathology in collaboration with the Indian Statistical Institute, Calcutta and the Institute of Experimental Phonetics and Speech Pathology, Belgrade. Equipment designed by Professor Djordje Kostic and manufactured at his Belgrade Institute has been installed at Osmania recently. The Speech Pathology Laboratory was formally inaugurated by Sri N. Narotham Reddy, Vice-Chancellor, Osmania University, on 24-1-1975; Professor Kostic presided. Miss C. Pushpalata, M.A. (Linguistics) has been appointed as Research Associate, and Miss Y. S. Shantha, M.Sc. (Speech and Hearing) has been appointed as Technical Assistant in the Speech Pathology Unit.

Asian Fellow 1974:

Professor Bh. Krishnamurti was invited as Asian Fellow to the Australian National University, Canberra for a period of four months, July to November 1974. He taught a course on Dravidian Linguistics in the Department of Linguistics. During his stay in Australia, he also visited the following Universities at which he delivered lectures on Linguistics topics:

> The University of Queensland, Brisbane; the University of New Castle, New Castle; Macquarie University, Sidney; and Monash University, Melbourne.

Seminar:

The Department held a two-day Seminar on ' Telugu Phonetics ' in collaboration with the Indian Statistical Institute, Calcutta, in February 1974.

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