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Osmania Papers in Linguistics (OPiL) is an annual refereed research journal devoted to the publication of articles in the field of general and applied linguistics. It also includes book reviews and review articles.

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CERTAIN COMMON TRAITS OF INDIAN LANGUAGES

B. Ramakrishna Reddy

1. Preamble

The South Asian subcontinent, as on today, is the homeland of speakers belonging to at least four distinct language families, namely, Dravidian, Austro-Asiatic, Indo-Aryan and Tibeto-Burman, besides a few unclassified languages. Regarding the number of languages spoken in India, there is a considerable uncertainty as organisations such as the Census of India, Anthropological Survey, etc. put forward different numbers. However, linguists involved in fieldwork estimate the number to be around 200 or so. Out of these, almost 80% of the languages are spoken by the tribal communities across the country. Both Austro-Asiatic and Tibeto-Burman (with one exception) are exclusively spoken by tribal people (Ramakrishna Reddy, 2001).

Linguistic hierarchy in ancient India was in the order of Sanskrit, Prakrit, Apabhramsa and Paisachi 'non-Aryan speech.' Fusion of Aryan and non-Aryan elements and mutual impact continued for over 3000 years. Interaction of Aryan and non-Aryan is recorded and revealed in language, literature, archaeology and ethnic sciences (Basham,1979). The non-Aryans were considered substandard people and referred to as *daasa varNa* 'Dasa colour', *adeeva* 'the godless', *ayajyavah* 'non-sacrificers' *anindra* 'non-believers in Indra' *muura deeva* 'worshippers of dummy Gods' *SiSna deeva* 'worshippers of phallic Gods' and *mridhra vaacah* 'those whose language was obscure and unintelligible'; while *mleecha* was 'a non-Aryan' *asura* was an Aryanized non-Aryan (Deshpande,1979). Non-recognition of small identities and relegation of tribal people and their languages have been the attitude of majority communities from Vedic period onwards which continues even now-a-days (Pattanayak, 1995).

2. Common Core Grammar

The concept of core grammar in the Indian linguistic area, relies on and emerges from the mutual impact of languages in a geographical contiguity with intimate, longstanding contact. The contact induced lexical and structural diffusion across genetic boundaries in the Indian context has given rise to what Emeneau has christened as 'India as a linguistic area'. As postulated by him "Linguistic area may be defined as meaning an area which includes languages belonging to more than one family but showing traits in common which are found not to belong to the other members of (at least) one of the families" (Emeneau,1956 and 1980).

Emeneau has proposed a methodology for identifying the donor and recipient for each feature based on typological-historical comparison. Common linguistic features between two or more genetically unrelated languages in a geographical contiguity are first identified. Then a structural comparison is made with a genetically related but geographically non-contiguous language, thereby identifying the source/origin of the feature in the contact situation. For example, the presence of retroflex sounds besides dentals in Indo-Aryan is compared with other Indo-European languages whereby no cognate situation is found. But within the Indian context the Indo-Aryan (old as well as modern) acquired it from the Dravidian contact (Nagamma Reddy , 1996).

The carrier of such feature-transfer is the bilingual individual, who is a historical product of the subcontinent. From the standpoint of the movement and settlement of people in India during historical period, they are supposed to consist of five different groups namely, Negroid, Austric, Dravidian, Aryan and Mangoloid. Except the first, the rest of the groups may correspond to the four language families of India, namely, Austro-Asiatic (Munda and Khasi), Dravidian, Indo-Aryan and Tibeto-Burman respectively. According to the well known Indian historian-cum-indologist A.L.Basham

(1979) Munda languages represent the earliest inhabitants of India belonging to the Palaeolithic period. The Dravidian languages were introduced into the subcontinent by Palaeo-Mediterranean migrants who came to India in the Neolithic period. The Aryans in the second millennium B.C brought the Indo-Aryan languages to India. Thus fusion of Aryan and non-Aryan elements has been going on continuously for the last 3000 years in the South Asian region. The prolonged contact has given rise to widespread bilingualism which in turn acted as a catalyst for the inter-transfer of phonological and grammatical features apart from lexical items across the genetic boundaries (Ramakrishna Reddy, 2005).

The uninterrupted interaction between Dravidian, Aryan and Munda languages and cultures has contributed to the Indian 'culture area' and 'linguistic area'. The mass grassroot bilingualism even among the illiterates has accelerated the diffusion of grammatical features leading to the formation of common core grammar with shared features among the languages involved, as evidenced in the Central Indian micro linguistic area (Ramakrishna Reddy, 2005).

3. Converged Code

As stated above, basing on the historical and comparative investigations, the Indian languages are traditionally classified into four major language families namely, the Indo-Aryan, Dravidian, Austro-Asiatic and Tibeto-Burman. The division is based on linguistic inheritance noticed in the grammar and lexicon of the cognate languages (Nagamma Reddy, 1996). As against this approach, the languages of India, due to their co-existence in a symbiotic situation for many centuries, have acquired linguistic traits, which are commonly found across the genetic boundaries. Due to the intimate and intensive contact of these groups, there has emerged both a cultural as well as linguistic diffusion of characteristics across the languages. This has led to biculturalism followed by bilingualism as salient features of South Asia. Thus

many common factors have evolved in culture as well as language structure, which latter are discussed below in brief.

4. Shared Structural Patterns

Linguistic and pragmatic (or cultural) isomorphism noticed among the Indian languages establishes a better communication pattern among different speech communities. Language learning and translation are made easy by bilingual experience and common structures. The following morphosyntactic features indicate that there exists a pan-Indian core grammar underlying the languages which triggers much-needed structural equivalence at the linguistic levels of word (-to-word), phrase (-to-phrase), clause (-to-clause) and sentence (-to-sentence), besides the pragmatic core.

4.1 Word order:

The unmarked basic word order noticed in the Indian languages is that of Subject, Object and Verb (SOV). The verb-final characteristics are typical of Indian languages with a single exception of Kashmiri. As the nominal morphology and verb agreement preserve the syntactico-semantic functions intact, the languages allow some sort of free word order.

	S	O	V
(a) Telugu:	*siita*	*paalu*	*taagutundi*
Hindi:	*siita*	*duudh*	*piitii hai*
	'Sita drinks milk'		
(b) Telugu:	*raamuDu*	*eddulnu*	*ammutaaDu*
Hindi:	*raam*	*bailoonko*	*becegaa*
	'Ram will sell the bullocks'		

4.2 Structure of Noun phrase

(a) Adjective + Noun

Telugu: *pedda pustakam* 'big book'

Hindi: *baDii kitaab*

(b) Genitive + Noun
Telugu: *maa illu* 'our house'
Hindi: *hamaaraa ghar*

(c) Numeral + Noun
Telugu: *naalugu aavulu* 'four cows'
Hindi: *caar gaay*

Numeral classifiers in certain languages like Oriya, Telugu, Manda, Kuvi, Malto etc., have to be kept in mind while translating into or from these languages. In Manda, for example nouns (countable) are classified into [+ / - animate,] [+ / - human] and [+ / - countable] (see further Ramakrishna Reddy,2002).

(d) + Human: *caari jaNa kaDder* 'four boys'
four people boys
+ Animate: *caari munD meenDaK* 'four goats'
four head goats
- Animate: *caari goTe marke* 'four trees'
four classifier trees

(e) Deictic element + Noun
Telugu: *aa ammayi* 'that girl'
Hindi: *vah laRkii*

Dravidian languages do not show any concord between modifier and head noun, so is the case with Munda, but some Indo-Aryan languages like Hindi exhibit interphrasal gender-number concord between elements.

(f) v*ah laRkaa* 'that boy'
ve laRke 'those boys'
acchaa makaan 'a good house'
achii kitaab ' a good book'

(g) Noun + case marker/postposition

Telugu:	*raamuni piluvu*	'call Ram'
Hindi:	*raam-ko-bulaao*	
Telugu:	*inTi bayaTa*	'outside the house'
Hindi:	*gharke baahar*	

4.3 Verb Phrase

Morphologically verb in Indian languages has the dichotomous structure of non-finite and finite. The former indicates such notions as past participle (i.e. chronological precedence), simultaneity, conditional, concessive etc., while the latter is inflected for tense, person, number and gender (optional in some languages). Subject agreement on the predicate is a common feature with the exception of certain languages. Object agreement on the verb is also noticed, with certain constraints, in Hindi, Kurmali, Munda languages like Savara, Parengi, Santali, Mundari etc., and in Kondh Dravidian languages of Kui, Kuvi, Pengo, Manda and Indi-Awe.

A typical transitive verb phrase will have the structure of complement arguments and the adjunct adverbial phrases (optionally) preceding the verb

(a) VP→ Direct object (DO) Indirect object(IO) Oblique object (OO) (Adverb) Verb

In a verbal complex the invariable order is that of main verb followed by auxiliary, i.e., Main Verb + Auxiliary verb. The auxiliary marks the inflectional categories of tense, aspect, agreement etc.

(b) Telugu:	*neenu*	*aa pani*	*ceeya*	*galanu*
	I	that work	do	can I
Hindi:	*main*	*vah kaam*	*kar*	*saktaahuun*

'I can do that work'

4.4 Relative participle/adjectival clause

Left branching is very common. i.e., when a sentence or clause is used as a modifier of a noun, it always precedes the head noun (NP→ S + N)

(a)	Ram bought + Rel part.+ book
Tamil:	*raaman vaankina puttakam*
Telugu:	*raamuDu konina pustakam*
Dakhini:	*raam kharidaa so kitaab*
Hindi:	*raam kii khariidii huii kitaab*
	'The book that Ram purchased.....'

4.5 Conjunctive participial construction

Co-ordination or conjunction of two or (more) series of sentences with identical subject is denoted by converting all sentences (except the final one) into participial construction (which is also known as past participle). The final sentence is in its finite form

		Food having eaten school-to went he
(a)	Telugu:	*raamuDu bhoonceesi baDiki veLLinaaDu*
	Hindi:	*raam khaanaa khaake skuul men gayaa*
	Tamil:	*raaman cooru saappiTTu paLLikki poonaan*
		'Ram went to school after eating food'

The multifarious functions of such constructions are varied, and include purposive, resultative, precedence etc. among others.

4.6 Quotative or reportative with the verb 'say'

In most of the languages the reported speech is denoted with past participle of the verb equivalent of 'say' as Telugu *ani*, Tamil *enru* Kuvi *inje;* and in Dakhini and some other Indo-Aryan languages *bolke*, Marathi *mhaNuun* etc.., whose structure is: S+ say + S

(a) Telugu: *siita vaccindi ani sarooja ceppindi*
Tamil: *siita vandaaL enru sarooja sonnaaL*
Kuvi: *siita vaate inje sarooja veste*
Dhakini: *siita aayii bolke sarooja bolii*
Mararhi: *siita yat mhaNun sarooja sangiitli*
Siita came having said Sarooja reported
'Sarooja announced that Sita has arrived'

4.7 Dative construction

S → NP dat + NP nom + Verb type of constructions are highly frequent indicating the semantic functions of psychosomatic experience, learning, ability, beneficiary, cognition, patient and several others

(a) *siita-ku siggu* 'Sita is shy'
Sita to shyness
(b) *aameku iita vaccu* 'She knows swimming'
she to swimming comes
(c) *veeNuku bahumati labhincindi* 'Veenu got a prize'
Veenu to prize obtained it
(d) *saroojaku naluguru pillalu (unnaaru)* 'Sarooja has four Children
Sarooja to four-class children are

4.8 Extentions of existential 'be' to denote aspect

The progressive and perfective aspects are manifested by the use of existential 'be' as an auxiliary verb

a) Progressive

Telugu: *raamuDu paaDutu unnaaDu* 'Rama is singing'
Ram sing-con is-he
Hindi: *raamu gaa rahaa hai*
Tamil: *raaman paaDiTTu irukkiraan*

b) Perfective

Telugu:	*siita cadivi unDindi*	'Sita had read'
	Sita having read was she	
Hindi:	*siita paR cukii thii*	
Tamil:	*siita paDciTTu iruntaaL*	

4.9 Morphological causatives

Indian languages are replete with verbal causatives which stand as equivalent to a periphrastic construction, as for instance in English. Observe the following

		Intransitive	Transitive	Causative
(a) Hindi:	'to be built'	*bannaa*	*banaanaa*	*banvaanaa*
	'to eat'	-	*khaanaa*	*khilaanaa*
	'to open'	*khulnaa*	*kholnaa*	*khulvaanaa*
	'to meet'	-	*milnaa*	*milvaanaa*
(b)Telugu:	'to fall'	*raalu*	*raalcu*	*raalpincu*
	'to write'	-	*raayu*	*raayincu*
	'to drink'	-	*taagu*	*taagincu*
	'to see'	-	*cuuDu*	*cuupincu*
	to reduce'	*taggu*	*taggincu*	*taggipincu*

4.10 Echo-words, reduplicatives, onomatopoeia and lexical doubtlets

Echo formation: there are at least three varieties available in the Indian languages, Dravidian pattern wherein the first syllable of the base is changed to *ki/gi*

(a) Telugu: *annam – ginnam* 'food and the like'
ceruvu – giruvu 'tank and the like'
paalu – giilu 'milk and the like'

The Indo-Aryan pattern wherein only the first consonant of a root is changed to another consonant.

(b) Hindi: *caay – vaay* 'tea and the like'
paise – vaise 'money and the like'
naam – vaam 'name and the like'

In the Munda languages the vowel replacement by another vowel of the base is very common, as noticed by Mahapatra (1976) in Gta? or Didei.

(c) Didei: *gna? – gni?* 'basket and the like'
mni — mna 'name and the like'
gbug — gbag 'pig and the like'
sle — sla 'work and the like'
tbo? — tbi? 'earth and the like'

In the Central Indian intimate language contact situation, Manda, a Kondh tribal Dravidian language has acquired the Munda (Austro- Asiatic) pattern in the formation of echo-words, as can be observed from the following examples (Ramakrishna Reddy, 2005):

(d) Manda: *ile — ula* 'house and the like'
merke — murka 'turmeric and the like'
kusri — kasra 'dog and the like'
kaneriK — kunaraK 'tears and the like'

(e) Reduplicatives:

Hindi: *baar baar* 'many times'
paR paRkar 'having read continuously'
dhiire dhiire 'very slowly'

Telugu: *ceppi ceppi alasi pooyaanu*
Having said said tire go past I am
'I am tired of telling (you) repeatedly'

(f) Onomatopoeia

Telugu:	*gala gala*	'sound of bangles'
	gaNa gaNa	'sound of bells'
	bira bira	'sound of fast walk'

Note: These are also a type of reduplicatives.

(g) Lexical doublets or copulative compounds i.e. word pairs which indicate semantic (sense) relations between them.

Hindi:	*maan baap*	'mother and father'
Telugu:	*ammaa naanna*	'mother and father'
Hindi:	*aRos paRos*	'neighbour and around'
Telugu:	*irugu porugu*	-do-
Tamil:	*akkam pakkam*	-do-

5. Pragmatico-Semantic Features of Cultural Isomorphism

Socio-cultural aspects of language use in context contribute towards a proper understanding of language structure. Being the vehicles of common cultural communication for considerable depth of time, the Indian languages have developed many common cultural traits. According to anthropologists, India is a culture area wherein there has been culture diffusion through exchange of features. This in turn has created common share of culture as expressed in lexicon and grammar. The core culture underlying the Indian languages can be studied, among others, under the following broad divisions- (i) Social deixis –with the interaction between speaker and addressee as well as with the referent, a complex honorific system is created in the languages of India. The vocatives, address and reference system, names, titles, lexical choice, avoidance words and such others indicate the social hierarchy and status. (ii) The use of kinship terms for address and reference, kinship base for marriage relation

and other social activities. (iii) Indian languages have acquired and developed common cognitive fields and lexical sets reflecting the communicative competence shared by the speakers; and (iv) The existence of common idioms, metaphors, humour, riddles, and proverbs across the languages.

6. An Applied Aspect

The factors discussed above contribute to the appropriate interpretation of common core grammar for any of the applicational purposes such as translation, dictionary making or language learning and teaching. The facility of translation equivalence can be presented as an example. Translation from one Indian language to another Indian language benefits from the cultural as well as structural commonness shared between the source and the target groups. Translation is not simply a word-to-word rendering from one language to another, but it has to convey the pragmatic, semantic and grammatical aspects of a particular language into another. In case of Indian languages, both cultural and linguistic commonness renders it much easier for translating from one language to the other. There is an underlying current of overwhelming similarities in structure and function among the languages of India, irrespective of the ethnic, cultural, sociolinguistic and socio-political membership of their speakers.

The notion of translatability from one language to the other involves, minimally, two factors of (a) Content: transferring the conceptual and cognitive patterns born out of the socio-cultural context of the languages and (b) Expression: the lexical and structural or grammatical (morphosyntatic) patterns of the languages involved in a particular piece of translation.

i.) The Indian cultural convergence is a product of biculturalism/pluriculturalism involving the processes of acculturation, socialisation, modernization and westernization.

ii.) The Indian linguistic convergence has emerged as a result of bilingualism, multilingualism, lexical and structural borrowing, code mixing, shifting and interference under intimate, intensive language contact in geographical proximity.

Translation across genetically related cognate languages like Tamil, Kannada and Telugu is made easy, as it involves mainly the lexical replacement, with no alterations necessitating in the syntactic structure:

(a) Kannada: *naane avare nooDi tumba naaL aayide*
I him seen many days passed
Tamil: *naan avarai paattu romba naaL aacci*
Telugu: *neenu atanni cuusi caalaa roojulu ayindi.*
'It is long (time) since I saw him'

Interestingly such a facility of direct word-to-word translation is available even between non-cognate languages of the Indian linguistic area, for example among Hindi, Telugu and Parengi (an Austro-Asiatic language).

(b) Hindi: *aap mujhko paise diijiye*
You me to money give
Parengi: *mayiń eninetur Dabu tayińbu*
Telugu: *miiru naaku Dabbu iwwanDi*
Kannada: *niivu nanage haNa koDri*
'You (pl) give me some money'

Notice the striking similarities in the structural patterns which exhibit one single grammar (syntax) with four different sets of vocabulary items; i.e. lexical substitution with less structural modification or change.

7. Concluding Remarks

The interaction of converged grammar, phonetics and common cultural traits contributes towards establishment of better communication across the speakers of South Asian languages. The common factors in the above fields can be exploited for designing and implementing automatic translation system across the languages. Teaching and learning of Indian languages to/by other Indian speakers is facilitated by the commonness, as the learner already possesses the core grammar and all that he has to learn is lexical items and their use. Here again the common sociocultural traits and common vocabulary come to the aid of the teacher or the learner. Finally it should be pointed out that the differences in morphology, morpho-phonology and certain sub-culture-oriented semantic differences among languages do persist as problems and they have to be sorted out by the translator, lexicographer, linguist, language teacher and communicator. Still the structural uniformity in the face of linguistic diversity is the Indian reality, so is the case with functional (i.e. pragmatics of) commonness. Moreover, the cultural and structural isomorphism can fruitfully be utilized as highly helpful inputs for designing and implementing machine translation across the Indian languages.

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AN ADDITIONAL ARGUMENT IN SUPPORT OF PREDICATIVE ADJECTIVES IN TELUGU [1]

B. Vijayanarayana

The basic presupposition with which one tries to make general statements about the formation of grammatical units such as phrases, clauses, and sentences of a language is that it, i.e. language, comprises not simply of individual words but classes of words which, to a large extent, functionally as well as structurally behave in similar ways. Guided by this very presupposition the present author elsewhere (Vijayanarayana 1983, 1995, 1996) dealt with one particular class of words known as adjectives keeping the focus on different objectives.

To begin with, without going into details, let me present here various observations about adjectives in Telugu from the previous descriptions:

Campbell (1849) makes the following observations about adjectives in Telugu: The ***dēshyamu***, i.e. native, adjectives 'are indeclinable, varying neither in gender, in number, nor in case' (p.83) and the ***tatsamamu***, i.e. Sanscrit borrowed, adjectives, in opposition to ***dēshyamu*** adjectives, 'admit of the distinctions of gender, number, and case' (p.86). 'In English, when the verb *to be*, in any of it's variations, comes between a substantive and an adjective, the sense may be well expressed in Teloogoo by placing the adjective after the substantive; but, in this case, the verb *to be* is not expressed, but only understood in Teloogoo' (p.159). When a ***dēshyamu*** adjective 'thus follows it's substantive, to add to it the pronouns ..., according to the gender and number of the substantive with which it agrees' (p.159). 'In Teloogoo, the degrees of comparison are formed, not by any change in the adjective itself, but by the use of certain particles' (p.160).

Brown (1857) observes that in Telugu 'adjectives are of two descriptions: some being Telugu: others Sanscrit'. 'Telugu adjectives are all regular: in general they are devoid of number, gender, and case: and (like those of English language) form the comparative and superlative degrees by adding the words *more* or *most*: or by other modes of construction.' (p.181)

Arden's (1873) observations are as follows: 'Telugu adjectives are *indeclinable*, *i.e.*, they do not vary in gender, number, or case'. They 'have no distinct forms for the *comparative* and *superlative* degrees' (p.77). 'Sanscrit adjectives are used as adjectives in Telugu, after being first transformed into NOUNS, by taking the Telugu noun termination, and then having' *ayina* 'affixed to them' (pp.79-80). The 'predicate in Telugu is expressed by a COMPOSITE NOUN: and hence since what is an *adjective* in English becomes a *noun* (*composite*) in Telugu' (p.180).

Sitaramacharyulu (1885) mentions of six types of adjectives in Telugu.[2] They are:

(1) ***jātiprayukta vishēSaNamu***
e.g. *māmiDi* 'mango' as given in *māmiDi ceTTu* 'a mango tree'

(2) ***kriyāprayukta vishēSaNamu***
e.g. *pōvu* 'that goes' as given in *pōvuvāDu* 'the man that goes'

(3) ***guNapraykta vishēSaNamu***
e.g. *maMci* 'good' as given in *maMci gāDida* 'a good donkey'

(4) ***dravyaprayukta vishēSaNamu***
e.g. *baMgāru* 'golden' as given in *baMgāru naga* 'a golden jewel'

(5) ***saMkhyāprayukta vishēSaNamu***
e.g. *reMDu* 'two' as given in *reMDu māTalu* 'two words'

(6) ***saMjñāprayukta vishēSaNamu***
e.g. *rāma* 'Rama' as given in *rāmanRpāluDu* 'the king Rama'

Ramarao (1975) observes that some adjectives in Telugu without becoming nouns can occur in verbless sentences as ***vidhēyālu***. The underscored words in the following sentences illustrate the point:

ā ammāyi poDugu.
that girl tall

ī bāvi lōtu.
this well deep

Venkateswarlu (1982) observes that Telugu adjectives are, by nature, like ***avyayālu***, i.e. indeclinable words.

Krishnamurti and Gwynn (1985) make the following observations: 'Adjectives in Telugu are indeclinable and occur most often immediately before the nouns (or other adjectives) which they qualify' (p.116). 'Abstract nouns of quality occur with adjectival force in the position of a predicate in equative (NP + NP) sentences. They correspond to adjectives occurring after forms of the verb 'to be' in English' (p.125). The addition of a pronominal suffix to an adjective turns it into a special type of noun corresponding in meaning to an expression like 'a big one, a new one' in English' (p.130).

In the background of all these observations, the present author elsewhere (ibid.) suggested a functional-structural (or semantic-morphosyntactic) criterion to characterize the members of adjective class in Telugu. That is, if a word under consideration qualifies itself to meet this criterion, then it obviously becomes the member of the adjective class in Telugu. The details of the above criterion are as follows:

Functionally speaking, one has to look for a word that gives more information about a noun (or pronoun) by restricting its range of meaning. Further, this word should be in a position to have its meaning modified by what could be called an intensifier such as *cālā* 'very'. For this let us consider the examples:

maMci bāluDu	*padi māTalu*
good boy	'ten words'
'a good boy'	
inupa golusu	*ā vaidyuDu*
iron chain	'that doctor'
'an iron chain'	
pedda illu	*tiyyani phalamu*
large house	sweet fruit
'a large house'	'a sweet fruit'
pilli kaMDLu	*suMdaruDaina puruSuDu*
cat eyes	handsome man
'cat's eyes'	'a handsome man'
māmiDi ceTTu	*poDugu ammāyi*
mango tree	tall girl
'a mango tree'	'a tall girl'

Here we notice that the underscored word in each of the above phrases gives more information about the noun that follows it. Now let us see whether an intensifier can also modify these underscored words or not:

cālā maMci bāluDu
very good boy
'a very good boy'

* *cālā inupa golusu*
very iron chain

cālā pedda illu
very large house
'a very large house'

* *cālā pilli kaMDLu*
very cat eyes

* *cālā māmiDi ceTTu*
very mango tree

* *cālā padi māTalu*
very ten words

* *cālā ā vaidyuDu*
very that doctor

cālā tiyyani phalamu
very sweet fruit
'a very sweet fruit'

bahu suMdaruDaina puruSuDu
very handsome man
'a very handsome man'

cālā poDugu ammāyi
very tall girl
'a very tall girl'

Here what we notice is that the starred phrases are unacceptable. It is due to, what can be said as, semantic incompatibility between the underscored word and the intensifier that precedes it. On the other hand, the underscored words from the non-starred phrases can functionally emerge as the members of adjective class in Telugu.

Thus, all such functionally emerged adjectives can easily and unambiguously be assigned to the adjective class if they can also

structurally show morphological variation and have the same distribution. Consider the following examples:

ivi cālā maMci udāharaNalu.
these very good examples
'These are very good examples.'

itanu maMci vyakti.
he good person
'He is a good person.'
ravi hari kanna cālā maMcivāDu.
Ravi Hari than very good
'Ravi is better than Hari.'
ā peddā iMTilō evaru uMTāru?
that large house-in who lives
'Who lives in that large house?'

ā illu cālā peddagā uMdi.
that house very large is
'That house is very large.'

idi cālā tiyyani phalamu.
this very sweet fruit
'This is a very sweet fruit.'

ī phalamu anni phalamulakaMTē tiyyanidi.
this fruit all fruits-than sweet
'This fruit is the sweetest of all fruits.'

āyana bahu suMdaruDaina puruSuDu.
he very handsome man
'He is a very handsome man.'

āme bahu suMdarurālaina strī.
she very handsome woman
'She is a very handsome woman.'

adi bahu suMdaramaina bhavanamu.
that very handsome mansion
'That is a very handsome mansion.'

ā puruSuDu bahu suMdaruDu.
that man very handsome
'That man is very handsome.'

ā strī bahu suMdarurālu.
that woman very handsome
'That woman is very handsome.'

ā bhavanamu bahu suMdaramu.
that mansion very handsome
'That mansion is very handsome.'

atanu cālā poDugu poDugaina manišI.
he very tall man
'He is a very tall man.'

mā abbāyi cālā poDugu poDuggā ayyāDu.
our son very tall became
'Our son has become very tall.'

The underscored words here are functionally emerged adjectives that show morphological variation. Notice that the morphological variation that we see in these adjectives is inflectional in some cases and distributional in other cases. As to their distribution, functionally emerged adjectives have to be classified into attributive adjectives and predicative adjectives. The former are functionally related to the head of a noun phrase and the latter to the subject of a sentence containing a linking verb, as illustrated in the following examples:

Attributive adjectives

ā pedda gadulalō
those large rooms-in
'in those large rooms'

bahu suMdaramaina mukhamu
very handsome face
'a very handsome face'

cālā maMci ouSadhamu
very good medicine
'a very good medicine'

Predicative adjectives

ā gadulu cālā peddagā anipiMcāyi.
those rooms very large appeared
'Those rooms appeared very large.'

ā gadulu cālā peddavi kāvu.
those rooms very large are-not
'Those rooms are not very large.'

ā yuvati mukhamu bahu suMdaramugā unnadi.
that young-lady face very handsome is
'That young lady's face is very handsome.'

ā ouSadhamu kanna ī ouSadhamu maMcidi kādu.
that medicine than this medicine good is-not
'This medicine is not better than that medicine.'

Thus, differing from some of the previous observations that are mentioned in the beginning of this paper, I argue for the variation in Telugu adjectives in general and predicative adjectives in particular. In support of predicative adjectives in Telugu let me present here an additional argument that goes as follows:

Unlike a predicative adjective, a predicative noun neither can have its meaning modified by an intensifier nor can occur in any type of comparative construction. Consider the following examples:

* *amala cālā vidyārthini.*
Amala very student

amala cālā maMci vidyārthini.
Amala very good student
'Amala is a very good student.'

amala cālā maMcidi.
Amala very good
'Amala is very good.'

* *amala vimala kanna cālā vidyārthini.*
Amala Vimala than very student
amala vimala kanna cālā maMci vidyārthini.
Amala Vimala than very good student
'Amala is a better student than Vimala.'

amala vimala kanna cālā MaMcidi.
Amala Vimala than very good
'Amala is better than vimala.'

* *amala aMdarikaMTē cālā vidyārthini.*
Amala all-than very student

amala aMdarikaMTē cālā maMci vidyārthini.
Amala all-than very good student
'Amala is the best student of all.'

amala amdarikaMTē cālā maMcidi.
Amala all-than very good
'Amala is the best of all.'

* *ravi cālā vidyārthi.*
Ravi very student

ravi cālā maMci vidyārthi.
Ravi very good student
'Ravi is a very good student.'

ravi cālā maMcivāDu.
Ravi very good
'Ravi is very good.'

* *ravi giri kanna cālā vidyārthi.*
Ravi Giri than very student

ravi giri kanna cālā maMci vidyārthi.
Ravi Giri than very good student
'Ravi is a better student than Giri.'

ravi giri kanna cālā MaMcivāDu.
Ravi Giri than very good
'Ravi is better than Giri.'

* *ravi aMdarikaMTē cālā vidyārthi.*
Ravi all-than very student

ravi *aMdarikaMTē cālā maMci vidyārthi.*
Ravi all-than very good student
'Ravi is the best student of all.'

ravi amdarikaMTē cālā maMcivāDu.
Ravi all-than very good
'Ravi is the best of all.'

Notice that the above starred sentences, which consist of a predicative noun immediately preceded by an intensifier, are quite unacceptable. But on the other hand, the acceptability of the above non-starred sentences is either due to the presence of a predicative adjective preceded by an intensifier or due to the presence of a predicative noun preceded by an attributive adjective which in turn preceded by an intensifier in them. However, inflected predicative

adjectives such as *maMcidi* and *maMcivāDu* could be used as nouns elsewhere. In this case, unlike other nouns, they still can be modified by an intensifier. Following examples are illustrative:

nēnu akkaDa cālā maMcivāNNI cūsānu.
I there very good-person (Acc) saw
'There I saw a very good person.'

* *nēnu akkaDa cālā vidyārthini cusānu.*
I there very student (Acc) saw

Notes

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2. vishēSaNamu jātyādi bhēdaMbucē SaDvidhaMbu (ā.pa.3)

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Yiddish and English: A Linguistic and Literary Perspective

D. Venkateshwarlu

Yiddish is the language of Jewish Diaspora. Hebrew is generally spoken on the Holy occasions such as Sabbath and High Holidays, namely Rosh Hashana, Hanukah, Passover and Yom Kippur. After the destruction of the temple by the Romans in Israel, Jews fled their country and moved into the different parts of the world including India. The Yiddish language emerged from the middle-German and comprises words from Hebrew as well. Because of the enormous popularity of literature produced in Yiddish by writers like Sholem Aleichem, I.L. Peretz and others, there followed a number of translations into English. In these translations certain Yiddish words were retained to convey the artistic ambience. For instance, *Shtetl* which is a settlement of Jews who lived beyond the boundaries of mainstream society in Eastern Europe and there are many more. There could be no proper English translation which can evoke the sensibility of *Shtetl*. In other words, the reader is immediately introduced to the culture, sociology and politics of the *Shtetl*. Irving Howe's *World of Our Fathers* gives an eloquent description of *Shtetl* life and its cultural configurations. Russia once had the largest Jewish population and, needless to add, they lived precariously fearing pogroms, large-scale killing of Jews by the Russians which happened frequently. Whenever the Russian Czars faced political or economics crisis, they would blame the Jews because they are perceived to be a nation with in a nation and as such they have no loyalty to the state. And they are part of the international conspiracy which is widely believed to be true. The linguistic upshot of this is that over five hundred of Yiddish words became part of English language and we actually use them everyday. Words like ghetto, chutzpah, shmoos, gentile, goy, pogrom and many more are accepted by the redoubtable Oxford English Dictionary.

Language is a testament of culture: it necessarily reflects the anxieties, ambivalences and aspirations of the people. An interesting thing happened especially in the late 19th century which changed the destiny of America for ever. The pogroms became all too common in Europe and many Jews were killed. The news of America as a free and tolerant nation reached Europe. Jewish people always craved for religious freedom and equal rights which were first bestowed upon them by Napoleon after the French Revolution. Consequently, there were great floods of immigration to America especially in the late 19th century and the early 20th century. As it happened the children of Jewish immigrants went to public schools and began to interact with the English speaking America. These children came from bilingual and/or multilingual homes. In due course of time, a sub-genre called Jewish-American literature emerged. But the accidence, sentences, syntax and diction have peculiar and often palpable Yiddish orientation. By the mid-seventies Jewish American literature almost became the mainstream of American culture. The expressions such as schlemiel, schlimazl and luftmensh have been introduced to the American canon.

Now let me enumerate some of these additions to English language contextually.

Home living: Sabbath, kosher, barmitzvah, bas mitzvah, shul, cantor, rabbi, Torah, Talmud, Kaddish, mazel tov, Zeyda, Gentile, Shiksa etc.

Festivals: Purim, Rosh Hashana, Yom Kippur, Hanukah, Simhat Torah, Succoth, etc.

The acceptance of Jewish American contribution to American culture and politics proliferated the prevalence of Yiddish words in English. Saul Bellow, Bernard Malamad, Philip Roth, Chaim Potok and the succeeding generations of writers notably Cynthia Ozick represented Hebraic vision both in language and creative imagination. The literary journey of schlemiel is an interesting and

an enduring paradigm. In the old country (Europe) Jews were living poverty-ridden and persecuted lives. Ironically, Jews claim the status of chosen people – chosen by God to be righteous and a beacon unto other nations. In reality, they were persecuted, hated and marginalized by the others in predominantly the Christian West. From this situation, Jewish humour based on self-deprecation took birth. Schlemiel is part of the humour which became part of the staple of Yiddish literature. Sholom Aleichem, the Mark Twain of Jewish literature, famously wrote about luckless, for-ever-failing, never amounting to any thing schlemiel in his stories. These stories were made into probably one of the most successful Broadway musicals ever, namely *Fiddler on the Roof.*

The origin of Yiddish goes back to the tenth century, when the Jews of northern France, who spoke French, migrated and settled in the towns along the Rhine. These Jews spoke German and wrote it phonetically in Hebrew. But it was not until the fifteenth century when Jews moved to the Eastern European countries such as Rumania, Galicia, Poland, Hungary and Russia that Yiddish actually came into its own. Jewish people spoke Hebrew on Holy days. On other daily occasions, they spoke Yiddish. Since, female Jews especially mothers are denied Hebrew education, they became the focal point for the popularity and perpetuation of Yiddish language. It is estimated that at least 500 Yiddish expressions found their place in English language according to Webster's dictionary in 1970. After three and a half decades, at present there could be many more. The Renaissance of Yiddish literature of the 19th century is justly celebrated in the phenomenally successful Broadway musical *Fiddler on the Roof.* With the now mainstream status of Jewish American literature eminently represented by Saul Bellow especially his novels namely *Herzog* and *Humbold's Gift*, Bernard Malamad, Philip Roth, Chaim Potok, Cynthia Ozick, Joseph Heller, Arthur

Miller, Neil Simon, Woody Allen and a host of others, Jewish expressions have established themselves in the English language. For example :

You should live so long.
My son, the physicist
I need it like a hole in my head.
Who needs it?
Alright already.
It shouldn't happen to a dog.
O.K. by me.
From that he makes a living.
This I need yet.
He's a regular genius.
Go fight city hall.
Excuse the expression.
Wear it in good health.

And the following Yiddish words or forms are commonly found in English usage:

Words with the suffix nik :
Beatnik
Peacenik
Kosher, shmoos, shmuck
Shmalz, Yiddishkeit, yenta
Ashkenazim, Sephardim
mohel, Hasidim
Nebbish, B'nai B'rith
Putz, meshuggah

The enormous popularity of Jewish authors/writers in America is largely responsible for the continuing currency of Yiddishisms. The radio comedy of 1920s and the emergence of Television in the fifties provided cultural forum for Jack Benny, the

Marx brothers especially Groucho Marx, Fanny Brice and the most popular the Goldberg family. On stage, the contribution initiated by David Belasco, and during the 1920s and later playwrights like Kaufman and Hart, S.N. Behrman, Jules Feiffer and others presented comic Jewish street in English language but the Yiddish accidence and syntax are reinforced in a subtle way. Hollywood comedy perpetuated by Mel Brooks, Carl Reiner, Woody Allen, Jack Lemmon, Walter Mathau and small screen comedy of Paul Reiser, Jerry Seinfeld, largely successful MASH, to name just a few, reflect the thematic dialectic of Yiddish life and culture one way or the other. In this connection, we have to acknowledge present day stand-up comedy. Jackie mason's World According to Me, Rodney Dangerfield's No Respect and many others created humour which is principally grounded in Jewish ethnicity. The language is heavily nuanced with folksy, sometimes multicultural observations. Even when they are palpably stereotypical, they are presented in such a way that it creates laughter in the audience. The Jewish humour comes from the sources of the ethnic situations and the tradition. For instance, the following description called "Moses comes clean" has the typical aspects which contextually introduces the word "schlepping" which means "to drag on" or "to delay": "there was something about Moses that Shem never wrote about. Many years after bringing the Ten Commandments drawn from Sinai, Moses made a startling confession. Originally he had been given three tablets, containing a total of fifteen commandments. While struggling with that heavy load, he dropped one, destroying five of the commandments. Moses kept quiet. I don't think he feared God as much as he hated schlepping up that mountain again"(P.38).

The English language is flexible enough to welcome and celebrate the Yiddish influence. After the Enlightenment the Jews were allowed full citizenship and got introduced to the dialectic of secularization. Traditionally Jews refused to participate in artistic creativity since it was viewed to be idol worship which was prohibited by the Mosaic commandments. After the 19th century, Jews began to grapple with the space of assimilation with the large

floods of immigration to America. The burden of millennial persecution in the West mocked their status of being the chosen people. It is not surprising, then, that Jewish humor is premised on self-deprecation. And this literary sensibility is guided by the canonical Yiddish masters, namely Scholom Aleichem, Mendel Sforim and I.L. Penetz. In conclusion, the romance between English and Yiddish is mutually nourishing and enchanting as well.

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A PHILOSOPHICAL AND LINGUISTIC PERSPECTIVES ON PERFORMATIVE - CONSTATIVE UTTERANCES

G. Padmavathi

Semantics, which is defined, as the study of meaning seems to be of equal, if not greater, concern to philosophy, logic, psychology, anthropology, and sociology along with linquistics. To describe a state of affairs or to let someone know information is a major purpose of linguistic communication. And, accordingly, we have in language a class of sentences of a certain specific grammatical form, which are normally named 'indicative sentences'. For example, 'The boy is eating ice-cream'; 'She is dressed in indigo blue'. 'Cigarette smoking is injurious to health', and the like. So far as their importance or uniqueness as semantic entities is concerned the indicative sentences are not far superior in their status to classes of sentences in alternative grammatical mood, specially, the imperatives and the interrogatives. This position perhaps is in accordance with the view normally held by the grammarians as also by the common man; while a kind of philosophical justification for it also is available, e.g. in Wittgenstein[2]. Yet, there is a peculiar thing to be noted. It is that in actual functioning of the philosophers, especially logicians, indicative sentences have always occupied a relatively prominent position. What, really, is logician supposed to do? Is he not, among other things, to explore the interrelations among various types of sentences? Yet, while so doing logicians ever since Aristotle have, in actuality, taken into account mainly the sentences in the indicative mood. Sentences of other grammatical varieties do not happen to have got much more than a marginal share of the logicians' attention. And this lopsided tradition remains substantially unchanged, despite all the phenomenal expansion and development of logic.

Thus the indicative sentences have always enjoyed a kind of privileged position with the philosophers and logicians vis-a-vis other types of sentences. But recent philosophy seems to have added further dimension to it.

As we all know, philosophy since Descartes has been self-conscious. However, for a few decades now, the self-consciousness has assumed a peculiar form, as a result of which the basic concern of philosophy these days has been philosophy itself and, as a part of that, language, which is the vehicle of philosophical thinking. Thus language and the problems about it, for philosophers of our time, have become a subject of very serious concern. And in this characteristic background, i.e. one which is charged with massive linguistic interest all modes of speech, specially, the indicative sentences have naturally come in for being subjected to a widespread and intensive scrutiny. And the isolation of performatives from the constatives, we may say, is a consequence of this development.

It has come to be commonly held that many utterances, which look like statements are either not intended at all or only, intended in part to record or impart straight forward information about the facts. Not all true or false statements are descriptions. Austin calls them "Constatives". A constative is either true or false. Truth-value is its basic semantical value.

First came the view, not always formulated without unfortunate dogmatism, that a statement (of fact) ought to be 'verifiable' and this led to the view that many statements are only what may be called pseudo-statements or meaningless statements. For an indicative sentence to be true or false it has already got to be meaningful, which is a minimum requirement.

Utterances which do not 'describe' or 'report' or constate (assert) anything at all are not true or false. The utterance of a sentence is, or is a part of, the doing of an action, which again would not normally be described as saying something.

Austin calls such sentences performative sentences or performative utterances or for short 'a performative'. The term performative will be used in a variety of cognate ways and constructions much as the term 'imperative' is. The name is derived, from 'perform' the usual verb with the noun 'action'. It indicates that the issuing of the utterances is the performing of an action and not just saying something. Eg. - 'I promise', 'I agree', 'I bet', 'I do', 'I declare' etc.

Statements or constative utterances constitute only one class of meaningful utterances. Performative utterances should also be brought within the scope of logical and philosophical investigation. Constative utterances are statements. Their function is to describe some event, process or state-of-affairs, and they have the property of being either true or false. Performative utterances have no truth-value. They are used to do something rather than to say that something is or is not the case.

A constative, we know, is either true or false. Truth-value is its basic semantical value. In so far as performatives are distinct from constatives, it would follow that they are not amenable to characterization or evaluation in terms of truth and falsity. That is to say, it would not be appropriate to call 'I promise' or 'I bet' either 'true' or 'false'. But how then, to characterize a performative? What is to constitute the dimension of this criticism? Austin uses two expressions for the purpose, namely, 'happy' and 'unhappy'. That is to say, a performative for Austin is to be considered either as 'happy' or 'unhappy'.

The performative-constative distinction is a distinction between two types of utterances. The distinction hails from John Austin who discovered it around 1956. The distinction is interesting in itself. But what is important is the various ways it has influenced philosophizing in recent times. It has in fact made it possible for philosophers to see some of the things that concern them in a new light.

For one thing, it has made philosophers (also linguists) to give a second look at the map of language, particularly, a segment of it, namely, that which is comprised of sentences in the grammatically indicative mood. That is to say, the map of language in the eyes of philosophers and linguists since Austin's discovery of the performative-constative distinction has not been exactly the same as it was before. However, the reason for which the distinction assumes a far greater value for the philosophers is its supposed impact on two of their traditional and basic problems. These problems are: 'What is knowledge?' and 'What is truth?'

Traditional approach to these two questions has tended to assume mainly two different forms. The first consists in taking 'knowledge' and 'truth' in their extension. Both, in this capacity, stand for a body of true propositions, which means investigation of knowledge and truth, on this approach, becomes equated with the investigation of true propositions. And this is palpably misleading. It does not reveal anything as regards what knowledge or truth is; it tends rather to replace the enquiry by a new enquiry, i.e., enquiry into the nature of true propositions.

The second approach has been something like this. Philosophers, apparently having seen little or no difference at all between the expressions 'knowledge' and 'truth' on the one hand, and such expression as 'the table' or 'John' on the other, have

presumed that there exist entities for which 'knowledge' and 'truth' are names; and, thereupon, they have proceeded to investigate whether those entities are to be described as substance, or as relation, or in terms of similar other basic concept. To put the matter in Austin's words:

"We approach it cap and categories in hand:

We ask ourselves whether truth (or knowledge) is a substance ... or a quality ..."[3]

But philosophers, as Austin remarks, "... should take something more nearly their own size to strain at."[4] "What needs discussing," in Austin's words again, "rather is the use, or certain uses, of the word 'true' (and 'to know')."[5]

Thus, for many philosophers today, the business of investigating the nature of knowledge and truth is to be construed among other things as that of discussing or explaining certain crucial uses of the word 'true' and those of the verb 'to know'.

As far as the verb 'to know' is concerned, the particular use which is considered most crucial, by P.F.Strawson[6] and others is the use of it in the utterance of the word 'true' in the context of conversation, e.g., your saying 'True' or 'That's true' on someone else's saying "The weather is pleasant".

How exactly, is the sentence 'I know' to be interpreted? That is one problem. Likewise, another problem is how should one interpret the utterance "That's true"? So far as 'I know' is concerned, a prevalent philosophical tendency has been to model its understanding after such descriptive sentences as, e.g. 'I walk', 'I

believe', 'I sing', and the like. Each is a report on certain state of affairs. So, analogously, the utterance 'I know' is supposed to describe a certain state of affairs. On the other hand, the latter has been construed after the analogy of descriptive sentences like, 'The flower is blue', 'The table is rectangular', and so on. That is to say, just as 'blue' in the sentence 'The flower is blue' designates a characteristic of the flower, or 'rectangular' in the sentence 'The table is rectangular' seems to characterize the table, so the word 'true' in 'That's true', it is supposed, is to function as a characteristic of what is surrogated by the word 'that'.

In that way, we have had in philosophy various types of descriptivist theory[7] of knowledge and of truth. But these theories, in the eyes of many philosophers, have appeared, rightly or wrongly, inadequate. So, what has been sought for by such philosophers is a way out of descriptivism and its supposed inadequacies. Now, the importance of performatives is that they happen to have provided philosophers with just one such way out. This means that some philosophers have found it possible to assimilate the expressions 'I know' and 'That's true' to the class of utterances called performatives. For example, the function of 'I know' in language has been likened by Austin himself to that of the expression 'I promise', a typical example of performative.[8] And this approach has not been without sympathizers among post - Austinian philosophers.

In the same way, the expressions like 'That's true' are supposed to perform in language is resembled by Strawson[9] to that of locution like 'I agree', another sub-class of typical performatives. But what is the value of this performatory interpretation of 'I know' and 'that's true'? Are they really justified? They may or may not be so. We need not commit anything on the point. One thing is certain. It is

that the discovery of the performatives has come in for constructive use by philosophers in relation to important problems.

Knowledge and truth apart, the perforamatives are supposed to have implications on one more matter, which in recent years has assumed considerable importance in linguistics and philosophy. This is the class of linguistic entities called questions by us. They have semantic properties different from other types of linguistic utterances. These calls for explanation and information: this has triggered off a search for a suitable analysis of questions. Linguists, or philosophers with linguistic orientation, propose mainly three alternatives on this score. The first one, which is proposed by Katz and Postal,[10] among others, consists in analyzing questions in terms of what is called "Q-morpheme" by them, i.e. a phrase to the effect, "I request that you answer". The second analysis, which is linked up mainly with Hintikka[11] and Aquist,[12] consists in treating questions as epistemic requests, and, thereon, analyzing them in terms of some suitable epistemic operators, e.g. "Bring about that I know", "I want to know", "Let it turn out to be that I know", and such like. The third line of analysis happens to turn towards performatives. It is suggested by Jerold Sadock[13] among others. It consists of an attempt at showing that questions are dominated by sentences containing verbs whose features resemble the verb 'ask'.

There perhaps are more things to which the performatives may be shown to have important relevance, e.g. the idea of evidence in jurisprudence, the concept of morality, and so on. Anyway, we need not go into these details. It would be enough to call attention to just one thing, which emerges conclusively from what we have said so far. It is that performatives as distinguished from constatives have explanatory-cum-elucidatory relevance to certain important areas of our philosophical interest. And judged by this standard alone,

the discovery of their separate identity in language by Austin may well be said to have been an event of revolutionary importance.

However, in years following its discovery, the distinction between performatives and constatives, as it might appear to one, has become somewhat blurred and obscured. This no doubt is partly due to those who have viewed the distinction with suspicion. But, ironically enough, it is mainly due to Austin himself, his later philosophical writings.

All utterances turn out to be species of a special kind of acts called 'Speech Acts' by Austin, so that, performatives and constatives initially contrasted are finally construed by him as both being species of speech acts. Therefore, he concludes, that what we need is a more general theory of speech acts, and in this theory the constative-performative antithesis will scarcely survive. Speech act is an important concept, important to the point of being revolutionary. Philosophical history following Austin tends only to confirm this idea. So, a theory of speech acts is of immense importance in understanding language in general, and performatives and constatives in particular.

J.L.Austin's theory of Speech Acts gives explicit recognition to the social or interpersonal dimension of language behaviour and provides a general framework for the discussion of the syntactics and semantic distinctions that linguists have traditionally described in terms of mood and modality. Theory of Speech Act does not refer to the act of speaking as such but to something more abstract. Speech Act is not restricted to communication by means of language. Austin emphasized the importance of relating the function of language to the social contexts in which languages operate and insist

that not only descriptive, but also non-descriptive utterances should be of concern to philosophers.[14]

In actuality, there is, as far as we can see, little in Austin's doctrine of Speech Act, which would suggest that the performative-constative antithesis would, in any way, break down on account of it. The doctrine of Speech Act does not in any sense expel the dualism of performatives and constatives, on the contrary what it does is only to incorporate it under different nomenclature.

Warnock remarks, "He (Austin) has devoted very great attention to what he has called performative utterances ..... the territory has proved to be remarkably fruitful, and its exploitation powerfully disruptive of prejudices about the working of language which had long been almost instinctive in most philosophers ..... in Prof. Austin's hands it provides a model, almost a pilot project, for a kind of enquiry into the realities of speech and language which seem likely to be long pursued and extensively developed. Nor is there any doubt that a number of wholly traditional problems in philosophy have been illuminated in the course of, or as an effect of, this kind of enquiry."[15]

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NUMERAL FORMATION IN DIDAYI, A MUNDA LANGUAGE

K.Ashirvadam

1. Introduction

Didayi is a tribal language of the South Munda family. The speakers live in Kudumulugumma and Mudaliguda Grampanchayats of Kudumulagumma Block and Rasbada and Andrahal Grampanchayats of Khairaput Block, adjoining to the wellknown Bonda hills in Malkangiri district, Orissa State. They are also found in small numbers in the neighbouring area of Sajankota Police station of Andhra Pradesh.

Didayis are a small hill tribe. They call themselves as Gatro 'man', while their neighbours refer to them as Didayi 'wild people'. They have their own language which is akin to those of the Bondas and Gadabas. Formerly Didayis were semi-nomadic shifting cultivators occupying the hilly regions. But now a bulk of their population have shifted to plain areas of the valleys and established villages of permanent nature. The villages can be divided as plain and hilly, where the plain are generally bigger than hilly villages. The hill villages are more primitive and backward.

Didayi family which is patriarchal and patrilineal in nature is mostly of nuclear type. The sons are required to construct their own houses within a year of their marriage and live separately from their parents. Only the youngest son will stay with his parents. Each Didayi village has its own secular head called *Naik*, and religious head or priest called *Palasi* and executive assistant called *Chalan*. All the village elders under these leaders form a village panchayat called *Laepar*. The above posts are selective by practice and these are more or less hereditary. The village panchayat has to look after the welfare of all the tribes of the village.

2. Numerals of Didayi

The numerals in Didayi are generally found as quantifiers combined with classifiers. The actual number is denoted by the quantifiers. The quantifiers are used independently, when they are used in counting or in enumerating human beings. Some morpho-syntactic functions take place in different situations. First of all the numerals take certain affixes and function as adverbs. Secondly as an attributive adjective in endocentric construction and thirdly as nouns. The numerals are broadly divided into cardinals and ordinals.

3. Cardinal numerals

As in other languages, the major function of the Munda cardinal numbers is to count objects whether animate or inanimate. There are ten basic quantifiers in Didayi and those may be called the primitives of the numeral system. Higher numerals from eleven onwards are formed by compounding those ten primitives. The following are the native cardinal numbers of the Didayi language which indicate the non-human nouns.

muiŋ	'one'
mbar	'two'
nji	'three'
õ	'four'
male	'five'
tur	'six'
gu	'seven'
tuma	'eight'
sontiŋ	'nine'
goa	'ten'

The method commonly followed in counting numbers from 'eleven' to 'nineteen' is to use a compound word consisting of the word for 'ten' to be followed by another numeral from one to nine which is known as decimal system. The compound word expresses

a number which is the total of both the figures used in it. Thus the Didayi has the following numerals.

goa + muiŋ	→ *gomiŋ*	'eleven'
goa + mbar	→ *gombar*	'twelve'
goa + nji	→ *gonji*	'thirteen'
goa + õ	→ *gõ*	'fourteen'
goa + male	→ *gomal*	'fifteen'
goa + tur	→ *gotur*	'sixteen'
goa + gu	→ *gogu*	'seventeen'
goa + tuma	→ *gotma*	'eighteen'
goa + sontiŋ	→ *gosonti*	'nineteen'

From twenty (20) onwards Didayi adopts both decimal and vigesimal in formation of higher numerals (Zide, 1978). The decimal basis is native to the dominating Indo-Aryan as well as the Dravidian, both synchronically and diachronically (Emeneau, 1957) in forming the higher numerals. But the vigesimal (20 based) counting system is diachronically a feature of proto-Munda (Zide, 1978, Bhattacharya, 1975). Kharia and other Munda languages make use of 20 as the base number to derive other higher numerals through the process of multiplication and addition. Here the numeral for twenty *kur.i* serves as the serialized multiplical for further decimals. In this case even the higher decimals like 40, 60, 80,100 are formed by the simple process of multiplication of the base, and the odd decimals like 30,50,70,90, and others in between numbers are the result of a combination of multiplication and addition. Observe the following numbers:

muiŋ kur.i	1x 20		→ 20
muiŋ kur.i goa	1x 20	+10	→ 30
mbar kur.i	2x 20		→ 40
male.mbar kur.i	2x20	+5	→ 45
mbar kur.i goa	2x20	+10	→ 50
nji kur.i	3x20		→ 60
nji kur.i goa	3x20	+10	→ 70
õ kur.i	4x20		→ 80
õ kur.i male.	4x20	+5	→ 85
õ kur.i goa	4x20	+10	→ 90
male kur.i	5x20		→ 100
muiŋ suve	1x100		→ 100

The numeral *kur.i* 'twenty' is taken as the base in Didayi language for construction of higher numerals. The intermediate numerals between decimal and twenty onwards are also the result of combination of multiplication and addition. In such composite numerals the multiplier precedes and the (addend) number to add follows the multiplicand. (*kur.i* 'twenty')

mui ŋ mui ŋ kur.i	1x20	+1	→ 21
male.mui ŋ kur.i	1x20	+5	→ 25
tuma.mbar kur.i	2x20	+8	→ 48
gotur.nji kur.i	3x20	+16	→ 76
gombar.õ kur.i	4x20	+12	→ 92
gogu.mui ŋ suve õ kur.i	1x100	+4x20+17	→ 197

Both synchronic as well as diachronic evidence suggests that the vigesimal system of counting is a linguistic trait of Munda family of languages. Representing typical vigesimal system, Kharia shows monomorphemic numeral words from one to twenty and the higher numerals are formed basing on twenty coupled with multiplication and addition (Ramakrishna Reddy.2005).

3. Classifier

Didayi has two types of classifiers. one - *ja/ya/rva/va* denotes the human and the other *klig* denotes non-human entities. These classifiers are used only upto numeral seven, after that the original numeral without a classifier is used to denote human and non-human entities.

3.1 The human entities

mui ŋja sela	'one woman'
mbaya remuahi ŋ	'two persons'
njirva remuahi ŋ	'three persons'
ondrava remuahi ŋ	'four persons'
malerva remuahi ŋ	'five persons'

turva remuahiŋ 'six persons'
gurva remuahiŋ 'seven persons'
tuma remuahiŋ 'eight persons'
sontiK remuahiŋ 'nine persons'
goa remuahiŋ 'ten persons'

3.2 Non-human entities

muiŋ giriŋ 'one cat'
mbaklig sla hiŋ 'two trees'
njiklig bohihiŋ 'three books'
õklig gusuhiŋ 'four dogs'
maleklig gubukhiŋ 'five pigs'
turklig gisiahiŋ 'six monkeys'
gurklig duvahiŋ 'seven houses'

In some instances the - *ya* of *mbaya* can be used for other animate entities.

ex:- *mbaya giriŋhiŋ* 'two cats'
kukuriya diŋje gada mbaya 'both dove and rat'

4. Ordinals

The ordinals in Didayi language are borrowed from Oriya, an Indo-Aryan language. The ordinal numbers used in Didayi are:

protom 'first'
dvitiya 'second'
trutiya 'third'

5. Fractional numerals

Didayi has only one fractional numeral expression that is also borrowed from Indo-Aryan languages.

ex:- *odha* 'half'
muiŋ odha 'one and half'
goturodha 'sixteen and half'

6. Distributional numerals

Distributional numerals in general are formed by reduplicating the basic numeral. Didayi also has the similar type of distributive numerals.

ex:- *mui ŋ* 'one' *a. mui ŋ mui ŋd* 'one each'
male 'five' *male male* 'five five'
nji 'three' *nji nji* 'three three'
goa 'ten' *goa goa* 'ten ten'
kur.i 'twenty' *kur.i kur.i* 'twenty twenty'

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PRONOUNCING DICTIONARY FOR TELUGU*

K.Nagamma Reddy

ABSTRACT

The practice of dictionary making in India concentrates on explaining the meaning of the main entry in a monolingual dictionary and in providing translation equivalent in a bilingual dictionary. What is ignored in this process is the exact (standard) pronunciation of the word under focus, which is essential both for the learner of first language as well as second and/or foreign language. To remedy the situation, certain approaches and techniques are explored into the problems of preparing pronunciation dictionaries with particular reference to Telugu.

A reference book, which gives the preferred pronunciation of a wide range of words and proper names is said to be a pronunciation dictionary. Regarding the Indian languages, it is presumed that the syllable-based writing system faithfully represents the pronunciation-value of the speech-sounds. But practical experience shows that there is no one-to-one correspondence between these two. Different types of variation (in pronunciation), such as contextual, phonetic, phonemic and juncture-based are not mentioned in the conventional dictionaries. So is the case with supra-segmental features.

In the dictionaries of Telugu, it is essential to provide the main entries in conventional script followed by transliteration in Roman letters and phonetic transcription for the purposes of exact pronunciation. The standard variety should be given as head and the dialectal (regional, social and stylistic) variations as subentries and sub-varieties. This will be useful for the dialectal speakers in learning the standard form. The second language learner and foreigner learning Telugu will also benefit from this.

The proposed schema of preparing a pronunciation dictionary will enhance the proper methods of learning and teaching of the languages under focus and discussion. The problem-points of pronunciation of retroflexes, aspirates, affricates, nasals, fricatives, vowels and supra-segmentals will be exemplified with significant data.

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There are four ways in which accents can also differ from each other: (1) realizational, (2) systematic, (3) selectional or structural, and (4) distributional. Telugu is no exception to these variations and a language teacher and learner must be aware of the context of communicative needs in language teaching. For example, when we talk to a friend we do not speak as if we were addressing a public meeting and at least part of the difference between the two is a matter of pronunciation. Hence, pronunciation learning is an important aspect of language learning/teaching and dictionary making. Language learning by itself begins with the sounds that form the words. Foreign or second language learners must master at least the fundamental aspects of the linguistic system of the language they are studying. Differences in speech (i.e., pronunciation) may be found at all levels of morpho-syntactic, semantic and discourse. The practical dictionary concentrates on the pronunciation and meaning of words in the language in use.

The study of 'pronunciation of speech sounds' is generally referred to as phonetics. While closely linked to phonetics, phonology emphasises on 'pattern of sounds' to be found in a particular language. Both, phonetics and phonology are components of several 'applied fields' (see Nagamma Reddy, 1991, 1995). Preparation of Learners' Dictionary is one among them. If the learners are concerned with speaking and listening, as well as reading and writing, they must master the phonetic and phonological system of the language which should be reflected in the dictionary.

Pronunciation difficulties in a second language learning result not only from differences between the learner's native language and the target language but from the writing system of the foreign or second languages as well. The symbols (or letters) in a dictionary basically reflect the phonemic representation of the morphemes of the language. This poses a problem for dictionary

users as they do not yet know such phonemic representations, nor do they know the phonological rules of the language that convert phonemic to phonetic representations and vice-versa. Another problem is that the alphabetic system in dictionaries reflects the phonemes rather than phonetic representation. That is, it is not sufficient to learn that a particular letter corresponds to a particular sound. A letter will have several sound correspondences depending on the phonological rules of the language. For example the Telugu letter 'O' (sunna) a cipher generally represents a nasal, but following the phonological rules of Telugu that converts 'O' to [m, n, n , ɲ, ŋ, N) etc., in certain contexts and positions within a word. Spelling reflects not the exact pronunciation but the phonemic (i.e., underlying or abstract) context-dependent pronunciation.

2. Pronunciation differences in Telugu

Accent is an aspect of pronunciation. Telugu can be spoken with an accent that reveals the speaker's geographical origin as Telangana, Rayalaseema or Coastal (including Kalinga), or with an accent that is not restricted to any region but does reveal the social class of the speaker. The regional differences are more prominent in the speech of illiterate than in educated speech. The educated speech of the coastal dialect has emerged as the colloquial standard variety for the entire Telugu speaking area. The differences between educated and the uneducated speech correlate with the differences between standard versus non-standard. Besides, there are also non-standard pronunciations like /needu/ for /leedu/ 'no' in Visakhapatnam, /gaTTa/ for /aTTa:/ 'like that', /a:na/ for /wa:na/ 'rain' in Telangana. It may be further pointed out that the spoken Telugu of educated type shows two varieties of pronunciation depending on the context of speech – formal and informal, and hence the presence of two coexisting phonological systems. A typical dictionary of pronunciation should accommodate such differences in order to guide the student to acquire acceptable variety.

3. The relation between Telugu speech (sounds) and writing (letters)

The differences between spoken and written language also contribute to phonetic / phonological variation. Some rules are affected by the traditional orthography of the language as adapted by the speaker. Writing can take many different forms and it can map different relations to spoken variety, and therefore has no constant relationship, but changes as scribal traditions, machine printing, and education system develop. This changing relationship is evident at different levels. Even in terms of the relative priority of spoken and written varieties, we have to carefully distinguish between chronological primacy and social primacy. In the former, the linguist attributes primacy to spoken language, whereas in the latter, from a socio-linguistic and educational point of view, it is the written form, which has social prestige. In language learning, spoken language is not necessarily prior to written language and it is common to learn foreign languages through writing, though certain teaching methods attribute priority to the spoken variety. The system of writing and the system of speech though related, have certain distinctive conventions of their own (for example pause in speech and comma in writing).

It is necessary for lexicographers to know differences between speech and writing, so that they do not make judgements about speech that are appropriate only to writing and they should be familiar with some of the pronunciation difficulties that learners encounter as they attempt to master a formal written style. Phonemic orthography is perfect as long as there is one-to-one correlation between phoneme and grapheme. It should be noted that the model of phonemic analysis is also relevant for the symbolization of alphabet. The alphabet i.e., the inventory of letters devised for the Telugu language do not correspond to the inventory of all phonemes set up for it. Neither the graphemes nor the phonemes represent each system adequately.

Traditional grammars, for example, Chinnayasuri's well-known *Balavyakaranam* postulates 36 (14 vowels and 22 consonants) sounds (letters) for native content of Telugu as a core system, and 55 letters (36 native sounds plus 4 vowels and 15 consonants borrowed from Sanskrit) for the non-native content of Telugu, especially for accommodating borrowings from Sanskrit.

The orthographic system consists of eighteen vowel graphemes and phonological system consists of only ten (or eleven, but not more than twelve) vowel phonemes. Vowel phoneme /æ/ which has been set up as essential for certain dialects of Telugu has not yet acquired a corresponding symbol in the writing system (cf. Nagamma Reddy,2004). The consonant system also has, for example, the following number of graphemes and corresponding phonemes:

	Graphemes	**Phonemes**
Plosives	22	19
Nasals	5 (+1)	3
Trills		2 1
Laterals	2	2
Fricatives	4	5
Semivowels	2	2
Vowels	10 + 2	10 + (1) + 2

With the exemption of laterals and semivowels, there are either a large number or a small number of graphemes representing the each class of phonemes of the spoken language. A symbol for /f/ has not yet been devised in the consonant system and /ph/ and /f/ are represented by the same letter in writing. The reason for the discrepancy between graphemes and phonemes is mainly due to the inclusion of loan words from Sanskrit and other languages in the orthography and non-use of certain sounds in pronunciation and lack of script reform. As a result, there are certain forms, which are ambiguous in the written form, but not ambiguous in the spoken variety. Telugu requires a set of new graphemic/phonetic symbols

at the grammatical level for representing vowels with higher or lower and forward or backward qualities occurring in pronunciation as in vowel harmony. There must be spelling rules, pronunciation rules, reading rules, for such instances, which have to be taken as certain guidelines for a dictionary maker.

Spelling rules are required for resolving ambiguity or inconsistencies in the orthography itself. All redundant characters or unemployed letters are to be eliminated. There is a need for regularised standard orthography to serve the morphemic structure of words more clearly than the standard orthography: for example, both forward and backward (or lower and higher) vowels,|æ| or |a| and |*a*|.

Pronunciation rules describe how standard orthographic devices are related to selected 'phoneticized orthography'. Pronunciation rules are required for comprehensiveness and to draw attention to details, which are lacking in written works. For instance /pilli/ + /a:/ 'is it a cat?' and /pilla/ + /a:/ 'is it a girl-child?' are not differentiated in written language but only in speech. Phoneticized orthographic representations can be made more narrowly phonetic by the subsequent application of a set of phonetic rules such as the following for Telugu: [*a*] → [a] /-[ś, y, c/. The letter in writing is phonemicised as /TS/ or /kS/. If we give priority to matters of the lexicographical utility of our materials, with the goal of making them not only suitable for dictionary making but also useful for learning other aspects of grammar and/or linguistic description, there must be pronunciation rules for disambiguating the written grammatical structure of words.

Reading rules are required for converting standard orthographic representation into phonemic, allophonic and phonetic transcriptions. Furthermore, there must also be feasibility of dialect spelling in general. Although writing represents sound and sound represents meaning, phonetic and semantic similarities play a vital

role in the task of morpheme recognition. Phonetic/phonemic transcription distinguishes all (and only) segments that contrast somewhere in the language as such. Apart from the above phonetic and phonological differences between spoken and written forms, various prosodic parameters contribute at different levels of processing emotional, pragmatic, syntactic, and lexical information. Suprasegmental features remain an important complement to the phonetic information. Transcription of the degrees of duration/ length, stress and intonation, voice quality, loudness, tempo and pauses are an essential part of discourse analysis, which is left out of consideration in writing system. In this regard both phonological and orthographic representations in dictionaries do not reveal the totality of the description of language structure, which situation deserves to be remedied.

Syllabification rules are essential to convert open orthographic symbol to checked or closed syllabic pattern in Telugu phonology. For example, the long consonants and/or diphthongs are phonologically syllabified as belonging to two syllables but represented as one character in orthography. Syllabification thus applies to the output of pronunciation rules of sound sequences. The written rules of sound sequences, but not the written character are split up into two units in phonemic representation of spoken language (For example /-kk-/ in /ak+ka/ 'elder sister' in phonological representation but written as |akka|. Thus one written unit is represented as two units in phonology. The problem of exact correspondence between the significant sounds of Modern Standard Telugu and their grapheme rendering has attracted the attention of several linguists. On the basis of careful comparison, deletions (of obsolete graphemes) and innovations (to accommodate new sounds) may be suggested, which should be kept in mind while preparing a pronunciation dictionary.

Apart from the variation in the segmental phonemes (between the spoken and written variety), the problem of adequate

representation (in written Telugu) of such suprasegmental features as intonation, stress, pitch, pause, emphasis and silence deserve a serious consideration from the viewpoint of dictionary preparation for second language learners. The conventional Telugu script (the script of any Indian language for that matter) has no mechanism to codify the suprasegmental and paralinguistic features. However, it is possible, at least in principle, to invent diacritic system to accommodate these features though such a move might face initial resistance from readers.

The use of length in Telugu has a variety of functions at extralinguistic, discourse, semantic, morphological, syntactic, phonetic and phonological levels. Such differences in the use of length feature must be represented in pronouncing dictionary and taught to students to acquire an acceptable pronunciation.

It has also been noted that both adults and children adjust their speech production according to the context. For an adult, for instance, production is modified depending upon formal versus informal situations. Variation in pronunciation of a single lexical item, for example, certain kinship terms when used as address terms, reveal a bundle of social features: They may indicate the social stratification and relationships that obtain between the speaker and the addressee. For instance, the word /amma/ 'mother' in Telugu has the following six variants when used as an address form : (1) amma:, (2) 'amma:, (3) a˜wa:, (4) a˜wo:, (5) ˜wo, (6) am`ma.

The form (1) is generally used by the educated speakers and belongs to a higher stratum of the society. It is also found in the written variety as well as in the formal speech style. The (2) is used in the informal but intimate contexts by an educated or semiliterate speaker. The (3), (4) and (5) are used exclusively by the uneducated rustic speakers. The illiterates mostly prefer the usage of one of these three in address system. The form (6) is used in a very intimate, informal, affectionate way of addressing mother and is more frequent

among the young children. Such differences in spoken form must also be known to the lexicographers of the language.

4. The basic sounds of Telugu

The following is the inventory of Telugu phonemes, i.e., consonants and vowels. The phonetic symbols have the value of International Phonetic Alphabet (IPA).

Telugu vowels

i	i:		u	u:
e	e:		o	o:
	a	a:		
	ai	au		

Telugu consonants

p	t	T	c	k
(ph	th	Th	ch	kh)
b	d	D	j	g
(bh	dh	Dh	jh	gh)
m	n	N		
f	s	S	ś	h
	l	L		
	r			
w			y	

4.1 Difficulties with consonants

i. All aspirated consonants, the voiced aspirates in particular, might cause a greater difficulty to the learner.

ii. Most difficult are the series of retroflex consonants. It is important to realize that voiced retroflex consonants may involve flap articulation, e.g. /baDi/ 'school' in which the pronunciation of /D/ is different from the same /D/ occurring in word-initial position as in /Dabbu/ 'money' or when it occurs with a consonant in word medial position. Such allophonic rules must be specified in the pronouncing dictionary of Telugu.

iii. The consonants (w) and (v) are distinctive in some languages and the latter is pronounced with friction in English which would cause a greater confusion for non-native speakers learning Telugu because, these two sounds are non-distinctive in Telugu and one is a realization of the other, such contextual variations must be paid attention to (cf. Nagamma Reddy, 1995).

iv. The other contextual variations in the pronunciation of Telugu must be specified, with examples in order to assist the learner and the reader.

4.2 Difficulties with vowels:

i. Vowel length is distinctive in Telugu. All short and long vowels may be confused and mispronounced by foreign learners of Telugu. Hence care must be taken to make the long vowels of Telugu as long enough.

ii. Vowel harmony might cause problems for learners of Telugu as a foreign language.

iii. Vowel nasality does not play distinctive role in Telugu. However, vowel nasalization in the environment of a nasal consonant must be learned (Nagamma, Reddy, 1991).

iv. Pronunciation variation of diphthongs, e.g. /aunu/ /awunu/ 'yes', and the allophonic variation of /âi/ ad /êi/ in such examples as /râitu/ 'farmer' and /cêinu/ 'chain', should be mentioned in a dictionary of Telugu.

5. Summary and conclusion

The notes on pronunciation problems presented in this paper are only one of a vast number of possible varieties. Producers of Learners' dictionaries of Telugu need to be aware of the fact that a particular style is far from being the only one, they will have to cover, and lexicographers of Telugu to second language learners should do their best to expose the learners to the varieties. However, one of the basic questions to be resolved is which variety and what style of Telugu should be adopted in preparation of learners' dictionaries. Is it advisable to use only a Modern Standard variety of Telugu? Or should we resort to a selective variety?

Knowledge of the sound system would assist the lexicographer in understanding why the learners have some pronunciation difficulties in learning Telugu as foreign or second language. There are two stages in learning pronunciation. The first is to be able to produce the basic 10 vowels and 33 consonants which are different, so that the words and longer utterances of Telugu do not sound the same (e.g. /adi/ 'that (one)' and /a:di/ 'beginning'. The second stage in learning pronunciation must be to learn to use as many different sounds as is necessary to represent a particular phoneme.

The relation between Telugu orthography and pronunciation is not simple. Pronunciation of some symbols may vary according to context. (e.g.[*a*]`![a] / C -[palatal]. Orthography in general is phonological rather than phonetic. Therefore it is necessary to introduce a notation wherein a single symbol corresponds to a single sound.

An acceptable representative pronounciation of Telugu may be taught by making use of a phonetic transcription. But phonetic spelling should be consistent. Phonetic transcription has advantage over conventional orthography in that it records in a clear and easily retainable way the usage with regard to elision of forms. assimilation, length etc. whereas traditional spelling represents no indication of this important phenomenon.

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TRUNCATED GRAMMAR(S) IN PIDGINS IN INDIA*

Priya Hosali

1. Introduction

Indian English is a well-known example of ESL that has been extensively studied. However, side-by-side in some parts of India, a Pidgin English also arose, out of contact between the first British colonists and the local population. Schuchardt ([1891] 1980:38) identified 5 subtypes of this pidgin: Butler English of Madras, Pidgin English of Bombay, Boxwallah English of Upper India, Cheechee English and Baboo English.

Yule and Burnell ([1886] 1996:133-134) observed that *Butler English* is "the broken English spoken by native servants in the Madras Presidency; which is not very much better than the *Pigeon-English* of China (...). The oddest characteristic about this jargon is (or was) that masters used it in speaking to their servants as well as servants to their masters".

An article in *The* Times of London (April 11, 1882) describes the English of the Bombay servants, who are generally half-caste Portuguese, as *Pidgin English*. The same article cites *Boxwallah English* as the curious patois, hardly more intelligible than the Pidgin English of servants in Bombay and Madras, that is affected by the itinerant hawkers or box-wallahs (Hindustani *bakas* = box + *vālā* = man) in Upper India. *Cheechee English* is the variety spoken by Eurasians or people of mixed European and Asian descent. *Cheechee* is a disparaging term applied to half-castes or Eurasians and also to their manner of speech. The

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word is said to be taken from *chi* (fie!) a common native (South Indian) interjection of remonstrance or reproof, supposed to be much used by the class in question. The term is however, perhaps also a kind of onomatopoeia, indicating the mincing pronunciation which often characterizes them.

Baboo English is spoken in Bengal and elsewhere. Baboo (Hindustani *bābū*) is a title, similar to English *Master, Mr., Esquire*. Yule and Burnell (1996: 44) describe the variety as follows: "(...) among Anglo-Indians, it is often used with a slight savour of disparagement, as characterizing a superficially cultivated, but too often effeminate, Bengali. And from the extensive employment of the class, to which the term was applied as a title, in the capacity of clerks in English offices, the word has come often to signify 'a native clerk who writes English'". Its peculiarities are not in the grammar but in the style.

Although Schuchardt has identified 5 pidgins we know today that Cheechee English and Baboo English are not pidgins. Butler English of Madras, Pidgin English of Bombay and Boxwallah English of Upper India are.

The status of these pidgin languages varies. Sometimes they can be regarded as simplified or impoverished varieties of a base language. At other times they can be regarded as simplified rule-governed systems whose rules cannot be predicted from those of the base language. In a number of cases, a superficial inspection cannot immediately assign a status to such languages. They seem to be more than mere 'broken language', yet they do not have sufficiently stable rules to be regarded as true pidgins. They can perhaps be regarded as incipient pidgins, 'minimal pidgins' (Mühlhaüsler, 1978:15) or 'semi-pidgins' (Verma, personal communication).

I will deal with one such incipient pidgin, which is conventionally known as Butler English and was/is spoken in India.

It is the grammar of Butler English that I will describe. The description is based on the recorded speech of sixty domestics. The corpus comprises 275 foolscap typed pages of text containing 4,205 utterances recorded in natural settings.

Samples

Schuchardt ([1891] 1980:47) gives a sample of Butler English of the 19th century.

> Discovery has been made of a butler stealing large quantities of his master's milk and purchasing the silence of the subordinate servants by giving them a share of the loot; and this is how the ayah (nurse) explains the transaction: *Butler's yevery day taking one ollock for own-self, and giving servants all half half ollock; when I am telling that shame for him, he is telling, Master's strictly order all servants for the little milk give it - what can I say, mam, I poor ayah woman?* (A butler has been stealing large quantities of his master's milk.)

Hosali (1980-2005) gives a sample of Butler English of the 20th/21st centuries.

> *All right. I can tell. Cut nicely brinjal. Little little piece. Ginger, garlic, hm chilly - red chilly, mustard, and* ***eh jira*** *- all want it, grind it in the vinegar. No water. After put the hoil - then put it all the* ***masala****, little little slowly fry it - nice smells coming - then you can put the brinjal. Not less oil. Then after is cooking in the hoil make it cold - put it in the bottle.* (Mary, reported age 60 tells us how to make brinjal pickle.)

Although the two samples are separated by a century they have many features in common.

2. Reduction

Butler English generally shows retention of content words with a more frequent omission of grammatical words. Sometimes

content words are also absent. The following are examples of reduction of form:

Omission of pronoun

Dining-hall just serve the soup. 'In the dining-hall I just serve the soup...'

Omission of article

...Because ball is going nearly 200 250 yards. '...Because *the* ball is going (goes) nearly 200 to 250 yards.'

Omission of preposition

Now I am barbecue section.... 'Now I am *in* the barbecue section....'

Omission of auxiliary

The ellipsis of the auxiliary (especially of a form of the verb 'to be' when followed by the present participle) is prominent.

...Members hitting ball I watching that ball .... '...When members *are* hitting (hit) the ball I *am* watching (watch) that ball....'

Omission of conjunction

...gents also come in the dressing-room.... '... - *when* gents come to the dressing-room ....'

Omission of content words

Some examples of extreme reduction are:

Waiter service. 'As *a* waiter *I had to* serve.'

3. Simplification (Morphology)

'Reduction' refers to the omission of words whereas 'simplification' refers to the non-realisation of morphological markings.

At the level of morphology Butler English rarely uses inflectional suffixes:

Noun morphology

Plurals and possessives are rarely used.

...then two spoon coffee.... '...then put two *spoons* of coffee..'

... - that that eh master friends also like for my food.... '... - that that eh master's friends also like my food....'

Omission of verb agreement

There is no agreement of concord between subject and predicate. Usually the form adapted from English is the base or unmarked form: singular for nouns/pronouns and the imperative for verbs.

Yes. Master like it. 'Yes. Master *likes* it.'

Pronouns

With pronouns there has been a simplification of the English system. the possessive adjective *my* being used for the personal pronoun *I* and vice versa.

My not eh English madam speaking. 'I am not eh speaking (do not eh speak) English (very well) madam.' *Because I story....* 'Because *my* story....'

The use of the object form *me* of the personal pronoun *I* was also noted.

Me not drinking madam. 'I am not drinking (do not drink) madam.'

Verb morphology

The verb phrase, in particular, in Butler English is much simpler than in the standard variety.

The present participle

According to Schuchardt (1980:49) the most characteristic feature of Butler English is the use of the present participle or gerund. According to Hosali (1980-2005) the use of the present participle was the most prominent feature in the speech of the butlers interviewed. It was used for almost all the tenses in English.

I give just three samples below:

and putting masala and some spices...boiling when you coming ghee on top - is ready. '...and I *put* some *masala* and some spices...I *boil* it. When the *ghee comes* on top = (when the *ghee comes* on top) it is ready.' (Present tense)

...suppose you're also being in sin - going to straightly Hell ... '...supposing you're also steeped in sin - you *will go* straight to Hell (straight to Hell) ' (Future tense)

...I starting work twenty years ago. 'I started my work twenty years ago.' (Past tense)

The "to be + present participle" construction is also used for the different tense forms listed.

4. Syntax

Sentence negators

In Standard English the negator normally occurs after the auxiliary and before the main verb. A sentence like *I have done this* can be negated in the following way: *I have not done this*. Butler English negates sentences differently with the negator following the subject and preceding the verb phrase. The auxiliary which is obligatory in standard English is frequently absent in the utterances of the butlers.

I no go Jesus. 'I *won't* go to Jesus.'

Some simplified utterances lack a subject and the dummy *do*.

No listen to.... 'I *do not* want to listen to it....'

Double negation occasionally occurs:

No. I didn't got no son.... 'No. I *haven't* got any sons....'

Question formation

In Butler English interrogation is usually signalled by intonation or intonation + the structure of a statement, whereas in standard English there is normally a change in word order, the first constituent of the auxiliary being inverted with the subject.

What I can tell, ma - another story? 'What *can I* tell, ma - another story?' (*ma* – respectful form for older female)

Butler English does not use dummy *do* in questions and negatives.

You know Mr Basalat Jah? 'Do you know Mr. Basalat Jah?'

Omission of copula

Whereas standard English disallows copula deletion, some Indian languages permit copula deletion in equational clauses. All the butlers interviewed, however, tended to use copula-less clauses in English regardless of the other language(s) they spoke. One can

infer that the butler simplifies the language by omitting the copula - which in English inflects for subject-verb agreement, person, number and tense.

Examples of copula-less clauses are:

...I Pattison ayah.... '...I *am* Pattison's ayah....'

My mother only alive. 'My mother only *is* alive.'

Question-tags

Standard English has a complex system of rules to generate question-tags. Butler English has reduced this complex system to one simple rule - the suffixation of *no*. The tendency in Indian English is to use *isn't it* as a universal question-tag and *no* as one of its variant forms (Verma 1978: 8).

English-speak sahib is all gone no? 'The English-speaking sahibs are all gone, *aren't they?*'

Left dislocation and right dislocation

A prominent feature of the syntax of Butler English is the iteration of the subject by an anaphoric or cataphoric pronoun.

Examples from Butler English of the iteration of the subject by the anaphoric and cataphoric pronoun *it* are:

Cold jellies - all make it boiled and the chicken and...chicken all boiled it and keep it separate...eh and the radish - all boiled it - 'Boil the cold jellies; boil the chicken, and keep it separate; boil the radish.'

...and make it the carrot and beans, turnips, eh and the radish - ...keep it piece.... 'Prepare the carrots, beans and turnips and radish, chop it up.'

The imperative

In Butler English the imperative is of two types. The first accords with standard English in being subjectless:

Boil the hot water and...boil...just pour it.... Throw the water; then put the tea-leaves....

The second type of indirect imperative retains the pronoun *you*:

> *...you first grind the chicken.... Then you wipe with cloth...you mix.... After that you fry the chicken...you keep this cut onion...and you cut about three onions - ... and this you cut... - you cut cut bacon first -.*

The conditional

Conditional clauses are seldom overtly marked and have to be inferred from the context.

> *After that they want something to drink, or they want some breakfast...* 'After that *if* they want something to drink or *if* they want some breakfast....'

Direct and indirect speech

Butler English shows a marked preference for direct speech. In direct speech the words of the speaker are incorporated within the reporting sentence, and retain the status of an independent clause.

> *He coming "you come myself, you can see any Calcutta" I'm telling "I got no money I'm not coming. I poor boy". He asking "you don't worry money I will pay and taking you".*

5. Conclusion

This analysis of Butler English would not be complete without some reference to the occasional use of more standard and less standard forms. Standard English equivalents for all categories listed occur throughout in Butler English, raising the question whether one is dealing with one variable system or several co-existent systems.

Though Butler English is a minimal pidgin it is a rule-governed system with specific properties. There are many rules operating upon the raw material of English grammar in a distinctive way, leading to a set of differences, which are persistent and well-established. It is unlikely that this pidgin (a poor relation in the

world's language families, and like Cinderella relegated to the scullery and the kitchen) will ever achieve status as a norm in its own right. Butler English will always be measured against the contemporary version of the native speaker model to which standard Indian English is closest, namely British Standard English. If it were to become extinct, it would not be because of any intrinsic linguistic inadequacy but because it could not compete against the overwhelming pressures of standard English or standard Indian English.

The reduction and simplification processes found in Butler English have been attested in pidgins worldwide. In India two pidgins which have been described and which I have not mentioned are bazaar varieties of Hindi (V. D. Singh) and the pidgin English spoken in Kovalam and Varkala (N. Sadasivan).

Texts

Boxwallah English (Hosali: 1992)

A beach-vendor on the Calangute beach in Goa:

Speaking only mini mini - no good English: no good English ...no English ***thoda*** *mini mini my speaking. Speaking no hello hello - tourist coming - no seeing no coming no coming no coming.*

Cheechee English (Hosali: 1993)

A community of Anglo-Indians in Kazipet (Andhra Pradesh):

I am at home only ...there only:
With all my fever and all. When are you all going back?
They drinking very heavy ...they drink nicely:
I was deprived for fourteen years. Our children are deprived very badly:

Baboo English (Narasimhaiah: 1968)

A British officer was correcting a letter written by an Indian officer and the Indian officer said:

Your honour puts yourself to much trouble correcting my English and doubtless the final letter will be much better literature, but it will go from me Mukherjee to he Banerjee and he Banerjee will understand it a great deal better as I Mukherjee writes it than as your honour corrects it.

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ON RETROFLEXION AND ASPIRATION IN ORIYA

Panchanan Mohanty

1. It is an established fact that Oriya has originated from a Middle Indo-Aryan (hereafter MIA) language prevalent in eastern India and that it is the eldest sister of the other two Neo Indo-Aryan languages of the east like Assamese, and Bengali (Chatterji 1970:98, Pattanayak 1966:64). Pattanayak (1966: 62-63) lists four phonological innovations that were instrumental in separating Assamese and Bengali together from Oriya. They are as follows[1]

(i) Retroflex and dental nasals fell together in Assamese and Bengali.
(ii) Retroflex and dental laterals fell together in Assamese and Bengali.
(iii) The voiced unaspirated retroflex stop /D/ and its aspirated version /Dh/ fell together word-medially in Assamese and Bengali.
(iv) A new vowel /E/ developed in Assamese and Bengali from /e/ when it was followed by a low level.

The first three innovations are quite interesting and important from the point of view of our discussion. The first and second inno-vations imply the loss of retroflex nasal and lateral whereas the third tells us that aspiration was lost in the medial position in Assamese and Bengali. But these distinctions, i.e. between the dental and the retroflex nasals, the dental and the retroflex laterals, and the unaspirated /D/ and the aspirated /Dh/ are retained in Oriya to date. It should be pointed out here that Modern Assamese does not possess any retroflex consonant at all. Now let us discuss the above two characteristic features in Oriya, i.e. retroflexion and aspiration one by one.

2. The presence of retroflex consonants in Old Indo-Aryan (hereafter OIA) is actually a characteristic that is un-Indo-European in nature, because other Indo-European languages do not show this series at all. Though some scholars (e.g. Hock 1980:500-501) argue that retroflexion in Indo-Aryan can be due to internal developments and not due to convergence with Dravidian, many others believe it to be a result of Dravidian influence (Caldwell 1974:147—151, Chatterji 1970:38, 170-171). Emeneau (1956/1980: 110-111) has stated "... in Dravidian it is a matter of the utmost certainty that retroflexes in contrast with dentals are Proto-Dravidian in origin" and "...it is beyond doubt that even where Indo-European material yields Sanskrit retroflexes, pre-Indo-Aryan and pre-Dravidian bilingualism provided the conditions which allowed pre-Indo-Aryan allophones to be redistributed as retroflex phonemes." It is obvious that this retroflex series of consonants was inherited by MIA from OIA. But interestingly besides the inherited ones, the dental stops got transformed into retroflexes in certain well-defined environments in MIA, i.e. after [r], [ɾ], or a sibilant (Woolner 1975:24). The dental nasal [n] also became retroflex [N] regularly in most MIA dialects (Woolner 1975:15). So Emeneau (Ibid:111) rightly remarks: "Certainly as time went on, Middle Indo-Aryan showed more such phonemes than old Indo-Aryan, and in consequence Modern Indo-Aryan does so too."

Being a Neo Indo-Aryan (hereafter NIA) language, Oriya inherits many words containing retroflex stops both from OIA and MIA.

For example:

OIA	Oriya	Gloss
nikATA	nikOTO	'near'
vikATA	bikOTO	'dreadful'
s'AkATA	sOgORO	'bullock-cart'
naSTA	nOsTO	'spoiled'
duSTA	dusTO	'wicked'

and

OIA	MIA	Oriya	Gloss
gArtAh	gADDA	gaRO	'hole'
kAivArtAh	kevATTA	keuTO	'fisherman'
nArtAkAh	NATTAA	naTua	'dancer'
cAturthA	cAuTThA	cOuThO	'one fourth'
mṛttika	mATTiA	maTi	'earth'
vṛddhA	vuDDhA	buRha	'old'
grAnthi	gANThi	gONThi	'knot'
sthitA	ThidA,ThiA	Thia	'standing'

There are plenty of examples to show that Oriya also inherits /N/ from OIA and MIA. For example:

OIA	Oriya	Gloss
kṛpANA	krupONO	'miser'
koNA	koNO	'corner'
s'ArANA	sOrONO	'shelter'
narayANA	narayONO	'a god's name'
dharANa	dharONa	'idea'

and

OIA	MIA	Oriya	Gloss
pAttAnA	pATTANA	paTONa	'capital city'
pAnAsA	pANAsA	pONOsO	'jack fruit'
gAThAnA	gARhANA	gORhONO	'structure'
s'mAs'anA	mAsaNA	mOsaNi	'cremation ground'
milAnA	milANA	meLONO	'union'

Besides all these, there are a good number of instances in Oriya where retroflexion of dentals takes place without any specific environment. First, it is a rule of thumb that if the OIA source word has a single [l] it changes to the retroflex [L] in Oriya. For example:

OIA	Oriya	Gloss
bAlA	bOLO	'strength'
jAlA	jOLO	'water'
phAlA	phOLO	'fruit'
ni:lA	niLO	'blue'
kalA	kaLO	'time'
s'ṛgalA	siaLO	'jackal'
sAkAlA	sOkOLO	'all'
AN'guli	aN'guLi	'finger'
s'yamAlA	samOLO	'dark (complexion)'
kAlAsA	kOLOsO	'pitcher'
cAlAti	cOLe	'(he/she/it) moves'
khelAti	kheLe	'(he/she/it) plays'
palAyati	paLe	'(he/she/it) raises'

This also holds good for some words borrowed from other sources like Hindi and English.

Hindi	Oriya	Gloss
divalia	debaLia	'bankrupt'
kotval	kOTuaLO	'policeman'

EnglishOriya	
rail	reLO
hotel	hoTO½O (non-standard Oriya)

Second, the dental nasal [n] of the OIA becomes the retroflex [N] in many cases in Oriya. The following examples are illustrative:

OIA	Oriya	Gloss
vAnA	bONO	'forest'
phenA	pheNO	'foam'
pani:yApaNi	'water'	
bhAgini:	bhOuNi	'sister'
AnAvAsArA	ONOsOrO	'the dark fortnight of the month of Asadha'

sthanA	ThONa	'niche'
chadAni:	chauNi	'covering, army camp'
jAnA	jONO	'man'
mAnuSyA	mONisO	'man'

Third, besides all these, the dental stops are also found becoming retro-flex off and on in Oriya. For example:

OIA	Oriya	Gloss
lAta	lOTa	'creeper'
dAkSiNA	DahaNO	'right'
dahAkA	DOhOka	'capable of burning'
doLa	DoLa	'pupil of an eye'
dAN's'A	DāsO	'gnat'
kApitthA	kOiThO	'a kind of fruit'
vAiduryA	bOiDurjyo	'a gem'
dharA	daRhO	'edge'

It should be pointed out that it is difficult to specify the environ-ment which triggers retroflexion in the above examples. So it is accepted here as a spontaneous change.

3. It has been mentioned earlier that Oriya retains the distinction between /D/ and /Dh/ word-medially whereas it is lost in Assamese and Bengali. Regarding the loss of aspiration in Bengali, Chatterji's (1970:441) following statement is very important: 'In Modern Bengali there has been total loss of aspiration in the final and intervocalic aspirates in a very large number of cases; and where aspiration is found in writing, it is not always faithfully representative of the pronunciation, especially in the Standard Colloquial Bengali. It may be noted that Tibeto-Burman languages spoken in the North-East have neither retroflexes (Hoenigswald 1960:85) nor do aspirates are a unique characteristic of these languages. For this reason, a number of Tibeto-Burman languages

do not possess aspirated consonants, e.g. Garo (Burling 1961:2-3), Boro (Bhat 1968:1), Sema (Sreedhar 1980:19). But Oriya clearly retains the distinction between unaspirated and aspirated consonants in intervocalic environments. For example:

jokO	'leech'	bOta	'a thin piece of a bamboo'
jokhO	'fix'	bOtha	'pain'
bagO	'manner'	Oda	'ginger'
baghO	'tiger'	Odha	'half'

Not only that, a careful study reveals that insertion of [h] in be-tween vowels and spontaneous aspiration of consonants are frequently attested in the standard as well as the non-standard varieties of Oriya. For example:

OIA	Oriya	Gloss
SAtA	sOO ~ sOhO	'hundred'
lotAkA	luhA	tear'
komAlA	kÕÕLO~kÕhÕLA	'soft'
camArA	cÕÕrO~cÕhÕrA	'a kind of fan'
nAgArA	nOOrO~nOhOrO	'town'
mukuTA	mOuRO~mOhuRO	'an ornament toear on the head'
nAvAni:tA	lOuNi ~ lOhuNi	'butter'
dve	duhe	'two (persons)'
Dakini:	DaaNi~DahaNi	'witch'
snanA	snanO~snahanO	'bath'
prAvalA	pohOLa	'coral'
vikATA	beheRa	'buck tooth'
s'astrA	sahastrO	'scripture'
tripaThi:	tiaRi~tihaRi	'a surname'

Again, sonorants like [m, n, r, l, L] are found becoming spontane-ously aspirated in certain cases in Oriya. For example:

Standard Oriya	Non-standard Oriya	Gloss
OmarO	OmharO	'granary'
kOmarO	kOmharO	'blacksmith'
pune~ i~	punhe~ i~	'full-moon day'
dOrOma	dOrOmha, dOrhOma	'salary'
rOma	rOmha	'a name'
kolO	kolhO	'name of a tribe'
gelO	gelhO	'affection'
pOlO	pOlhO	'herd'
kOLia	kOLiha	'quarrelsome'
kOria	kOriha	'a small towel'

Then, there are many instances of spontaneous aspiration of unaspirated stops in Oriya itself:

pasA	phasO	'trap'
pArs`u	pharsa	'axe'
besA	bhesO	'guise'
kebe	kebhe	'when'
ObirO	ObhirO	'a coloured powder'
dusa	dhusa	'a name'
du:rA	dhurO	'distant'
Topa	Thopa	'drop'
mORa	mORhO	'corpse'
sOkaLO	sOkhaLO	'morning'
saRi	saRhi	'sari'

The above examples make it clear that aspiration, like retroflexion, is an identifying characteristic of the Oriya language.

4. It has been discussed above that segments differ with regard to their susceptibility to the effect of a phonetic setting and that is why the presence of a setting in one's speech is heard intermittent-ly. If this is accepted, then it can be argued on the basis of the data on retroflexion presented above that there is a 'retroflex setting' in Oriya and it is heard only when the dentals, which are susceptible

to this setting are used in an utterance. Again, with the above data on aspiration, it can be claimed that Oriya has a 'breathy setting', and it becomes audible intervocally and when various unaspi-rated stops and sonorants are used. Thus, it can be concluded that retroflexion and breathiness are two characteristics of the Oriya voice quality; or, in other words, the Oriya voice includes a retro-flex voice and a breathy voice. However, the compatibility between the two is a matter of further research.

5. To conclude, the present paper has an interesting point to make. It is seen that retroflexion and aspiration are the two widely attested spontaneous phonetic changes that have taken place in Oriya and they are claimed to be two characteristics of the Oriya voice quality. Now the hypothesis that emerges from these data and the analyses is that a spontaneous phonetic change that is attested widely in a language can be accepted as a characteristic of the voice quality of that language. Of course, its validity will be known only after it is put to tests taking data from different languages.

NOTE

The following phonetic symbols have been used to denote the description given against each one of them. [E] is a half-open unrounded front vowe, [O] a half-open rounded back vowel, and [A] a mid central vowel. [T, Th, D, Dh] are voiceless unaspirated, voiceless aspirated, voiced unas-pirated, and voiced aspirated retroflex stops respectively. [R, Rh, N, L] are unaspirated retroflex flap, aspirated retroflex flap, retroflex nasal and retroflex lateral re-spectively. [N'] is a velar nasal and [S] a palatal frica-tive. The Middle Indo-Aryan data used in this paper are taken from Chatterji (1970), Nandasharma (1968), and Woolner (1975).

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TEXT-DEPENDENT SPEAKER RECOGNITION SYSTEM FOR TELUGU

Surabhi Sreekanth. Kavi Narayana Murthy

Abstract

Speaker recognition is a process of auto-matically recognizing who is speaking on the basis of speaker dependent features of the speech signal. Although speaker recognition is currently not as robust as other biometrics such as finger prints and retinal scans. speech has many inherent advantages and it holds promise. An isolated word speech recognition system is used to rec-ognize the spoken password and then a speaker identification system is used to further confirm the identity of the user amongst a known set of users. The HTK tool kit has been used to build these systems. Hidden Markov Models based on Mel Frequency Cepstral Coefficients have been used to build models. Mahalanobis distance measure is employed.

There is little work done in speaker recogni-tion in any of the Indian languages. In this pa-per. we describe a text-dependent speaker recog-nition system for Telugu. Experiments con-ducted with Telugu data have been described. Good performance has been achieved.

1 Introduction

Communication through speech is simple, natural and efficient. Input through speech does not require hand-eye coordination and is far simpler than using the keyboard, mouse and the computer screen. Speech output eliminates the need to read texts and can overcome the limitations of literacy. Speech based recognition also permits remote access.

Speaker recognition is a process of auto-matically recognizing who is speaking on the basis of speaker dependent features of the speech signal without necessarily recognizing or

understanding what is being spoken. A speaker recognition system must be robust against mimicking. As of today, finger prints and retinal scans are more reliable means for identification of individuals. Nevertheless, during the years ahead, it is believed that speaker recognition technology will make it possible to reliably verify the person's identity. Speech can be used for remote accessing, as through a telephone, where other methods such as finger prints and retinal scans are impractical.

Speaker Recognition can be classified into *Speaker Identification* and *Speaker Verifica-tion*. A speaker identification system finds the person who spoke the given utterance, from amongst a given set of speakers. A speaker verification system accepts or rejects the personal identity claim of a speaker. These systems can be further categorized as *text-independent* and *text-dependent*. In a text-independent system, the speaker can speak any arbitrary utterance in a particular language while in the case of text-dependent systems the speaker is required to speak known piece of text. Either all speakers may be asked to speak out the same piece of text, or, as in the case of a password based access control, users speak out their own individual passwords.

If we represent the probability of a given ut-terance x arising from the i^{th} speaker by $Pi(x)$, then the task of speaker verification is,

if $pi(x) > Threshold$ then ACCEPT
else REJECT

The value of this *Threshold* can be experi-mentally determined. On the other hand, a speaker identification system must decide among the N speakers in the system. The task of the speaker identifica-tion system is to find

argmax{ $Pi(x)$ } / i

Since the system is required to make N tests and decisions, the performance of speaker identification system generally decreases as the value of N increases. While the performance of the speaker verification system is inherently independent of the number of speakers in the user database, it is still difficult to achieve high accuracy and robustness when the number of speakers is large.

There are two types of errors a speaker recognition system can make - *false acceptance* and *false rejections*. If a wrong person is accepted, then this is a false acceptance. If a right person is rejected, then it is a false rejection. In the case of speaker verification, the decision of acceptance and rejection is made based on a threshold. So, the system can be designed to reduce a particular type of error by varying threshold. For example, if the system is used for accessing sensitive informa-tion, then the value of the threshold can be changed so as to reduce the false acceptance errors. Thus, even if the false rejection er-rors may increase, unauthorized access can be reduced with some inconvenience to true users.

The threshold can be adjusted in such a way that the two kinds of errors occur with equal probability. This is termed as *Equal Error Rate*. This equal error rate is significantly affected by the samples in the training and test data.

Speaker recognition systems may have to work across languages. However, if it is known that the users of a system belong to particular language, then it is possible to build a system for that specific language. It has been shown that the performance of the speaker verifica-tion systems built with samples of particular language degrade when the target speakers are from a different language. This performance degradation can be restricted if the speaker models are created with a pool of training data covering many languages (R.Auckenthaler).

Today, there are around one billion people in India, speaking nearly 200 different languages. Of these 22 languages are given constitutional recognition and are considered to be major lan-guages. A large portion of the Indian population is either illiterate or not so comfortable with using keyboard-mouse based interfaces, especially if the interactions are in English. Thus speech based interfaces have a very im-portant role in the Indian context. Speech can empower people by helping them to overcome the barriers of language - people can simply speak the language they already know. There is no need to learn any new technology.

There is little work done in speaker recog-nition in any of the Indian languages. In this paper, we describe a text-dependent speaker recognition system for Telugu. Telugu is the second largest spoken language in the country.

2 Task Definition

The current application is in the context of a voice based personal messaging system. Initially, the user keys in a user-name by clicking on a specific sequence of icons on the touch screen. He/she then speaks out his/her password. The system is expected to recognize the user and display his/her photograph for double checking before continuing. Clearly, this scenario does not call for a high per-formance biometric for strict access control. Preventing the unauthorized access through stealing the password or mimicking the voice is less important than correctly identifying valid users. In case the recognition fails, it is merely a case of "wrong number" - there is no big risk.

The default user and his/her stored pass-word are already known from the user-name. The first task, therefore, is to recognize the spoken password and verify it. An isolated-word speech recognition system is used for this purpose. Thereafter, a text-dependent speaker verification system is used to further verify the identity of the speaker within the given set of users in the system.

3 A Brief Survey of Speaker Recognition Research

One of the motivating factors behind re-search in speaker recognition is to understand how we human beings are able to recognize people by their voice. It is believed that the voice print of individuals is unique. Speaker recognition is closely related to other aspects of speech processing such as speech recog-nition, synthesis, coding, compression, etc. These are inter-disciplinary areas borrowing from electrical engineering, digital signal processing, mathematics, computer science, linguistics, psychology and biology. Here we give a brief sketch of some of the relevant works.

Li Lui shows that among the various parameters such as pitch, LPCC, ALPCC, MFCC, AMFCC that are extracted from speech signals, LPCC and MFCC are effective representations of a speaker. ALPCC and AMFCC are transitional spectral information which alone is not suitable for speaker recognition whereas they can be used jointly with LPCC and MFCC respectively. Pitch can also be used in conjunction with other spectral features to improve the performance of speaker recognition.

Prosody is another feature that depends, to some extent, on the speaker. Michael J Carey has exploited robust prosodic features for speaker identification. The performance of an existing HMM-based speaker recognition system could be increased by incorporating prosody, pitch and energy contours into the system.

Bing Xinag proposes a method for speaker recognition which uses Gaussianiza-tion. Short-time Gaussianization is initiated by a global linear transformation of the features, followed by short-time windowed cumulative distribution function (CDF) matching. Linear transformation in feature space leads to decorrelation. CDF matching is applied to segments of speech localized in time and the aim is to warp the given feature so that its CDF matches normal distribution. Nowadays, speaker recognition systems based on Gaussian mixture models (GMM) are considered as highly robust and reliable.

Ran D Jilka claims that text-independent speaker verification using covariance modeling is a viable alternative to GMM systems. This technique suggests two verification methods, namely, frame level scoring and utterance level scoring. Covariance of the features is calculated and then compared with that of reference model at frame level and at utterance level respectively. These methods have been shown to give better performance compared to GMM based system.

K Yu compares Hidden Markov Models, Dynamic Time Warping and Vec-tor Quantizations for speaker recognition. For text-independent speaker recognition, VQ performs better then HMMs and for text-dependent speaker recognition, DTW outperforms VQ and HMM based methods. Increasing train data did not change the balance significantly.

Michael Inman proposed a technique in which segment boundary information is derived from HMMs which in turn provides a means of normalizing the formant patterns. Phonetic tempo variability (the tendency of the constituent phonetic segments of a word to vary in length from one occasion of speaking to another) and variability over time (tendency of the speech of a speaker to change as a function of time, typically days) have been addressed using cochlear filters and HMMs.

Chi Wei Che proposed a HMM based text-prompted speaker verification system. In this method each speaker has a separate set of HMMs for each phoneme and the system uses concatenated phoneme HMMs. It has been shown that three-state single mixture phone HMMs produce better performance than single state tie-mixture Gaussian models. Another approach to speaker verification using HMMs was proposed by Michael Savic, which was based on adaptive vocal tract model which emulates the vocal tract of the speaker.

A New set of features named Adaptive Com-ponent Weighting (ACW) cepstral coefficients are introduced by Khaled T Assaleh. These features emphasize the formant structure of the

speech spectrum while attenuating the broad-bandwidth spectral components. ACW spectrum introduces zeros into the usual all-pole linear predictive spectrum. This is same as introducing a Finite Impulse Response (FIR) filter that normalizes the narrow band modes of the spectrum. ACW features have been evaluated on text-independent speaker identification system and shown to yield good performance.

Vector Quantization based Gaussian modeling and, training VQ codebook for HMM-based speaker identification have also been proposed to improve the performance of existing systems (J Pelecanos and ZHANG Lingua).

The problem of speaker recognition for Indian languages has not been explored much. Here we describe a system we have designed and built for speaker recognition using Telugu data.

4 A Two Stage Password Au-thentication System

The current task involves password recogni-tion using an isolated word speech recognition system and then further verification of the speaker knowing the word spoken. These two stages are described in order.

Speech technologies are generally language specific. Language to language variations in utterance of a given word can be quite marked. Fixing a language would enable language models to be employed. In our experiments here we have used Telugu data throughout. Needless to say, the proposed system is itself not tied down to Telugu or any particular language.

4.1 Recognizing the password

A password file is created, containing user-names and corresponding passwords. Each user is asked to choose his password and is requested to record his password 10 times. A speaker-independent isolated-word speech recognition system is built with the combined data of all the users.

After the usual pre-processing steps (L Rabiner), Mel Frequency Cepstral Coefficients are calculated using *HCopy* command of HTK. The process of calculating the features of the speech samples is called coding of the data. A HMM model is then created for each monophone from a prototype model with required model topology with means 0 and variances 1. Global means and variances are calculated from the coded data using the *HCompV* command. In the process of pruning, the values of the means and variances are updated using the *HERest* command of HTK. Once the monophone models are created and the parameters re-estimated sufficient number of times, triphone models are created and the triphone transcriptions are obtained running the *HLEd* command on the monophone transcriptions.

Due to insufficient data associated with many states, the variances in the output distributions might have been floored. So, within the triphone sets, the states need to be tied in order to share data and be able to make robust parameter estimates (S Young). A decision tree based state tying is done by *HHEd* command of HTK. This process is called cloning of the models. The triphone models are further re-estimated over several iterations to create more robust models.

M Sukumar explains the procedure to build a speaker-independent continuous speech recognition system for Telugu using the *HTK* tool kit. Only the changes required to adapt this standard procedure for our task are given below.

Grammar

The structure of the grammar file should be

$Sword = pw_1 \mid pw_2 \mid \ldots pw_n$

(SENT_START Sword SENT_END)

Where $pw_1, pw_2, \ldots, pw_n$ are the passwords of n speakers. This structure ensures that the recognizer outputs only one password which best matches the given speech signal.

Dictionary

As our system is set to recognize isolated-words, we do not make an entry for 'sp' in the dictionary. (While running *HDMan* command of HTK make sure that *global.ded* script file is not present in the current directory, because, this appends 'sp' at the end of every pronunciation in the dictionary.) There will be an entry for each password in the dictionary.

As the pronunciations of all the words are present in the dictionary, the word level tran-scriptions of all the speech files are created and the phone level transcriptions are obtained by invoking *HLEd* command of HTK. All these transcription files must follow the standard HTK format of *mlf* files.

The isolated-word speech recognition system thus built, is used to recognize the password spoken.

4.2 Verifying the Speaker

Once the password is verified, we need to check whether the person who spoke the password is the right person or not.

An isolated-word speech recognition system is built separately for each speaker. Let us name these systems $S_1, S_2, \ldots, S_n$. For each system, the training data includes only the recordings of that particular speaker. The word list file and the grammar file of each system contain only one word which is the password of that speaker. Hence the same word is recognized whatever be the input. The degree of match indicated by the recognizer is used to verify the speaker's identity.

For the purpose of recognition, *HVite* command of HTK is used. This outputs, along with the recognized word, average log probability per frame a and total log probability for each test sample t. HTK auto-matically marks the silence at the beginning and ending of the speech signal and the total log probability is calculated for the utterance. Average log probability per frame and the total log

probability are chosen because they together indicate the speaker, the password, and his/her speaking rate.

For each system *Si*, with all the speech sam-ples of the corresponding speaker *si*, *s2*, ..., s_m the pattern matrix

$$P_{2\times m} = \begin{bmatrix} s_1a & s_2a & \dots & s_ma \\ s_1d & s_2d & \dots & s_md \end{bmatrix}$$

is computed. The mean $\mu = (\mu_a \ \mu_t)$ and covariance matrix are calculated, where

$$\mu_a = \frac{1}{m}\sum_{j=1}^{m} a_j$$

and

$$\mu_t = \frac{1}{m}\sum_{j=1}^{m} t_j$$

A covariance matrix is a symmetric matrix which shows the correlation between the ele-ments of the vectors. In our case, the covari-ance matrix for the set of two dimensional vec-tors is

$$\begin{bmatrix} \sigma_{aa} & \sigma_{at} \\ \sigma_{ta} & \sigma_{tt} \end{bmatrix}$$

For any $p \in \{a, t\}$ and $q \in \{a,t\}$, σ_{pq} represents how element p of the vector changes with respect to q. The value of each element of the covariance matrix is calculated by the formula given below.

$$\sigma_{pq} = \sum_{m}^{n}\{(p_m - \mu_p) \times (q_m - \mu_q)\}$$

Let us define a speaker model as Mi as

$$M_i = \{S, \mu, \Sigma i\}$$

Mahalanobis distance is used to find the similarity between a test sample and a speaker model. This distance is based on correlations between data items, by which different pat-terns can be identified and analyzed. It is a way of determining similarity of an unknown sample to a known one. It differs from Eu-clidean distance in that it takes the correla-tions of the data items into

account. For-mally, the Mahalanobis distance from a group of values with mean $\mu = (\mu_1, \mu_2, \ldots \mu_n)$ and covariance matrix Σ for a multivariate vector $x = (x_1, x_2, \ldots, x_n)$ is defined as,

$$d(x) = \sqrt{(x-\mu)^t \Sigma^{-1} (x-\mu)}$$

Euclidean distance weighs each component of the vectors equally, whereas Mahalanobis distance measure standardizes the data items so that differences in scale between the data items do not affect the distances. If the covariance matrix is the identity matrix then Mahalanobis distance is same as Euclidean distance.

The distance d_i from (a_i, t) to the group of values with mean μ_i and covariance matrix Σi, is computed for $i = 1, 2, \ldots, n$. Let

$K = \arg\min\{ (d_i) \}$

Then K is declared as the identity of the speaker for a given test data.

5 Experiments and Results

In our experiments here, we have used data from 7 speakers. Each speaker is asked to choose any Telugu word as his password and is requested to record that word 20 times. 10 samples are used for training and the remaining 10 samples are used for testing. To check the performance of the speaker recognition system in the case of many users having the same password, the Telugu word "*SubhAkAnkshalu*", a kind of greeting, is also recorded 20 times by each of the speakers.

Initially the **isolated-word speech recognition system** is tested for password recognition. This system is built with speech samples of all the speakers with different passwords.

number of speakers = 7
number of training samples = 7 x 10 = 70
number of test samples = 70

The output of the *HResults* command of HTK for this test data is shown below.

== HTK Results Analysis
Date: Tue Aug 16 04:49:45 2005 Ref : tstref.mlf Rec : recout.mlf

----------Overall Results----------
SENT: %Correct=98.57 [H=69, S=1, N=70]
WORD:%Corr=98.57, Acc=98.57 [H=69,D=0,S=1,I=0,N=70]
==========

Here, the sentence level accuracy and word level accuracy are same because it is an isolated-word speech recognizer. The results show that out of 70 test samples **98.57%** samples are correctly recognized. To evaluate the performance of the **speaker recognition system,** we need to check for 2 cases.

Case 1: Different passwords for different speakers:

For each speaker *i*, we randomly took 10 samples of his password recordings as training data and built the system *Si* and a model M_i. The remaining 10 samples of each speaker are given for testing. 10 fold cross validation is performed. Performance is also measured on training data. The percentage accuracy for each case is noted in Table 1.

Table 1. Different Passwords for Different Speakers

Test no.	% Accuracy for Training Samples	% Accuracy for Test Samples
1	100.0 %	98.57 %
2	100.0 %	97.14 %
3	97.14 %	85.71 %
4	100.0 %	94.28 %
5	100.0 %	94.28 %
6	98.57 %	92.85 %
7	100.0 %	98.57 %
8	98.57 %	84.28 %
9	98.57 %	87.14 %
10	100.0 %	100.0 %
Avg. =	99.28 %	**93.71 %**

It may be observed that the average perfor-mance of the system is **93.71%**

Case 2: Same password for all speakers:

The performance of the system when differ-ent users use the same password is depicted in Table 2.

It may be noted that the average perfor-mance of the system in this case is **91.85%.** Although the performance has slightly come down, this shows that the system is able to differentiate between different speakers even if they all speak the same password.

Table 2	**Same Password for**	**All Speakers**
Test no.	% Accuracy for Training Samples Samples	% Accuracy for Test Samples
1	100.0 %	91.42 %
2	100.0 %	100.0 %
3	100.0 %	84.28 %
4	100.0 %	100.0 %
5	100.0 %	95.71 %
6	98.57 %	85.71 %
7	98.57 %	84.28 %
8	98.57 %	95.71 %
9	98.57 %	91.42 %
10	100.0 %	90.00 %
Avg. =	99.42 %	**91.85** %

The performances of the two stages of the password authentication system were given in-dividually above only to show the strengths of the two stages separately. In actual usage, however, the second stage is attempted only if the test sample is approved in the first stage.

6 Conclusions

In this paper we have proposed a method for text-dependent speaker recognition. This method uses HMM based modelling for each speaker. MFCC coefficients have been used as features. The HTK tool kit is used in the implementation. Mahalanobis distance has been employed.

A two stage password authentication system is built to illustrate the working of the speaker recognition system. In the first stage the password spoken is recognized and checked whether it matches with the stored password or not. In the second stage the speaker who spoke the word is recognized and verified. Results obtained are promising.

There is little work done in speaker recog-nition in any of the Indian languages. Here we have described a text-dependent speaker recognition system for Telugu. Good perfor-mance has been achieved. Although Telugu data has been used to build the current sys-tem, the same procedure can be followed to build the system for any language. Prelimi-nary experiments suggest that incorporating a Speech end-point detector can further improve the performance of the system.

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NEWS OF THE DEPARTMENT

Prof.Aditi Mukherjee has taken over charge as Head of the Department from Prof.V.Swarajya Lakshmi and Prof.V.Swarajya Lakshmi as Chairperson, BOS in Linguistics, O.U. from Prof. K.Nagamma Reddy

Prof.J.Venkateswara Sastry retired from service on 31.7.2005.

I. SEMINARS AND CONFERENCES:

1. Sixth International Conference on South Asian Languages (ICOSAL – 6)

The Department of Linguistics, Osmania University, in collaboration with Central Institute of Indian Languages, Mysore; University of Hyderabad, Hyderabad; Central Institute of English & Foreign Languages, Hyderabad; Potti Sriramulu Telugu University, Hyderabad; Telugu Akademi, Hyderabad; and Central Hindi Institute, Hyderabad, organized the Sixth International Conference on South Asian Languages (ICOSAL-6) during January 6-8, 2005. 103 papers were presented covering the areas Phonetics & Phonology, Morphology & Syntax, Descriptive Linguistics, Sociolinguistics and Contrastive Analysis; Psycholinguistics, Neurolinguistics and Speech Disorders, Machine Translation, Computational Linguistics and Natural Language Processing, Translation & Lexicography. Not only did we receive papers from different parts of India, but we also received from various parts of the world viz., U.S.A., Canada, Russia, Germany, Australia, Brazial, Croatia. One session was earmarked in honor of Prof. M.B.Emeneau. Apart from papers that were presented in the academic sessions, we also had three papers in the plenary sessions by Prof.K.V.Subbarao, Prof.Bh.Krishnamurti, and Prof.H.S.Ananthanarayana. The conference was formally inaugurated by Prof. Colin P. Masica. The inaugural session was chaired by Prof.M.Ganesan, Vice-Chancellor, Central Institute of English & Foreign Languages.

Prof.Hans H.Hock was the Chief Guest at the Valedictory session which was presided over by Prof.Colin P.Masica. A cultural show was organized in honor of the delegates on 7th evening at CIEFL Auditorium which was sponsored by Telugu University. A souvenir was brought out on this occasion covering all the abstracts which were accepted by the academic screening committee.

The Conference was held under the directorship of Prof.J.Venkateswara Sastry.

Dr.A.Usha Rani, Mr.B.Vijayanarayana and Mr.Ramesh Kumar were the organizing secretaries.

2. Symposium on Language Teaching: The Case of Telugu

The Department organized a one-day Symposium on Language Teaching: The Case of Telugu on 30.7.2005. Prof.N.Gopal, Dean, Faculty of Arts, inaugurated the symposium. Prof.C.Ramarao, Former Dean, Faculty of Arts, presented the keynote address. Seven papers were presented by scholars representing Hyderabad University, P.S.Telugu University and Ananda Bharathi, a non-formal educational institution. During the deliberations of the symposium, teaching material found in the school text books was discussed and several suggestions were given to improve the selection of vocabulary. The scholars expressed different opinions regarding the introduction of Grammatical Structures in the 1st language readers. Telugu language teachers from the Model High School, Diksha School and St.Andrews school attended the symposium. One teacher trainee from AYJ National Institute for Hearing Handicapped also attended the conference.

II. Visiting Teachers

1. Prof.K.Rangan, Tamil University, Thanjavur, delivered 6 lectures on "Toward the Theory of Principles and Parameters: A Historical Perspective" under Visiting Fellows program of CAS from 23.2.05 to 5.3.05

2. Prof.G.Umamaheswara Rao Centre for Applied Linguistics and Translation Studies, University of Hyderabad, delivered 8 lectures on "Natural Language Processing" under Visiting Fellows program of ASIHSS during March 5-31, 2005

3. Prof.K.Narayana Murthy, Dept of Computer Science, University of Hyderabad delivered 3 guest lectures on the following topics during March 9-11, 2005

1. Intelligent Information Retrieval
2. Automatic Text Categorization
3. Language Identification

4. The Centre of Advanced Study in Linguistics at Osmania University in collaboration with Telugu Linguists Forum organized a lecture in memory of Prof.M.B.Emeneau on 4.10.2005. Prof.Bh.Krishnamurti, Ex-Vice-Chancellor, University of Hyderabad, spoke on the "Life and Works of Prof.M.B.Emeneau".

5. Prof.K.Narayana Murthy, Dept of Computer Science, University of Hyderabad delivered 9 lectures on "Computational Linguistics" during December 1-30, 2005 under Visiting Fellows program of ASIHSS.

6. Prof.Patricia Donegan and Prof.David Stampe, Department of Linguistics, Centre for South Asian Studies, University of Hawaii at Manoa, U.S.A., delivered 2 lectures each on the following topics on 27th & 28th December, 2005:

1) Rhythm and Holistic Typology
2) Current issues in Natural Phonology

III. Computer Lab:

A Computer Lab has been established with 11 HP Compaq computers with the following specifications:

1. HP Compaq D 220 Desktop (a) Pentium IV 2.8GHz Processor. (b) 40 GB Hard Disk: (c) 256 RAM; (d) Floppy disk drive (HP) with dual operating systems – Linux and Windows. The above configuration is available in 10 systems. 5 systems have HP CD-ROM Drives.

2. HP Work Station XW 4100, consisting: (a) 3.00 GHz Processor; (b) 80 GB Hard disk; (c) HP 48X CDR&W; (d) Operating system Linux.

3. All 11 systems have key boards and optical scroll mouses of HP make and 17" color monitors of HP brand

4. HP Laserjet 1010 Printer - 1
5. Internet facility is provided for the lab.

IV. Seminar room:

A Seminar room has been established with vinyl flooring.

V. Joint Advisory Committee meeting:

The Joint Advisory Committee meeting of CAS and ASIHSS was held on 4.3.2005.

VI. Academic activities of the Faculty:

Prof.Aditi Mukherjee

1. 'Who can stutter in English?' paper presented at the Sixth International Conference on South Asian Languages (ICOSAL-6) held in Hyderabad from January 6-8.

2. 'Bhasha aur boli ki pramanikata – smajik sandarbh' – lecture delivered at the UGC Refresher Course for Hindi lecturers in Academic Staff College, O.U.

3. 'Multilingualism as a value' – lecture delivered at the UGC Orientation Course for College teachers in Academic Staff College, O.U.

4. Co-ordinated and anchored eleven episodes on Gender and Society for National telecast on behalf of EMMRC, O.U.

PROF. K. NAGAMMA REDDY

1. Research Papers Published

1. Dravidan phonology : Contribution of Prof. M. B.Emeneau (Invited Endoment Lecture) International Journal of Dravidian Linguistics.Vol.XXXIV. pp 37-70.2005 Thiruvananthapuram. .

2. A bibliography of M.B.Emeneau(joint paper with B.Ramakrishna Reddy) International Journal of Dravidian Linguistics,VoL.XXXIV.No.2, pp 227-255.,2005

3. Perceptives on Telugu Phonetics: (*dwani sastram: Konni drukpada:lu*).In M.V. Ramanaiah & K. Thomasaiah (eds.) *telugu bhaaSa siddhaantam- anuvartanam.*(In Telugu.) P.S. Telugu University, Hyderabad. pp.151- 181.2005

4. Pronouncing Dictionary for Telugu, OPiL Vol. 31, 2005, Osmania University.

2. Seminars attended with paper-presentation

1. Modern civilization: Achievements and predicaments. Indian Academy of Social Sciences, A.P. Chapter.ICSSR,

SRC, Hyderabad. Seminar on Civilizational Challenges in the Modern World. Hyderabad, July 2005.

2. Syllable structure and qantity adjustment in Telugu. Platinum Jubilee International Conference 0f All Indian Linguists, organized by Department of Applied Linguistics, University of Hyderabad, December 2005.

3. Segmental, suprasegmental and grammatical functions of length in Telugu. Conference on Frontiers of Speech and Music, Lucknow. January 2005

4 Future science belongs to women (forthcoming). Submitted to the editor 2005 to *Osmania University Journal of Social Sciences*, A Social Sciences research Journal of the Faculty of Social Sciences. Osmania University (an earlier version of this paper was presented to the Symposium on 'Women in Science' organosed by the Academy for Science, Technology and Communication and B.M. Birla Science Center, Hyderabad.2005).

5. Women's education and development (Forthcoming) 2005. Paper submitted to *Osmania University Journal of Social Sciences*, A Social Sciences research Journal of the Faculty of Social Sciences Osmania University.

6. Consonant clusters and constraints in Indian languages and English (Invited Lectures given at C-DAC *Workshop on Speech Corpora Development*), Thiruvananthapuram, 2005.

7. Aspects of segmental timing. Presented at the *Workshop on Speech Corpora Development*, Thiruvananthapuram, Kerala. Dec. 2005.

8. Participant workshop on Telugu Free – Software. Organized under the Joint Auspices of Society for Computer Applications in Languages (SCIL) and Literacy House.

9. Duration studies of declarative Telugu sentences in different emotions/attitudes, Joint Paper with P.N Girija and A.Sridevi from university of Hyderabad, Dept.of Computer & Information Sciences, Artificial Intelligence Lab.

10. Subject expert in Linguistics revieved and assessed the publications of Readers for promotion as Professors under "Career Advancement Scheme (CAS)" of various Universities/ Institutes such as Banaras Hindu University, CIEFL, Karnataka University, Pune University and Mysore University.

11. Phonetic studies: New perspective. National Seminar on Linguistices, Sanskrit and Lexicography, Prof. S.M. Katre's Birth Centenary Year. Deccan College, Postgraduate and Research Institute, Deemed University, Pune 2005-6.

12. The effect of emphasis on phonological structure of word in Telugu. ICOSAL-6,2005 Osmania University.

3. Visit Abroad

Visited the Department of English and Linguistics, Taiz University, Taiz City, Yemen during May-June 2005 and gave lectureson Phonetics and Linguistics. Received an appreciation Memento from the Head.

4. Research Project

1. On-going: Chief- Resource Person on Telugu language for online programme of the Project on "Language Information System- India" (LIS- India) from Human Resource Development, Central Institute of Indian Languages, Mysore (2002-2005).

2 Interactive and collaborative Projects on Speech Synthesis and Recognition for Telugu, Dept.of Computer & Information Sciences, Artificial Intelligence Lab. University of Hyderabad. (2005 onwards)

5. Academic assignments and Extension programmes

1. Member, Joint Inspection Committee on New Private Unaided Colleges, constituted by APSCHE, Hyderabad. 2005-06.

2. Vice-President, Dravidian Linguistics Association 2005 - 2006.

3. Vice-President, Indian Academy of Social Sciences, Andhra Pradesh Chapter.

4. Member, Linguistics Selection Committee, C-DAC, Thiruvananthapuram.

5. Executive Council Member, Society for Computer Applications in Indian Languages, Hyderabad.

6. Expert Member and Consultant Linguist, Artificial Intelligence Lab. Department of Computer and Information Sciences, University of Hyderabad.

7. Appointed as Chairperson, Board of Studies in Linguistics, CAS in Linguistics Osmania University., (2003-2005)

8. Member, Board of Studies in Linguistics, Andhra University, Vishakapatnam. 2003-2007.

9. Expert Member (Nominated by the Vice- Chancellor of Andhra University) The Advisory Committee for the establishment of Language Laboratary, A.U. College of Arts and Commerce, Andhra University, Vishakapatnam (2004-2009)

10. Member, National Academic Planning Committee, Indian Council for Social Sciences, Allahabad. (2005- 2007)

11. Member, Advisory Board, *Indian Journal of Language and Litterature* (IJOLL), Ed. P.D. Nimsarkar, Dept. of Linguistics, Foreign and Indian Languages, Vol.1 No.1 2005 Nag Publications, Nagpur.

6. CONSULTANCY WORK FOR THE PERIOD OF 2005-2006

Name of the Coordinator	Title of the project	Cost of the project	Period of the project
Dr. Rajindra kumar, Addl. Director & Head	Annotated speech corpora Development in Indian languages, C-DAC, Thiruvananthapuram	Academic Consultancy	2004 onwards
Dr. R. Shukla	Annotated speech corpora Development in Indian languages, C-DAC, Noida, Delhi	Academic Consultancy	2003 onwards
Dr. A. K. Dutta & Shyamal Das	Development of Annotated speech corpora for speech Technology and Application of International Phonetic Alphabet in Indian languages, C-DAC, Kolkata.	Academic Consultancy	2004 -2006
Dr. K. Narayana Murty, Dept. of Computer and Information Science, HCU	Speaker Independent Continues Speech recognition for Telugu	Technical and Academic Advisor and Team Member	2006 onwards
Dr. N. Girija, Dept. of Computer Science, Artificial Intelligence Labs, HCU	Speech Synthesis and Regcognition Systems Development	Joint Researcher and Consultant Phonetician	2004 -2006
Faculty Members of the Dept. of Kannada and Linguistics	Consultant Phonetician and Guide	Joint Researcher and Consultant Phonetician	2004 -2006

Prof.V.Swarajya Lakshmi

1. Director of the Symposium on Language Teaching: The Case of Telugu held on July 31, 2005 in Osmania University and presented a paper on 'Teaching Material in Telugu – Some Observations.

2. Invited to deliver a lecture on the Standardization of Telugu Problems and Solutions at Telugu Akademi on the occasion of the of its foundation day.

Publications

1. telangaaNaa saamaajika maanDalika adhyayanam – anuvartita bhaaSaa saastra drukpatham. In Ramanayya and Thomasaiah (eds.) Telugu Bhasha Siddhantam anuvartanam. Hyderabad: Potti Sriramulu Telugu Visva Vidyalam. Pp. 191-199.

D. Vasanta

Participated in the 6th International Conference on South Asian Languages organized by the Dept. of Linguistics in Hyderabad during January 6-8, 2005 by presenting a paper titled: Phonological awareness in Telugu speaking hearing impaired children.

As a member of the National Focus Group on Education of children with Special Needs, participated in a two day consultation held at the NCERT, New Delhi during Jan. 12-13, 2005

Served as a resource person and gave a lecture at the Continuing Rehabilitation Education programme on Recent Developments in Audiology organized by the Sweekar Rehabilitation Institute for the Handicapped, Secunderabad on 19th Jan. 2005 on the topic, Hearing Assistance Technologies.

Gave a two-hour lecture on 'Strategies of enquiry in communication disorders: From Naturalistic observation to controlled experimentation' to B.Sc (HLS) students at the Southern Regional Institute of the AYJ National Institute for the Hearing Handicapped in Secunderabad on 28th Jan. 2005.

As a special invitee, I have participated in the third National Focus Group meeting on "Work and Education" (constituted by the NCERT, New Delhi) held at the National Institute of Public Cooperation and Child Development (NIPCCD), Guwahati during March 20-22, 2005.

Made a presentation based on the UGC Research Award project at the study and conference center in Bellagio, Itlay on June 6th 2005 as part of the requirements of the one-month residency fellowship offered to me by the Rockefeller Foundation, U.S.A. during May – June 2005.

Submitted the final technical report of the Research Award project, "Development of instructional material for improving linguistic awareness of Telugu speaking hearing impaired children" submitted to the U.G.C., New Delhi during July 2005.

Presented a paper (coauthor: Barbara Dodd) titled, Perceptual factors in phonological disorders: A tool for assessing input phonological processing inTelugu-English bilinguals at the Linguistic Society of India Annual conference held at the University of Hyderabad during December 6-8, 2005.

Served as a resource person for the UGC sponsored television programme, 'Gender & Biology' prepared by the EMMRC, Osmania University, Hyderabad in Nov. 2005.

Papers Published

Vasanta, D. Language cannot be reduced to biology: Perspectives from neurodevelopmental disorders affecting language learning. *Journal of Biosciences* 30:1, 129-137 (2005).

Dr.A.Usha Rani

1. vacooghaata vyavahartalaloo padakramam- anusiilana. In V.Ramanaiah and K.Thomsasaiah (eds.) Telugu bhaaSa Siddhaantam – anuvartanam. Hyderabad:Potti Sriramulu Telugu Visva Vidyalam. Pp. 212-219. (co-authored with J.Venkateswara Sastry)

2. Presented a paper on 'Reflexivization in early speech of Telugu children' at Sixth International Conference on South Asian Languages (ICOSAL-6) January 6-8, 2005, organized by the Department of Linguistics, Osmania University (co-authored with V.Sailaja)

3. As Co-Secretary for the Sixth International Conference on South Asian Languages (ICOSAL-6) January 6-8, 2005, organized by the Dept of Linguistics, Osmania University.

B.Vijayanarayana

Papers presented in National and International Conferences:

1. The adjectives of Telugu and the complements which are associated with them.Paper presented at the Sixth International Conference on South Asian Languages (ICOSAL – 6) held during January 6-8, 2005, organized by the Department of Linguistics, Osmania University, Hyderabad.

2. Relative Structures in Telugu. Paper presented at the 33rd All India Conference of Dravidian Linguists held at Thiruvananthapuram during June 16-18, 2005.

3. Generating nominative plural nouns in Telugu. Paper presented at the Platinum Jubilee International Conference of the Linguistic Society of India held during 6-8. December 2005. organized by the Centre for Applied Linguistics and Translation Studies. University of Hyderabad. Hyderabad. in collaboration with the Central Institute of Indian Languages. Mysore. and Dravidian University. Kuppam.

Paper published:

1. 'teluguloo visheeSaNa vargaM: maroo vishleeSaNa.' In Ramanaiah. M.V. and K. Thomasaiah (eds.) 2005. *telugu bhaaSa: siddhaaMtaM – anuvartanaM.* Hyderabad: P.S. Telugu University. Pp. 79-101. ISBN: 81-86073-125-4 (Modified version)

Conference organization:

Co-Secretary. Sixth International Conference on South Asian Languages (ICOSAL – 6). held at Hyderabad during January 6-8. 2005.

K. Ramesh Kumar

1. Participated as a resource person in a four day Refinement workshop on "Development of Glossary in Tribal Dialects and its equivalents in Telugu". March 2nd to 5th. 2005 at the State Project Director's Office. DPEP. AP. Hyderabad.

2. Participated as a resource person in the Workshop on "Preparation of Class II Text books for Tribal Students in their Mother Tongue". March 14th to 16th. 2005 at ITDA. Eturnagaram. Warangal district. Organized by Tribal Cultural Research and Training Institute. TWD.

3. Participated as a resource person in a three day workshop on "Development of Tools to Evaluate Class-I Language Text Books in various Tribal Languages in Tribal areas of A.P.". March 22nd to 24th. 2005 at the State Project Director's Office. DPEP. Hyderabad AP..

4. Participated as a resource person in the Workshop on "Preparation of Class II Text books for Tribal Students in their Mother Tongue", March 28th to 30th, 2005 at ITDA, Parvathipuram, Vijayanagaram district. Organised by Tribal Cultural Research and Training Institute, TWD, AP.

5. Participated as a resource person on the "**Mother tongue teaching- Multilingual education**" a three day workshop for revising and correcting the First standard Text Books in the tribal mother-tongues, conducted by TCR&TI, TWD, AP. February 9th to 11th, 2005.

6. Secretary, National seminar on "**Language Teaching: The case of Telugu**" organized by the Department of Linguistics, Osmania University, Hyderabad. July 30, 2005.

7. Participated as a special invitee in the "National **Seminar on Quality Education in Tribal Area"** Organised by the Andhra Pradesh District Primary Edication Programme, at Dr. MCR HRDI, Jubilee Hills, Hyderabad. 30th August to 1st September, 2005.

8. Presented a paper on "*giriajana maatrubhaaSalaloo paaThyapustakaalu, samasyalu*" A one day seminar organized jointly by TCR&TI and Telugu Linguists Forum at TWD, Telugu Samkseemabhavanam. 28th September, 2005.

9. Presented a paper on "*Tribal Mother Tongue Teaching – The AP Experience*" in the workshop on Multilingual **Education with Special Focus on Tribal Education** at Central Institute of Indian Languages (CIIL), Mysore from 25th to 27th October, 2005, Organized by CIIL, UNESCO and SIL.

10. Participated as a resource person in the workshop on " **Tribal Cultural –specific Textbooks in Tribal Dialects, Mathematics and Environmental Sciences"** Organised by Sarva Siksh Abhiyan, at the State Project Director's Office, SSA, AP, Hyderabad. 15th to 18th November, 2005.

11. Participated as a resource person in the workshop on "**Development of Audio Scripts on Socio Cultural aspects of AP"** conducted at State Institute of Education Training, Ramanthapur, Hyderabad, Organised by Regional Institute of Education, (NCERT) Mysore. 18th to 22nd November, 2005.

12. Participated as a resource person in the meeting on "**Finalization of Tribal Cultural –specific Textbooks in Tribal Dialects, Mathematics and Environmental Sciences"** Organised by Sarva Siksh Abhiyan, at the State Project Director's Office, SSA, AP, Hyderabad. 2nd December, 2005.

13. Participated as a resource person for Gondi in the Workshop on "Writing Tribal Cultural Specific Text Books for Class III in Tribal Dialects", December 17th and 18th at Project office ITDA, Utnoor, Adilabad District. Organised by Sarva Siksh Abhiyan, Hyderabad, A.P.

14. Participated as a resource person for Adivasi Oriya in the Workshop on "Writing Tribal Cultural Specific Text Books for Class III in Tribal Dialects", 11th to 15th January, 2006. Organised by Sarva Siksh Abhiyan, at the State Project Director's Office, SSA, AP, Hyderabad.

Published Books

1. Co-edited Gondi *bhaarati (okaTava taragati vaacakam)* .Hyderabad: Tribal Cultural Research and Training Institute, Tribal Welfare Department, AP. (First Published in 2004, Revised in 2005).

2. Co-edited Adivaasi *Oriya bhaarati (okaTava taragati vaacakam)* .Hyderabad: Tribal Cultural Research and Training Institute, Tribal Welfare Department, AP. (Published in 2004, Revised in 2005).

3. Co-edited with (V.Swarajyalakshmi and A. Usha Rani) *Osmania Papers in LinguisticsVolume 30, 2005.*

Published Paper:

1. ganjaam teluguloo 'uNDu' kriyaaruupam: padanirmaaNa tulanaatmaka parisiilana. In M.V. Ramanaiah & K. Thomasaiah (eds.) telugu *bhaaSa siddhaantam-anuvartanam.*(In Telugu.) P.S. Telugu University: Hyderabad. Pp. 200-212. (2005)

Mohd. Ansari

Attended UGC Orientation Course at Academic Staff College, Osmania University from 8th July 2005 to 7th August 2005.

Editor Osmania Papers in Linguistics Volume No. 31 2005.

VII. Research Projects:

Linguistic Awareness of Prelingually Deaf Telugu Children: Report of a Research Project submitted by Dr.D.Vasanta.

[This report is based on a 3-year project funded by the University Grants Commission, New Delhi under their Research Awards scheme during the period March 2002-March 2005]

All children first learn to use a language before they learn to reflect on it and make judgments about it's linguistic structures. In India, most of them would have mastered at least one language by the time they enter school. Thus, spoken language constitutes the fooundation on which linguistic awareness rests. A host of other factors such as child's cognitive capacity, home environment, the nature of the script associated with a given language, type of instruction etc. contribute to the development of metalinguistic skills that are crucial for mastering reading and spelling.

For children born deaf, or those who acquire cochlear deafness even before they master the spoken language (that is, before

the age of 3 years hence referred to as prelingual deafness), the mapping between the spoken and the written language is not so automatic or smooth. They tend to lag behind their hearing peers in metalinguistic tasks such as segmenting parts of words or isolating phonemes from syllables (phonological awareness); segmenting compound words into two single words, or manipulating the internal structures of words to create new words or judging the acceptability or grammaticality of sentences (morpho-syntactic awareness), identifying synonyms, detecting ambiguity, initiating and maintaining topics (semantic / pragmatic awareness). This lag has also to do with the type of instruction they receive in schools.

For a vast majority of the prelingually deaf children in India, oral language is the primary language of communication as there are little, if any, opportunities for them to learn a common sign language or even learn other supplementary modes of communication such as finger spelling, cued speech, lipreading etc. which have been shown to influence linguistic awareness. While the Government of India has introduced the scheme, Integrated Education for the Disabled (IED) way back in the 70s, serious attempts are being made even today to identify subgroups of hearing impaired children based on their linguistic awareness so that they can receive special instruction in the integrated schools where specialist teachers are available. In the absence of graded reading / spelling tests with reference to many of the Indian languages, educators are finding it difficult to identify areas of strengths and weaknesses in hearing impaired children who are attending regular classrooms. Considerable burden is falling on the parents, often the mothers who are struggling to get these children to pass high school so that they become eligible for some of the disabled welfare schemes offered by the government.

Against this background, the present study funded by the University Grants Commission, New Delhi and carried out at the Department of Linguistics, Osmania University, Hyderabad was

designed to achieve two main objectives: (1) to obtain an estimate of the lag in the linguistic awareness of a group of Telugu speaking prelingually deaf children studying in regular schools, and (2) to develop, administer and assess the efficacy of a set of specially designed linguistic awareness lessons on these children. The study made use of ABA research design and it was based on fifteen normal hearing children (mean age = 10 years), and 15 prelingually deaf children (mean age = 14 years) all, studying in ten different Telugu medium regular schools (integrated set-ups) in and around the twin cities of Hyderabad – Secunderabad in Andhra Pradesh.

A screening test of Linguistic awareness was designed for the purposes of this study which through six of its subtests determined the baseline abilities of all the 30 children.

This test has six major components. The first three tasks make use of pictures and are meant to assess phonological awareness (subcomponents: (1) counting of syllables in the word corresponding to each picture; (2) matching mentally, the initial sound in the names of a pair of pictures; (3) identifying which two of three pictures have rhyming words). These three subcomponents permit a maximum score of 40%. The second group of three subtests assesses orthographic awareness about Telugu script, which together carry 60% of the total scores. These subcomponents are: (1) orthographic syllable substitution, (2) syllable deletion, and (3) two spelling tasks. In the first spelling task, words spelled wrongly (in reverse order) had to be identified with the help of a picture, and its spelling written correctly below each target picture. In the second spelling task, the first orthographic syllable of a list of bi-syllabic words must be changed by altering the secondary graphemic unit of the vowel and then place a tick mark if the resulting letter sequence is a meaningful word or a 'x' mark if it is not a meaningful word. Time taken to complete each of the six components was noted with the help of a stop-watch to obtain the latency measures in addition to accuracy on each subtask. The results based on normal hearing children (in the age range, 8.2 to 12.3 years with an average age of 10.01 years)

on this test are shown in Table –1 below:

			% correct scores	
Name	**Sex**	**Grade**	**PA**	**GA**
B.D	F	IV	93.3	95.0
A	F	III	93.3	70.0
M	F	IV	76.6	73.3
T.H	F	IV	93.3	75.0
G.S	F	V	96.6	76.6
G.M	F	V	76.6	70.0
M.P	F	IV	96.6	80.0
D.S	M	IV	83.3	81.6
P.P	M	IV	86.6	76.6
J.R	M	V	90.0	90.0
K	M	V	95.0	80.0
R	F	IV	83.3	85.0
N.M	F	V	90.0	76.6
J.M	F	IV	93.3	71.6
V.L	F	IV	93.3	85.0
			Avg. 89.4	**79.08**

Table - 1 : Performance of normal hearing children on the screening test of Linguistic awareness (PA = composite scores on three subtests of Phonological Awareness; GA = composite scores on the subtests of Graphemic Awareness.

Based on the performance on this test, ten of the 15 deaf children were selected for training using the specially designed lessons. The training was carried out mostly in their homes by their mothers who had a minimum of high school level education, who kept in touch with this researcher through out the training period of 8 weeks.

Linguistic awareness training material

A set of 56 activities were developed, one each for 8 weeks of training in linguistic awareness to be used by the parents and / teachers of TEN of the 15 experimental children (average age: 12.03 years) listed below, who did not do well (scored less than 75% after correcting for the effects of guessing) on the screening test described above:

Name	Sex	Age (yrs)		Grade In dB*	Hearing loss Hearing Aid type
T.B	M	12.2	VII	103.0	Body-level
P.S.R	M	13.4	VI	66.0	Body-level
S.P.V	M	11.3	V	95.8	Body-level
T.J.S	F	11.5	VII	82.0	Ear – level
C.V.P	M	9.6	V	99.5	Ear – level
B.M	M	15.10	VIII	99.0	Body-level
G. B	M	11.5	VII	95.5	Body-level
J.B	M	13.5	VIII	96.5	Body-level
K.K	M	15.4	VII	101.5	Body-level
G.P	F	6.8	II	92.5	Ear – level

*Average of hearing loss at .5, 1, 2, and 4 kHz

Table – 2 : Information about deaf children who received training.

The 56 activities in the training manual are of the following type:

- Letter knowledge: Adding a vowel or consonant marker to generate new words

- Manipulation of orthographic syllables – deletion or addition to make up new words

- Speech reading – identification of one spoken word out of 4 alternative written words

- Pronunciation and spelling hints – awareness about orthographic principles to pronounce and spell words correctly

- Word awareness – segmenting single / compound words from sentences written without pauses; filling in the missing syllable of the names of a set of pictures; identifying a word that doesn't belong to the same semantic class as the rest (four) of words etc.

- Knowledge of phrases and sentences – using collocations and filling in words to complete incomplete sentences

- Story comprehension – reading a short story narrated sentence by sentence and completing incomplete sentences about the story

The 56 activities were mixed randomly and no attempt was made to grade them. Most of these activities had boxes containing resources from which the child can make a selection to complete each of 20 or 25 individual items. Parents / teachers were asked to show dictionary or newspapers and magazines while explaining a legal / non-legal letter combinations making up words. They were asked to continue to use the same exercise until the child scores 75% in each lesson. They were told to maintain a separate notebook in which child's responses are recorded and to write their own observations at the back of a given lesson in the book of activities given to them for use at home / school.

After completing this training, the same screening test of linguistic awareness used for assessing baseline performance was administered once again to each child on an individual basis to see if any changes took place in their overall linguistic awareness. All the ten children made significant progress in the orthographic awareness , but not phonological awareness (see Tables –3 & 4):

Participant Name	Before Training	After Training
T. B	76.66	65.0
P. S. R	71.66	85.0
S. P. V	83.33	91.66
T. J. S	75.0	75.0
C. V. P	85.0	90.0
B. M	71.66	88.33
G. B	75.0	86.66
J. B	85.0	83.33
K. K	85.0	83.33
G. P	73.33	80.0
	Avg.: 70.16	**82.83**

Table – 3 : Performance of deaf children (N=10) on Phonological Awareness tasks of the screening test before and after training

Participant Name	Before Training	After Training
T. B	78.33	91.66
P. S. R	80.0	93.33
S. P. V	76.66	93.33
T. J. S	73.33	98.33
C. V. P	80.0	90.0
B. M	81.66	90.0
G. B	80.0	96.66
J. B	81.66	86.66
K. K	63.33	86.66
G. P	56.66	65.0
	Avg.: 75.16	**89.16**

Table – 4 : Performance of deaf children (N=10) on the

orthographic awareness tasks of the screening test before and after the training

Refering to the two objectives mentioned earlier, this study has clearly shown that hearing impaired children who were two years older on the average to the control group of normal hearing children scored poorly on phonological awareness. This lag was considerably less in the case of orthographic awareness implying that they are paying more attention to the written language. It should be noted that their phonological awareness also depends on adequate functioning of their haring aids and their untrained ability in lipreading. However, in both phonological and orthographic awareness, their post training scores were much higher than the pre-training scores suggesting that systematic training in different aspects of linguistic awareness will have a positive effect. Future studies should be aimed at assessing the impact of such training on academic literacy performance of children studying in integrated schools.

Based on the feedback received from the mothers, necessary modifications were made to the lessons. The final outcome is a book of sixty lessons to be used in a six-week training programme with an accompanying instruction manual for use by the parents or teachers of deaf children who are studying in regular schools in the state of Andhra Pradesh. The final technical report based on this project contains a detailed review of literature on this topic, description of the assessment tools developed, data collection and analysis techniques, main observations, a reference list containing nearly 200 items, and some sample lessons on linguistic awareness.

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