ISSN 0970-0277

OSMANIA PAPERS IN LINGUISTICS

Volume 19 1993

Editors

C. RAMARAO

B. VIJAYANARAYANA

DEPARTMENT OF LINGUISTICS
OSMANIA UNIVERSITY
HYDERABAD 500 007
INDIA

OSMANIA PAPERS IN LINGUISTICS

Editors
C. RAMARAO
B. VIJAYANARAYANA

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

The Journal publishes work primarily by the staff, students, and visiting faculty of the Department of Linguistics, Osmania University, but also occassionally by scholars outside Osmania. Contributions are accepted only in English. Views expressed in *OPiL* are only those of the authors.

This publication is supplied to institutions, societies, and departments of Linguistics in exchange for similar publications. Others may send their subscription orders and matters relating to payments, exchange, and change of address to the Head, Department of Linguistics, Osmania University, Hyderabad 500 007, India. The annual subscription rate for *OPiL* (one volume) is Rs. 25.00 or US $ 6.00 (excl. postage).

Articles for publication, review copies, and communications relative to editorial matters should be sent to the Editor, *OPiL*, Department of Linguistics, Osmania University, Hyderabad 500 007, India.

ISSN 0970-0277

OPiL 19: 1-17 (1993)

LANGUAGE DEVELOPMENT, MODERNISATION AND TECHNICAL TERMS IN TELUGU*

G.S. Rao

Indira Gandhi National Open University, New Delhi

Abstract: *The sources for formation of technical terms in any language are quite varied - ranging from transfer (ordinary terms gain technical authority), reformulation of items within a language, loan translation, borrowing from foreign or national classical languages and so on. The paper deals with some of the processes employed by the Telugu language to modernise itself. The processes are classified into 12 categories based on sound assimilation, semantic gap-filling, parity with other national or international languages. It also explains with examples the six mechanisms Telugu uses in hierarchical order.*

1. Different languages are said to be at different stages of evolution and development. The former is historical and common to all languages. Evolutionary process is more or less purely internal. From one stage of its history a language evolves into the next stage. For example, Sanskrit has a three-way distinction of the number category, i.e. Singular, Plural and Dual but modern Indo-Aryan languages have

only Singular and Plural. Proto-Dravidian has a contrast between Inclusive and Exclusive I Person Plural pronoun but Kannada has lost the distinction. Telugu, which employed *wa:Du* 'he' and *adi* 'she' without any pejorative connotations upto the time of Tikkana, developed a social contrast between *wa:Du* and *atanu/a:yana* (Hemalatha 1988). The English language lost an eight-case declension of nouns within a short period of three centuries. These developments are system internal. However, some changes may take place due to foreign intervention or influence. The rise of aspirate stops in some Dravidian languages, the creation of a Gender contrast in Maria Gondi (Natarajan 1977), the development of Inclusive/Exclusive contrast in Marathi (Emeneau 1956), etc. may be traced to foreign influences. The greatest influence of an external language, of course, is in the realm of lexicon. Telugu, for example, borrowed extensively from Sanskrit, Persian, English and now Hindi. The second aspect is development of a language due to 'active intervention' (Annamalai 1980) of language-independent sources like the government, the academies, the litterateurs or other languages. For example, the state may decide to make certain modifications in the script to suit mechanical devices. Kamal Pasha's edict to change Turkish script from Arabic to Roman in the twenties is a significant example of state intervention.[1] The Academies may set certain standard procedures in the use of a dialect vs. the other dialects. The Telugu Academy actively promotes the use of the Coastal dialect of Telugu as the standard form for academic purposes. In some cases, men of letters may popularise certain forms, expressions and usages. They even coin words to suit new demands. For example, Narla (as editor of *Andhra Jyothi*) created and popularised the word *ali:na vidha:nam* 'non-alignment' in Telugu. The words *ghera:wo* and *dha:rna* from Hindi have gained currency in the Telugu newspapers.

2. Let us now try to understand what language development means and how its various mechanisms work. The development of a language is necessitated by diversity of life, economic mobility of the population, and cultural changes in the society. People from a primitive culture developed into a modern urban society through several stages of Pastoral, Agricultural and Industrial societies. Naturally, the language has to meet new demands of the new vocations, cultures and life styles. Earlier, the changes in societies and the development of languages went hand in hand and at a steady pace. The language had enough time to develop new linguistic devices to describe the new phenomena. In Telugu, words like *waDrangi, ce:ba:Disa, rampam, uli, sutti,* etc. were created in the field of carpentry when this profession developed. Similarly, English has created technical terms related to steam engine when that was discovered in the eighteenth century. Sometimes newly introduced scientific devices trigger off the creation or introduction of new words. The Mughal system of revenue introduced hundreds of words, like *asalu, waDDi, sistu, kaulu, munsabu,* etc. into Telugu which have become naturalised. The language develops that 'inner accommodation' (Srivastava 1988) to absorb foreign words into its phonological and semantic systems. For instance, English 'rail' has become in Telugu *raylu* and developed a plural form *rayLLu* in consonance with the native system. To avoid homophony sometimes a whole paradigm is imported. See, for example, the two plural forms of:

rule (line) : *ru :LLu*

rule (law) : *ru :lsu*

Thus 'ticket' has become naturalised as *TikeTTu*, 'receipt' has become *rasi:du.* This kind of naturalisation develops within the system only if the elite literati do not interfere or when these classes of words enter the folk usage directly (liggule:Tu 'regulator', yaksale:Taru

'accelerator') without the medium of the educated class. Thus one can say that the language develops linguistic devices its society needs. Modern technical terms like 'computer, calculator, laser, rocket' do not have any natural moorings in an agricultural society. Or, agricultural terms like *eruwu, kalupu, sa:lu, na:gali*, etc. do not have any bearing in a pastoral society. The other way also works. The twelve different words for 'snow' in Eskimo, twenty different words for 'fish' in Malayalam, five different words for 'rice' in Telugu and so on have no immediate relevance for other language speaking societies unless somebody makes it his subject of specialisation.

3. Linguists say that all languages are equal. This is as much true as the cliche 'All men are equal'. That is, we cannot take it for granted that these are permanent truths. Physiologically all men have more or less the same internal organic system. Similarly, all languages have similar inner devices. The equality notion ends there. Socially some human beings are far different from other sets of human beings. A haveli man of Argentina does not have the same status as the bureaucrat in Bombay. The opportunities and levels of living must be different for each group. Similarly, languages are not comparable functionally. A tribal non-literate language like Koya is not functionally equal to a literary language like Telugu. In the same manner, functionally limited Telugu is not equal to English. Of course, this depends on what we use the language for and what we want to use it for. We want to use the language in order to 'progress', no matter how we define it. If the pastoral man is satisfied with his life and living style, he does not require any other language than his own tribal mother tongue; if a rural agriculturist in Andhra does not want or need improvement in his income or vocation Telugu serves him all right. But people are not content with what they have. They want to change their life. A pastoral man seeks agricultural land; an agriculturist seeks a job in the city; a

city man demands higher education; an educated man wants to go to the west either for higher education or job. Thus man has a constant urge for upward social mobility, vocational diversity and economic upliftment. The aspirations of the people get reflected in the activities and priorities of the government in particular and the society in general. Individuals, groups and societies want to catch up with the other guy(s). There lies the crunch. These aspirations put enormous demands on the function of language. Languages are suddenly used for more purposes and functions than before. In order to make our languages catch up with the other we make a quantum leap forward by wholesale transfer or outright creation of new terminology. Occasionally we come across English application forms translated into Hindi or Telugu which are incomprehensible to the native speaker. Remember Girisam's famous utterance in *Kanyasulkam* about the incomprehensibility of Telugu translation of 'social reform'! There is a linquistic gap between what we can do to the language by way of translation and what the language can do for us in terms of comprehension. Language zealots should understand the limitations of their mother tongues in different domains and functions as well as the status of the people in the nation. Like humans, languages also need acclimatisation in new environment. We have a built-in parochial notion that our language is as sweet and expressive as any other language, if not more. When the literature/information in new fields is multiplying by leaps and bounds each year, it is just not possible to translate all of it into our languages instantly, notwithstanding computers. The infrastructure behind each such invasion of knowledge is not created to absorb it steadily and naturally. For example, there is a knowledge gap not only in science and technology but also in law and social sciences. One may perhaps translate literature into our languages without much difficulty because literature revolves around human emotions, hopes and conflicts which

are universal. But man-made institutions and mechanisms, like atomic power, thermodynamics, laser printers, aeronautical engines, oil drilling, genetic engineering, semiconductivity, chip and so on, make a difference. There is a gradualness in the progress of these artefacts in other societies whereas in ours we want to leap-frog into an alien world without the infrastructure. There is nothing wrong in borrowing new technology but only in its transformation and absorption. We need to temper our emotions with what is possible and what is in the best interests of our society. It is this lack of orientation to reality that led to vast industrial projects at the cost of agriculture in the fifties and the present technology import at the expense of indigenous growth of infrastructure. Technical knowledge cannot be similarly assimilated into our lanaugages instantaneously and naturally. Modern computer devices provide facilities to convert one graphic input into another graphic output instantaneously but not the content. There is also another dimension to it, i.e. the competition in job market. People of different languages compete for the same national job cake. Most of our jobs are non-skill oriented, but the skill-oriented ones pay more. It is in this context that the use of language has to be understood. To attain the required skill level a candidate has to depend on his native language as well as a knowledge (information)-rich language like English. Language chauvinists may say that such arguments smack of colonial mentality. But theirs is slogan-mongering intended to divert the attention. Mother tongue education, like mother's milk, is most desirable, but when mother's milk is not adequate there is nothing wrong in taking supplementary foods. We do that in technology. When indigenous mechanisms are found to be inadequate to compete in the national or international markets we fall back on import of technology. Similarly, to supplement our linguistic repertoire we must not shy away from mastering the other language or borrowing the other language

devices to fit them into our system harmoniously. If the competition is confined to the same language people or people with same skill levels one need not worry but our country is multilingual and multicultural, and the competitions are national. Hence uniform standards are expected irrespective of language backgrounds of the candidates. We cannot afford to create any job quotas on the basis of language. Since that is the case either we have to develop our lanugage resources or acquire other languages to be able to compete with confidence.

4. The subject of this paper is the first of the two propositions, i.e. development of natural linguistic devices in our languages by simplifying the language and enriching the concept formation. Language planners say that the 'development' of a language involves:

(a) Intellectualisation : Production of professional literature

(b) Standardisation : Rise of uniform code accessible to all people.

(c) Modernisation : Expansion of the code to meet modern needs and mechanical devices.

We are concerned here with the third component, modernisation which involves translation, borrowing, coinage, script reform, computerisation, inter-translatability and so on. Foreign words have to be naturally acclimatised into the native system of grammer (phonology/morphology) and develop immediate comprehension in the native speakers. There are three types of devices: (a) translation 'atom' *: aNuwu,* 'chatter box' : *ma:Tala mu:Ta* (b) transliteration 'radio' *: re:Diyo:*, 'television' : *Telewijanu,* 'robot' *: ro:ba:Tu* (c) descriptive creation 'carbon diaxide' : *boggu pulusu ga:li,* 'photosynthesis' : *kiraNajanya samyo:ga kriya.* There are different stages in the development and absorption of these devices into the language. Linguists, educationists and writers have been using one or

the other devices to enrich and expand the expressive power of the language. There are three objectives in resorting to these devices: linguistic simplicity, conceptual clarity and easy accessibility and spread. Many a time a particular use is floated for currency but only time decides whether it is ratified by the speakers or not. For example, in Telugu there is only one word *mancu* for 'snow, fog'. On the basis of *mancu* we have *mancu gaDDa* 'ice' as well as *aisu gaDDa* (a loan calque with English 'ice') in competition. Only time can tell which one will become standardised. The creation of *pinDi mancu* or *muggu mancu* (descriptively adequate and phonetically natural but conceptually unreal) as opposed to *poga mancu* did not gain currency. These processes have different levels or degrees of acceptability based on currency, frequency and naturalness within the system. Above all, there should be a need. At present Telugu newspapaers are using foreign elements indiscriminately for purposes of not only plain need but also for pun or sarcasm. For example:

kotta ka:mpiTiTuw pustaka:la konugo:lu
kya:Su bya:gu do:pidi:
Ti:carla po:sTulu bharti: ce: yanDi
(headlines in *Eenadu*)

Innovation does not always lead to progress or assimilation. Secondly, a device or a form is register-bound. In a particular domain, some words are acceptable while others are not. For example, Telugu newspapers are using *spandincu* in the sense of 'react' or 'respond' but in speech it has not gained currency. Similarly, words like *minjumale, a:na, bho:jyamu*, etc. are typically confined to revenue records. It is not that every technical word should be known to every speaker of the language, but that any speaker of this language must recognise it as a word belonging to his language and be able to find the meaning in a standard dictionary and, use it, if necessary. Some Hindi words like

khari :f, rabi, sarpanc, kabja are increasingly being used in Telugu newspapers because of the rise of a new generation of professionals and writers. These people are generally familiar with Hindi and English and they are conditioned by (a) uniform standards of technical words across languages and (b) frequent use by the media in the formal programmes. Some words have, of course, been in use since quite a long time either because the early writers of Telugu text books created descriptive phrases with internal sources or coinages with the help of Sanskrit (*lamba ko:Nam, tribhujam, natrajani, pra:Na wa:yuwu, boggu pulusu ga:li,* etc.) or they have been borrowed into the language at the grassroots level (*raylu, paysa, nagadu, khaja:na:*, etc.). Words from other languages have different degrees of acceptability and survival. Each such import can be characterised, on the basis of past history, as belonging to one of the following types:

1. Phonologically odd but conceptually acceptable

   meDulla: 'medulla'

2. Phonologically and tonally natural but conceptually alien

   sila:jamu 'water plant'

   sili:ndramu 'icicle'

3. Phonologically natural but tactically odd

   Duwo:Dinam 'duodenum'

4. Conceptally accessible but phonologically odd

   TiKKeTTu 'ticket'

   baKKeTTu 'bucket'

5. Descriptively adequate but formally inadequate

   banti ginne ki:lu 'shoulder joint'

6. Popularly accessible but linguistically defective

   srikusuma 'SR Kusuma'

7. Semantically and phonologically acceptable but registrally restrictive

   bi:ja gaNitam 'algebra'

   bi:ja lipi 'secret script'

8. Conceptually desirable but phonologically alien

   ghera:wo: 'forcible confinement'

9. Conceptually acceptable but linguistically superfluous

   kha:rif : da:lwa

   rabi : sarwa:

   daskatu : santakam : ce:wra:lu

10. Conceptually adequate but comprehension-wise distant

    bha:wa garbhitam 'pregnant with thought'

11. Technically imprecise but traditionally acceptable

    anila lo:hita kiraNam 'ultra violet ray'

12. Technically precise but meaning-wise strange

    abhrakam 'mica'

We can go on to characterise the technical words already in use in several more ways. The point is that these forms are either adequate or inadequate in different contexts and times. The language receives a word, when it is first used and the speakers popularise it if it is (a) essential, i.e. there is no alternative and (b) meaningful, appropriate and suitable within the existing classification of things. New words take some time to take roots. It depends more on the frequency of use than anything that the writer wants done. Different writers use different forms until one becomes well-defined in meaning or well established in usage. Dependency on total Sanskritisation or outright transliteration of English terms proves dysfunctional and fruitless. Use of more than one language, particularly English and Telugu in the classrooms will

facilitate the spread of forms both orally and in writing. Specialists in the field must strive to produce popular materials in Telugu so that their endeavours result in standardisation of terms in Telugu. The oddity or imbalance or lack of precision or phonetic resistance need not bother the writers. They should concentrate more on expressing the concepts to their audience. Leading Telugu journals for scientific writing, like *Telugu, Journal of Telugu Studies, Annadata*, etc. should be studied carefully to obtain the frequency count, acceptability rate and standardisation norm of new and burgeoning technical terminology. Ultimately it is the function and frequency that decide the fate of newly coined or borrowed words in a language.

5. 'Intertranslatability' has been introduced as a criterion of language modernisation by Ferguson. He particularly has in mind one of the European languages as the base and translatability into one of the languages of the developing nations as the recipient. Some Indians react to it as a form of linguistic imperialism. But we should not be touchy when academic issues are involved. It is not that anything written in Indian languages can be translated into English easily and that only translation from English into Indian languages is fraught with difficulties. For example, it is extremely difficult to translate the following Telugu forms into English:

waddanTe: Dabbu

a) 'Money, if you say'no"

b) 'Money, money, money, whether you want it or not'

c) 'More money, even if you reject'

d) 'The more you reject money, the more you get'

nuwwu enno: koDukuwi?

a) Which no. son are you?

b) How 'manieth' son are you?

c) What is your number among the sons?

wadina

a) sister-in-law

b) cross-cousin sister

c) elder brother's wife

d) wife's elder sister

Thus it is not easy to translate certain expressions or technical words into other lanaguages because these relate to the inner linguistic/semantic properties of the language. Translation from English into Indian languages must be done meaningfully and idiomatically. In terms of the desired level of standardisation the writer has to forego certain features.

6. The introduction and promotion of technical terminology into Indian languages involve both external intervention as well as internal adaptability. Due to socio-cultural factors many state governments have introduced Indian national languages as media of education upto the granduate level, if not higher. Tremendous efforts are being made by writers, editors and linguists to formulate norms and mechanisms for introducing the terminology into our languages. Is there a hierarchy of linguistic mechanisms? Yes, there is one. As we survey the history we find the mechanisms in the following order:

1. Sanskrit *tatsamas*

bhu:go:Lam	'geography'
udajani 'hydrogen'	
mu:tra pinDam	'kidney'
wa:Nijya manDali	'Chamber of Commerce'
drawyo:lbaNam	'inflation'

2. Sanskrit *tadbhavas*

ka:m co:r	'work evader' (Hindi)
khe:l gaon	'games village' (Hindi)
nasbandi	'sterilisation' (Hindi)

cadara 'square'
majja:nam 'afternoon'
naDa mantrapu siri 'nouveau riche'
candama:ma 'moon' (Telugu), etc.

3. Transliteration or direct borrowing

ba:t ru:m 'bathroom'
jenare:Tar 'generator'
DayaTingu 'dieting'
la:bore:Tari 'laboratory'
jinda:ba:d 'hail'
a:bo:ru 'prestige'
a:bka:ri 'tax'

4. Calques (loan translations)

do:ma tera 'mosquitoe net'
rawwala danDa 'diamond necklace'

5. Native creations

u:piri tittulu 'lungs'
kuTTu pani 'tailoring'
kaTTu ba:nisa 'bonded labour'
pilla pe:gu 'fallopian tube'
onTettu po:kaDa 'sectarianism'

6. Mixed compounds (half-native and half-foreign elements)

raylu banDi 'train'
ra:ca koluwu 'court service'
sonta pani 'one's own work'
puTTina ro:ju 'birthday'
kula bhrasTuDu 'black sheep of the family'
ga:li go:puram 'temple tower'

7. There are four stages in the development of technical words (a) Entry (b) Frequency (c) Spread and (d) Acceptability. The six types of

mechasnisms given earlier have different histories between (a) and (d). Though the six types are hierarchical in that order in terms of Entry and Frequency, they have reverse hierarchy in terms of Spread and Acceptability. It is but natural that the native creations have greater comprehension properties than translations or loans. Transliterated forms have greater accessibility and adaptability than translations because of need. Newspapers hasten this process. Mixed forms have greater acceptability than translations or transliterations because part of the element is already familiar. Sometimes English words have become more common than the native words *Taymu* vs. *poddu;* some English words are more common than their Sankritised translations *asembli*: vs. *saciwa:layam;* sometimes educated people use English words while the common people use native phrases *fuTpa:t* vs. *ka:li ba:Ta.* Some English words carry greater precision or authenticity, *so:Salijam* vs. *sa:mya-wa:dam.* Writers intuitively arrive at the acceptability of a word and use it. However, it is about time to use quantitative measures to judge the naturalisation process in Telugu. Research studies must be undertaken to study the favoured processes of word formation, phrase creation, authenticity of translation and transliteration. Since most of our technical terminology comes from English we must face it squarely. Earlier writers have depended (they do even today) on Sanskrit since it is an intellectual forbear or mainstay of Indian languages. But in terms of comprehension, uniformity of technical usage and future demands one must seriously consider direct import of concepts (and words) from English, bypassing Sanskrit. This would make the journey to knowledge a one-step endeavour rather than a two-step one. We must ponder on the following issues:

1. Acceptability: What is acceptability? Are the writers, the readers, the newspapers or the academy responsible for

creating standards of acceptability? Independent use of words by more than one factor is an important criterion in this regard.

2. Frequency of use: How do we decide? The researchers should undertake the task of indentifying a set of words and study their frequency in the journals, newspapers, radio, T.V., cinema.

3. Comprehension: The words and their possible substitutes should be tested for their comprehension among different classes of people.

4. Standardisation: Are these words used in some meaning in other languages? This is very important, and it must be considered before new coinings are adopted. Preference should be given to English adaptations over quaint Sanskrit formations.

5. Technical precision: Does the word give exactly the desired meaning? Should *pannu* and *sunkam* be used as synonymous terms or is there a distinction like in English 'tax' and 'duty'? Is *sama tula:ha:ram* equivalent to 'balanced diet'? Which one among - *bolli, so:bi, tella poDa* - is the technical equivalent of 'leucodermia'?

6. Tonal and phonetic fit: Do the words fit into the Telugu system in a natural way? Sometimes phonetic, and graphic modifications have to be done to create the tonal quality befitting Telugu language: 'hospital' : *a:supatri.*

7. Semantic transfer: Ordinary words have to be endowed with different senses to meet the conceptual needs. Words like *a:raDi, kaTTaDi, wattiDi* can be, and sometimes are, used to mean 'harass, restrict, pressure'. Writers should use them more frequently to popularise them.

8. Prestige: Some words have greater prestige than others either because of registral demands or because of archaic nature of the existing native word:

ha:ram vs. *danDa*

Tifinu vs. *upa:ha:ram/na:sTa*

9. Multiple words: Initially words are formed with or are borrowed from more than one linguistic source. We must find out which one gains currency in course of time. For example, which of the three - *gunDe po:Tu, ha:rTu eTa:ku, hrudro:gam* - gains currency in which context and in what meaning and by whom? These must be studied and tested.

10. Verbal formations: Many times English words are directly borrowed into Telugu and combined with a Telugu auxiliary:

rijaynu ce:yu	'to resign'
sTrayku naDupu	'to strike'
fi:l awu	'to feel'

8. In conclusion we can say that a body of scholars should be set up to study the current usage of technical terms in the textbooks because they represent 'deliberate art' and newspapers because they represent 'history in a hurry' to ascertain the authenticity, frequency, acceptability and standardisation. Both compel the writers to produce words and phrases to meet new demands and concepts. Further, some agency of the government or a university should take up publication of this data to codify and standardise items for continued use and popularisation.

Notes

* An earlier version of this paper was presented at the UGC National Seminar on 'Modernisation of South Indian Languages in Relation to Science and Technology' organised by the Department of Telugu Studies, S.V. University, Tirupati in 1989. The author is grateful to the many helpful comments and criticism made by the

participants in the seminar as well as his colleagues, particularly Professor P.C. Narasimha Reddy, Dr. J. Pratap Reddy and Dr. Priya.

1. Kamal Pasha was the popular leader of Turkey who turned his country into a modern democratic state, converted Turks into a more egalitarian Islam and imposed Roman script on Turkish in the 1920s.

References

Annamalai, E. 1980. (In a lecture on Language Planning at CIIL, Mysore).

Emeneau, M.B. 1956. India as a Linguistic Area. *Language*, 32.

Ferguson, Charles A. 1979. Language Planning Patterns. *Language*.

Hemalatha, C.1988. Intermediate Telugu. MPhil dissertation, Telugu University.

Natarajan, G.V. 1977. Adjectival Concord in Gondi. *Indian Linguistics*, 38.

Satyanarayana, P. and C. Sesharatnam. 1989. *Dura Widya*. Habsiguda, Hyderabad.

Srivastava, R.N. 1980. (In personal communication).

OPiL 19 : 19 - 28 (1993)

A CASE OF SYNTACTIC INNOVATION IN WRITTEN TELUGU*

C. Ramarao
Osmania University, Hyderabad

Abstract: *Though written language is derivative of spoken language, the former takes an independent course of development, and becomes an object of study independently. The differences and similarities of spoken and written language are explored and found that the written languages can innovate even syntactic principles. Telugu written language prsents a case of two principles called (1) hierarchical delition principle, and (ii) nominative preference principle. The second principle is contingent on the first principle. It is also hypothesised that in a semiliterate society, the principles innovated in written language may take a long time to diffuse into spoken language. Societies and languages differ in this respect due to literacy differences among the language users.*

The early linguists of the century expanded their linguistic experiences from classical Indo-European languages, which were mostly written, to a wide variety of languages of other groups, which were mostly spoken. Thus, their descriptive studies cover more unwritten languages than written languages. This experience influenced their understanding and their view of language. Almost all

the early text books of linguistics defined language as a system of vocal symbols and written versions of language were thought of as transcriptional variants of spoken languages, which some cultures had developed by some chance of history. For them the term 'spoken language' is redundant and the term 'written language' is an oximoron. However, Prague school linguists of the late 30s, more notably Josef Vachek, have stressed the need to recognize written language as a functionally different variety of spoken language. Vachek (1989) further fits it into the Praguian concept of markedness system in which written language is a marked member of the spoken-written set. He further has studied the modality differences which contribute to the organizational differences in the written languages and observed that written language can deviate from spoken language, ascerting a degree of independence in its development. The present paper is an attempt to explore some aspects of such developments in Telugu with a view to throw some light on the independence of written language in terms of goals and strategies. It is also hoped that the principles, I postulate, will have cross linguistic validity, though such an attempt is not made here.

Spoken language is a process and is unidimensional whereas written language is a product and is pluridimensional. The spoken language has stringent time limitation which Hockett (1966) characterizes as 'Rapid Fading' in his design features of language whereas written language has relative permanance. Written language lacks some of the natural advatages of spoken language; for instance, some contextual clues and extra linguistic expressive features. This loss is adequately compensated for in written language by its inherent information-storage and retrieval facilities and easy surveyability. Due to these basic differences in their modality, implementation and inherent advantages and disadvantages, these two modes of language assume different functions in literate societies. As Halliday (1985)

observes, the mere increase in numbers of the members of a speech community has resulted in a writing system to facilitate distant and complex communication.

Recent linguists, particularly in the last decade, are mainly inspired by the interdisciplinary approach of folklorists, sociolinguists, literacy experts, language teachers and language planners and therefore have focussed their attention to the similarities and differences of spoken and written languages. A comprehensive review of the literature of ideas and works can be found in Akinnaso (1982, 1985).

Various linguists have approached this subject from different points of view. These can be broadly classified under two headings as: 1. **representational** and 2. **organizational.**

Vachek has been arguing for the past fifty years (1939-1989) for the independent functional status of written language. He has studied and emphasised this difference and established the legitimacy of written language as an independent field of study in linguistics. Though he has laid down early foundations for such a study, his own study is confined mainly to the spelling variations and capitalizations in European languages. Perhaps a few more devices like punctuation marks, discourse titling, italicization, size variation of graphemes and probably diagrams and listings, can be added to the above list. All these are visual devices though the last two can also be called organizational because they affect the linguistic organization.

The second approach, which is mainly due to American linguists, studies the organizational differences between spoken and written languages. Chafe's (1979) distinctions, for instance, fragmentation-integration and involvement-detachment, fall in this category. The frequency of accurrance of passive sentences and

transitive verbs or preferences for more embedding or less embedding fall in the organizational category.

A note of clarification has to be added here. Many linguists who started to study the differences have concluded that such a sharp division between spoken and written languages is not possible and there is a continuum between informal spoken to formal written via formal spoken. This view is mainly attributed to Tannen and has emerged out of her research on Yoruba ritual language (Tannen 1982). It has been found that the special features attributed to written language are also found in spoken language as well.

In addition to representational and organizational methods we could approach the problem from the perspective of syntactic principles, if such principles can be found. I consider this approach to the significant because this alone sharply contrasts the written and spoken modes.

A small diagression is in order. The conclusions of Akinnaso and Tannen are based upon the data from highly literate languages on one hand and totally non-literate languages on the other. The former presents a situation where the differences are blurred because of bidirectional movement of features, and later situation has no comparable counterpart to the spoken varieties. Moreover, as mentioned above, they are based on quantitative organizational features rather than on innovative principles.

Indian languages offer a different situation from both of the above. In India we are somewhere along the line between the two. Indian linguistic communities consist of groups with varied degrees of literacy and the functions of literary languages are relatively fewer compared to western literate societies. Some syntactic structures have circulated from the formal written to the informal spoken in western languages and such circulation is slower in Indian societies. For

example, take the use of passive. It rarely occurs in conversational style to the extent of allowing a statement as that passive is unnatural in Indian languages and it is a result of copying the English usage. I am not going to argue about this here, though I do not share this observation. However, the actual situation is that passive sentences do occur, though rarely, in conversational Telugu and their occurence increases if the formality and the distance - physical or psychological - increases between the producer and the receiver of language. Obviously the distance between them is more in case of written discourse than in case of spoken discourse. I assume this observation is valid for a majority of literate societies in India. For example, one can say in spoken English "I haven't been informed about it." when he is asked about why he missed yesterday's talk on linguistics. I do not think that the passive version occurs in similar situations in any Indian language.

We find certain sentence types, syntactic structures and some syntactic processes and principles which are used only in written languages of semiliterate societies. At least, some are found in Telugu and parallel usages can be found in others.

Before going into the data and explanations I would like to give a very brief account of a relevant syntactic process, namely coordination. In Telugu there is no explicit coordinate marker like in English or Hindi. Nor do we find coordinate reduction relevant because the deletion possibilities are there across sentences in a discourse. The coordination between the verb phrases is expressed mainly by intonation. In coordinating other phrases, final-vowel-lengthening of all the coordinated members is lengthened optionally. For example:

1. *aayana annam tinnaaDu, nidra pooyaaDu.*
   he food ate slept
   'He ate food and slept.'

2. *aame bazaaruloo panDlu, puulu, ciiralu konnadi.*
she bazaar-Loc fruits flowers saris bought
'She bought fruits, flowers and saris in the bazaar.'

The intonation is not represented in written Telugu, yet it is comprehensible. The representation of vowel length is not consistent in written Telugu. Even in spoken Telugu, it is not always identifiable, though this statement is liable for verification with the help of experimental studies. In both it is redundant because in spoken language its function is carried over by intonation and in written language it is taken on by punctuation marks.

The Telugu plural form is marked by *lu* suffix and it changes to *la* when it occurs in attributive position or when it is followed by a post-position, a word like form that has case function or a case suffix. For instance, the plural marker *lu* in the following phrases becomes *la*:

3 (a). *pandu***la** *pempakam*	*(b).* *pandu***la** *miida*
pig-pl rearing	pig-pl on
'rearing of pigs'	'on pigs'
*meeka***la** *pempakam*	*meeka***la** *miida*
goat-pl rearing	goat-pl on
'rearing of goats'	'on goats'
*gorre***la** *pempakam*	*gorre***la** *miida*
sheep-pl rearing	sheep-pl on
'rearing of sheep'	'on sheep'
(c). *pandu***laku**	
pig-pl-Dat	
'for/to pigs'	
*meeka***laku**	
goat-pl-Dat	
'for/to goats'	

gorrelaku
sheep-pl-Dat
'for/to sheep'

The phrases in (3a), (3b), and (3c) above can be coordinated as given in (4a), (4b) and (4c) respectively:

4 (a). *pandula pempakam, meekala pempakam, gorrela pempakam*
'rearing of pigs, rearing of goats and rearing of sheep'

(b). *pandula miida, meekala miida, gorrela miida*
'on pigs, on goats and on sheep'

(c). *pandulaku, meekalaku, gorrelaku*
'for/to pigs, for/to goats and for/to sheep'

The above phrases represent the pattern that occurs in spoken Telugu. In written Telugu a syntactic principle operates which deletes the repeated noun, post-position or a case marker except the last. This process resembles the deletion of coordinate marker in English.

After the deletion, (4a), (4b) and (4c) look like (5a), (5b) and (5c) respectively as given below:

5 (a). *pandula, meekala, gorrela pempakam*
'the rearing of pigs, goats and sheep'

(b). *pandula, meekala, gorrela miida*
'on pigs, goats and sheep'

(c). *pandula, meekala, gorrelaku*
'for/to pigs, goats and sheep'

This deletion has an implication for the grammaticality of the resulting structures.

In case of the deletion of the noun, the resultant construction is not only high in grammaticality hierarchy but the deletion seems to be favoured or preferred. In case of post-position (word-like-form) the deletion seems to have been tolerated, resulting a grammatical utterance. In the last case where a case suffix is involved in the deletion it seems to have resulted in an utterance with a questionable grammaticality.

The deletion hierarchy can be stated in the following way:

noun > post-position > case marker

This, I propose as a principle that operates only in written Telugu and I call this 'hierarchical deletion principle'. After the operation of hierarchical deletion principle, there is left a row of orphan nouns which have lost their supporting forms. They prefer to become independent by converting themselves into nominatives by nominative preference principle, which is a by-product of hierarchical deletion principle. I have the following explanation for this by product principle.

The oldest written records available come out of Mesopotamia and they date back to 3000 B.C. They seem to be lists of some sorts and listing in many cases prefer nominatives. A list is always, a list of objects and the objects are coded into nouns in language. A coordinate structure is a list of objects in linear sequence, and a list prefers nominative forms as members.

Both of these principles operate optionally but the byproduct principle operates quite idiosyncratically, affecting each individual item separately.

Both these principles together operate only in written Telugu and the goal seems to be to achieve greater precision by avoiding redundancy. Both these principles in conjunction achieve the goal of precision and they can be called editing principles. So far this evidence is available for written Telugu.

A popular Telugu writer, Ranganayakamma, has laboriously collected a vast amount of data over a period of ten years and published them with a view of 'correcting' the mistakes in written styles. I have liberally utilized her data for my observations. I have found her data to be valid after checking with my data, collected latter.

These principles, if valid, point out that written languages can independently innovate syntactic principles and thus they support the assumption of Vachek that written language can take an independent course of development in syntax too. It will be interesting to further explore the ways and means and obviously the limitations of this independence.

Note

* This paper was presented at the National Seminar on Linguistic Strategies: Written and Spoken organised by the Centre of Advanced Study in Linguistics, Osmania University, Hyderabad, January 17-18, 1991.

References

Akinnaso, N.F. 1982. On the Differences Between Spoken and Written Language. *Language and Speech*, 25:97-155.

_____. 1985. On the Similarities Between Spoken and Written Language. *Language and Speech*, 28:323-59.

Chafe, W. 1979. Integration and Involvement in Spoken and Written Language. Paper presented at the II Congress of the International Association of Semiotics.

Halliday, M.A.K. 1985. *Spoken and Written Language*. Victoria: Deaking University.

Hockett, C.F. 1966. The Problem of Universals in Language. J.H.Greenberg, ed. *Universals of Language*. Cambridge, Mass: The M.I.T. Press.

Tannen, Deborah. 1982. Oral and Literate Strategies. *Language*, 58:1-21.

Vachek, Josef. 1989. *Written Language Revisited*. Amsterdam: John Benjamin.

2017
OPiL 29: 29-41 (1993)

AN APPROACH TO LANGUAGE AND NATIONAL INTEGRATION

B.N. Patnaik
Indian Institute of Technology, Kanpur

Abstract: *The paper aims to develop a point of view regarding language and national integration in the Indian context on the basis of which specific policies and strategies in this regard can be formulated.*

It may be stated at the very outset that it is not claimed that the strategies and the policies that follow directly from the point of view developed here will necessarily solve the language problems of our country. Solutions of real life problems is a comsequence of the satisfactory operation of a number of factors, reasonable policies being just one of these. For instance, acceptance of the policies by the poeple is an extremely important factor, especially so in democratic countries; if it is not there, then the mere fact that the policies are sound is not likely to yield the desired results. Our purpose of stating the above is to emphasize that certain kinds of facts, observations and claims would not count as arguments against the approach outlined here; for instance, the observation that this approach is not likely to or will not solve our language problems. This is not to say that it is immune to criticism and rejection; it can certainly be evaluated on grounds of consistency, coherence, explicitness and the like. Like all academicians

who discuss real life issues as abstractions to a certain extent, we discuss some aspects of our language problem here in the same manner. Such treatment of real life issues is by no means a futile endeavour since it at least increases our understanding of the same and thus helps us in developing a correct perspective without which viable policies and strategies cannot be formulated.

We are concerned with national integration, because for us there is no real alternative to it. In its absence, violence and dehumanization of a whole country can result with an intensity probably much greater than what was witnessed during the partition days which the country cannot afford to go through again.

The main threat to national integration comes from the diversity that exists in India. Unfortunately diversity has not always been viewed as a problem. Opinions such as India always demonstrated unity in diversity, diversity in itself is not a problem, etc, have succeeded in undermining the seriousness of the problem. History does not show that unity existed among the diverse groups in India and as for the view that diversity in itself is not a problem, the same it can be said virtually of everything: nothing in itself is a problem. It is important to see a problem as a problem because it is only then that one works for a solution.

That we regard diversity as a problem does not mean that we wish to eliminate it. The most inspiring visions of the Indian society can be based on only the acceptance of diversity. Uniformity may have a good deal to commend itself, but the multilingual and pluricultural India is the consequence of a series of historical accidents and this plurality cannot be done away with without major costs to the society. Besides in some sense, diversity is perhaps more natural to man than uniformity. As a social being, man has a natural propensity to form groups and he defines and asserts his identity as member of a group. His sense of

"mine as against thine" finds expression, among other things, when he views his group interests as distinct from those of other groups. Thus diversity in one form or the other becomes part of the social reality. Diversity of specific types, multilingual, multicultural, etc. is often a consequence of the history of certain societies.

By opting for democracy at the time of Independence, India preferred the technique of persuasion to the one of coercion for bringing about change. The limitations of this choice are quite well known. These could be pretty serious in a newly independent country. Again, between adopting the technique of persuasion and risking delay and opting for speedy development, the latter was given a low priority.

What is needed is a clearly stated policy of national integration which must provide guidelines as to how people belonging to different language and culture groups can live together in harmony within the framework of democracy. "Unity in diversity" is the idea that has inspired many policy planners although what it precisely means and how it can be achieved have hardly been satisfactorily articulated.

In our view national integration can be claimed to have been achieved to some meaningful extent when the various diverse groups in the country come to believe that despite mutual conflicts, tensions and undesirable situations arising from time to time, it is still in their best interests to remain within the framework of the Indian state, get their grievances redressed and work for their uplift within this framework. There have indeed been occasions in post-Independence India when the entire country showed exemplary unity of purpose in dealing with forces which sought to undermine the country's integrity; geographical and otherwise. This shows that elements conducive to national integration exist and these must be strengthened. How to do it includes how to discourage tendencies, also evident during the last forty five

years, that weaken the cause of national integration, and it is with this that we will be concerned in this paper.

This brings us to the language-based conflicts, most of which relate to the choice of one (or more) language(s) as medium of instruction in the constituent states of the Indian Union and the choice of Hindi as the official language of the Union. The decision to choose an Indian language as the official language of the Union seems to have been governed by the following considerations: (a) an Indian language alone can be a national symbol, a symbol of identity of India as a nation-state, (b) choice of one language as the official language at the Union level can lead to greater overall efficiency and economy in the functioning of administration at that level, (c) an Indian language will be more accessible to the common man than a foreign language, say English, and (d) it can contribute to national integration. Since our concern is with (d) we will make only brief observations on the remaining three.

With respect to (a) we feel that India as a nation-state does not need a symbol of identity in every domain. It is an index of the country's maturity that it has not chosen a religion as a marker of its identity. Similarly the country would do well not to identify a language as an identity symbol. When the members of one (or more) language group(s) feel, even without justification, that the members of another group will gain advantage over them if a certain symbol is chosen, then the best decision is not to have a symbol. No matter which modern Indian language is used as the symbol of identity, this fear will be there, and none from the classical Indian lanlguages can also be chosen for the purpose because these are too closely associated with religions in the people's perception. Therefore, the best solution is not to have any language at all as the symbol of our identity as a nation-state.

Coming to (b) we believe that there is merit to this but then there are other considerations too. Acceptance of diversity in the society amounts to acceptance of the legitimacy of diverse perspectives, and if a certain perspective is felt to be the most desirable, then people must be persuaded to accept it as such. In the context of the official language policy at the Union level what it means is the following: unless the people are persuaded to accept a language as the official language (in other words, unless an interstate link language really emerges in the country), it may not be the best decision to designate a language as such; considerations of administrative effieciency must receive a low priority with respect to those of democratic values.

Regarding (c) "foreign" language unlike "foreign" country is not a territory-based, political concept. For a certain speech community living in a particular state a particular language can be foreign: Oriya or Bengali can be almost as foreign as English to the Tamil or Malayalam speaking community living in Tamil Nadu or Kerala respectively. In a multilingual country like ours although some languages may be more accessible to people than the others in some parts of the country, there is no language still which can be claimed to be accessible to people at large in all parts of the country. This situation will disappear once a link language emerges in the country.

Turning to (d) we believe that this assumtion is based on the following point of view regarding the nature of language: a language unites its users. We argue below that it is not always correct and that no reliable policy can follow from it.

Language, like religion, is basically divisive and that its divisive nature is most explicit in a multilingual milieu exactly as is the divisive nature of religion in a multi religious one. Consider the case of religion: (i) one religious group views the other with unconcern at best and hostility at worst. The so-called universal love that a religion teaches is

confined to the adherants of that religion alone; there are no duties that a religion enforces on (or recommends for) its followers for the welfare of the adherants of another religion. On the contrary, conversion has been generally regarded as a desirable activity; at least, there seems to be no religion that forbids conversion. Languages of religious groups contain words which express a derogatory attitude towards the followers of other religions: *mlēcha, kāfir,* 'heathen', etc. (ii) Even among the adherants of the same religion we do not often find unity. Sects, castes, etc. fight among themselves notwithstanding the fact that they belong to the same religion. Caste-based conflicts in northern India, the Punjabi Muslim and the non-Punjabi Muslim clashes in Pakistan, and Shia, Sunni conflicts in the Islamic world are instances of such conflicts. It is true that religion does unite its adherants to a remarkable degree in a conflict situation where another religion is its adversary. But then it simply shows that in a multireligious country diversity of religions can be a source of threat to national integration.

The same can be said about languages. Language groups view each other with perhaps unfriendliness rather than indifference at best and distrust and hostility at worst and under certain conditions this attitude towards the speakers carries over to the languages. There is the well known resistance of many non-Hindi speakers to Hindi. The demand for the use of the regional language of a state as the sole official language of that state can be viewed as a covert attempt to resist Hindi. This resistance has its roots in the fear (which may ultimately turn out to be baseless) of the non-Hindi speakers that the Hindi speakers would gain undue political, bureaucratic and other kinds of influence with which to exercise power over them, once Hindi functions as the sole official language of the Union. That such a fear exists shows that language in a multilingual country can cause problems for integration.

Within a particular language group there are subgroups, and this situation generates tension. The speakers of a non-standard dialect are often socially stigmatized and are, in effect, perceived by the standard dialict speakers as belonging to a group somewhat distinct from the one to which they belong. Education is imparted in the standard dialect and this places the speakers of one dialiect in a clearly advantageous position vis-a-vis those of the other dialects. This situation ultimately gives rise to disunity among the speakers of a language.

Then there are tensions among speakers of the same language whose origins are non-linguistic: for example, caste and sect-based tensions. This shows that language is not really all that unifying a force which can bind people to such an extent that all other differences among them are rendered ineffective.

If the integrative potential of a native language is limited, even more so is that of a link/second/foreign language. This is to be borne in mind when we discuss the potential of Hindi as the official language of the Union to contribute to national integration.

The discussion above shows that the likely considerations on which the choice of an Indian language as the sole official language of the Union was based are by no means uncontroversial. This of course should not be constructed as an argument in favour of choosing English as the sole official language of the Union for all time to come.

Summarizing the discussion so far, we have argued that like religion, language is divisive and that multiplicity of languages in India, therefore, is a threat to national integration. We have mentioned that diversity is an aspect of Indian reality and should not be interfered with, and that democratic values have primacy over everything else, including the fast pace of development, administrative efficiency, economy, etc.. Below we are concerned with the issue of how language, despite its divisive nature, cannot be allowed to divide.

Consider some of the steps that are being taken in order to increase the acceptance of Hindi as the official language of the Union: (a) increasing the use of Hindi in Union administration, and (b) encouraging the learning and the use of Hindi by the non-Hindi speakers. As mentioned earlier, this effort is perhaps vitally linked with the one of bringing about national integration.

The idea behind it coult be stated as follows: integration can be achieved if uniformity is superimposed on diversity. Call it the "uniformity" approach.

The present paper suggests a different approach. Call it the "cooperation" approach which in our view is in conformity with the pluricultural and multilingual nature of our country and with democratic values.

We regard secularism as a notion that belongs to the cooperative approach at the level of religion. It does not belong to the uniformity approach because secularism is not a religion, and does not interfere with the religious beliefs of any individual. One can be a Hindu or a Christian and be secular. Contrast it with "Din-I-Illahi" of Akbar which tried to integrate the doctrines of Hinduism, Islam, etc.. But it was religion itself, like Hinduism and Islam, and once one became a follower of Din-I-Illahi one ceased to be a Hindu or a Muslim. From our point of view Din-I-Illahi is a manifestation of the uniformity appraoch. Secularism would require among others that when people of various religious groups live and work together, they must be able to do so without ceasing at any time to be adherants of their own respective religions.

Pursuing the cooperation appraoch we now ask the following question: what is the equivalent of secularism at the level of language? The answer does not obviously lie in choosing any one language as the official language of the Union. Such an answer, as already pointed out,

will be in the spirit of the uniformity approach and not the cooperation approach. Now how useful is the proposal that **all** the major modern Indian languages be accorded the status of official language of the Union? Notice that this proposal is in conformity with what we have regarded as two of the basic requirements that the official language policy must meet: (a) it must not interfere with the multilingual character of the Indian state and (b) it must not be out of tune with the democratic values. One can however, imagine the obvious reaction against it: it is uneconomical, inefficient, unmanageably, of mere symbolic value and in one word, impractical. But we are not sure that the criticism is completely valid although we do agree that there may be some substance to it. We do not consider the proposal impracticable in principle although a great deal of careful planning must be done before it is put into operation. It may not turn out to be as inefficient as it appears. Translators will be necessary and in due course even technology (Machine Translation or something close to it, such as **Anusarak**) can be of help, however limited. In short, it may not really be as unworkable as it seems.

But this proposal is not in tune with the cooperation approach. Under this proposal a linguistic group establishes contact with other such groups through translators, i.e. only indirectly. Cooperation beteen diverse groups is thus brought about by an external agency. This does not weaken the forces of disunity and cannot contribute to the growth of the cooperative spirit among the diverse linguistic groups which is precisely what is needed for national intergration.

The paper postulates the notion "awareness of language" as a concept which is of the same type as secularism from the relevant point of view. By "awareness of language" we mean the awareness of the nature of language: its role in life, its integrative power and the limits to its integrative power, its divisive character, its functional nature, its role

as a carrier of values, and the like. Language has been mythicized and as a result an unrealistic view of it has emerged. Many ancient civilizations tended to mythicize those that they found extremely useful, among other things. It might appear to be an over-simplification but at least in part this tendency to mythicize certain classes of objects (and their creators) must have been responsible for the sanctity that got attached to languages (consider, for example, the belief prevalent at one time among many Hindus that Sanskrit is the language of the gods which is why it is called *dēva bhāṣa* 'gods' language') and the scripts. What is needed is the de-mythicization of language and script which will generate a realistic attitude to them. We will be able to view language and script as what they essentially are: language is the most popular mode of communication, and script, merely a symbolic representation of speech. Once we develop a realistic attitude to language, we will hopefully tend to cease to veiw language issues emotionally.

Bringing about a complete change of attitude in the people towards language and script is certainly no easy task. What is needed is a well-planned programme of "education in citizenship" which must form an essential and a crucial part of all education, both formal and non-formal. Its aim would be to inculcate in the people among other things the sense of secularism, dignity of labour, and democracy with the associated values such as persuasion as the mode of bringing about change, tolerance of dissension, acceptance of the legitimacy of variety, etc.. It must also have a language component. The goal is not to teach a language, but to make people aware of the nature of language in the sense in which the word has been used in this paper and the place and the role of language in our scheme of things.

It must be mentioned here that education in citizenship is not really a new idea. Gandhiji's basic education programme can be said to

have been based, in part, on this idea. But what is new in our concept is that it assigns an important place to language education in education in citizenship. By language education, we repeat, we mean education in the nature of language as spelt out already. Earlier proposals concerning education in citizenship did not assign any place to language education in our sense of the term probably because language was not viewed as a threat to unity as being basically divisive in nature, etc..

If the process of national integration has to be hastened, then education in citizenship must be started in right earnest since the best hope of integration in our country lies in the change in the people's perceptions and modes of thinking concerning language, religion, etc.. The change has to be brought about through persuasion, and education in citizenship is indeed a strategy of persuasion.

For this programme to yield best results, a suitable climate is necessary. Nothing should be done to give the people the feeling that the language of one group is being imposed on the others through the agency of the government. Granted that the feelings of people may sometimes be unjustified, but if a change in the people's perspectives and ways of thinking has to be brought about through persuasion and in a spirit of cooperation, we cannot afford to ignore their feelings and sensitivities.

The official language of the Union has to be the link language of the country, and it has to be a modern Indian language because English, which in a way functions as the link language of the country today in many crucial domains as far as a small section of the population is concerned, is inaccessible to the vast majority of the people. The chances of their learning English to the extent that they can use it as the official language of the Union are virtuality nil. Opportunities do not exist for them to be exposed to this language outside the class room. It

is true that a link language has not evolved yet, but it is bound to. Mobility of the people, even the floating population, media such as film, street plays and TV, institutions such as central schools are also bound to contribute to its emergence. Education in citizenship can play a very important role in this regard. Governmental efforts to help the process of emergence of a link language would then involve promoting the mobility of population, starting education in citizenship, etc. but not increasing and encouraging the use of any language in official communication. Thereby some more people may learn that language and use it but this does not mean that they will necessarily accept it. If they don't the problem remains: the official language question is to a significant extent one of acceptance of a language as such by the people.

The question now is the following: until a link language emerges in the country what should be the official language? One answer could be that all the regional languages may be used for official purposes. Another could be that the present system be continued. The choice of Hindustani as the official language of the Union might have been premature but quite understandable. The language that has the best chances of emerging as the link language is Hindustani. However, it is not enough that a decision be a sound one. It must be executed in such a way that it receives the acceptance of the people.

To conclude, we have argued in the paper that language, like religion, is basically divisive in nature and can be a source of threat to national integration in a multilingual country like ours. We have suggested that the best solution to the problems of diversity can be arrived at within the framework of what we have called "the cooperation approach." We have stressed the need for "education in citizenship" which must have a language education component. Language education would aim at helping the people acquire "awareness of language", that is, an understanding of the nature of

language. This, we have maintained, would contribute a great deal to the easing of language-based tensions and eventually to the solutions of language problems in a harmonious manner.

Bibliography

Annamalai, E. et al, eds. 1983. *Language Planning.* Mysore: Central Institute of Indian Languages.

Dasgupta, Jyotirindra. 1970. *Language Conflict and National Development: Group Politics and National Language Policy in India.* Berkeley: University of California Press.

Dua, Hans Raj. 1985. *Language Planning in India.* New Delhi: Harnam Publications.

Fishman, J.A. et al, eds. 1968. *Language Problems of Developing Nations.* New York: Wiley.

Haugen, Einar. 1966. *Language Conflict and Language Planning: The Case of Modern Norwegian.* Cambridge: Harvard University Press.

Patnaik, B.N. 1985. Language Choice in Planning Education in India. A.K. Biswas, ed. *Profiles in Indian Languages and Literatures.* Kanpur: Indian Languages Society, IIT.

Rubin, Joan and B. Jernudd, eds. 1971. *Can Language Be Planned? Socio-linguistic Theory and Practice for Developing Nations.* Honolulu: University of Hawaii Press.

Rubin, Joan et al, eds. 1977. *Language Planning Processes.* The Hague: Mouton.

OPiL 19: 43-58 (1993)

RETROFLEXION IN PLURAL FORMATION: AN EXPERIMENTAL STUDY WITH TELUGU CHILDREN

V. Swarajya Lakshmi and A. Usha Rani

Osmania University, Hyderabad

Abstract: *This paper makes an attempt to study the degree of complexity involved in mastering the strategy of retroflexion in Telugu plural formation by conducting experimental study. Social factors impeding the mastery of this particular strategy are also examined by taking children from different social strata of the society.*

Introduction

In Telugu, plural formation is a complex phenomenon in which the singular noun stems as well as plural morpheme *-lu* undergo morphophonemic changes. For instance, in the following items the stems under go a morphophonemic change when followed by a plural morpheme *-lu:*

eg: *ceyyi + lu* → *cēṭulu* 'hands'

gadi + lu → *gadulu* 'rooms'

The plural forms of the stems ending in *Du, Di, NDu, NDi, ru, lu, li, nnu* take *-Lu:*

kālu + lu → kāLLu 'legs'
kannu + lu → kaLLu 'eyes'

For such items, the plural forms *kāllu* 'legs', *kallu/kaNDLu* 'eyes' are also found in non standard social dialects and regional dialects. But the forms with *-Lu* are considered standard. Ramarao (1982) has discussed in detail about plural formation in Telugu. He has given morphologically conditioned rules and phonologically conditioned rules. The former explains the changes found in the stem before plural morpheme *-lu*. The later deals with changes both in the stem as well as plural suffix which are phonologically conditioned. Rules proposed by him for the stems ending in *Di, Du, NDu, NDi, ru, lu, li, nnu* alone are given here. Firstly, morphologically conditioned rules are to be applied and later, to the resultant stems phonologically conditioned rules are to be applied.

A. Morphologically conditioned rules

The following changes in the stem occur before the plural morpheme *[-lu]:*

1. $\left\{ \begin{array}{l} \text{-}nnu \\ \\ \text{-llu} \end{array} \right\} \rightarrow NDu$

This rule applies to *illu* 'house': *kannu* 'eye', *kallu* 'stone'; *cannu* 'breast': *pallu* or *pannu* 'tooth'; *mullu* 'thorn'; *villu* 'bow'. All these words have oblique forms. In old Telugu *illulu, iNDulu* were standard forms. The loss of final *u* can be explained through phonologically conditioned rule :

2. $N \rightarrow \emptyset$ [*-Di, - Du*]

In stems ending in *i,u* the nasal *N* preceding *D* is optionally dropped out. The loss of *i, u* the change of *D* to *L* are explained through phonologically conditioned rules:

kannu → *kaNDLu, kaLLu*

eNDu → *eNDLu, eLLu*

baNDi → *baNDLu, baLLu*

paNDu → *paNDLu, paLLu*

3. *-Du* → Ø / — + /

This rule applies to masculine singular *tatsamas*. The differentiation between *tatsamas* and *tadbhavas* vary from individual to individual in Modern Telugu. For *snēhituDu* 'friend' if the plural form is *snēhitulu* it is *tatsama* to him. If the plural is *snēhituLLu* it is not *tatsama* to him. The native words like *tammuDu* very rarely undergoes this change.

4. *-r* → *- l* /*-i,u*/

r followed by *-i* or *-u* changes to *l* optionally before plural *-lu*. This *-l* later becomes *-L* through the operation of the following rule. The loss of *u* is explained through phonological rule:

ūru + lu → *ūLLu/ūrlu* 'towns'

gōru + lu → *gōLLu/gōrlu* 'nails'

5. *l* → *L* / 1. *(V) - u*

2. *(V) - i*

-l preceded by a vowel and followed by *u* becomes *L* before *-lu*. In multisyllable words *-l* preceded by a vowel and followed by *i* changes to *L*. This rule applies to *-l* which is from *-r-* also. The loss of final vowel is explained through phonologically conditioned rules:

kālu → *kāLu - lu* → *kāLLu*

mosali → *mosaLi - lu* → *mosaLLu*

ūru → *ūru - lu* → *ūLLu*

6. $i \rightarrow u /$ 1. $\left\{\begin{array}{l}\text{consonant} \\ \\ \text{other than } y\end{array}\right\} - +$

2. $\left\{\begin{array}{l}\text{consonant} \\ \text{other than} \\ T,D,n,r,l\end{array}\right\} u$

Stem final *-i* changes to *-u* if it is preceded by a consonant other than *y-*. After final *-i* becoming *-u*, under its influence the medial *-i* also becomes *u* if it is not followed by consonants *T,D,n,r* and *l*.

B. Phonologically conditioned rules

1. $u \rightarrow \emptyset / [(N)\ [T, TT, D, DD, L]\ ] + lu$

Stem final *-u* is lost if it is preceded by either single or geminated *T,D* and *L* which in turn are preceded by a nasal *N* or not :

kāTu + lu → kāTLu	'bites'
kōDu + lu → kōLLu	'hens'
aNTu + lu → aNTLu	'cut saplings'
paNDu + lu → paNDLu	'fruits'
kālu - kaLu + lu → kālLLu	'legs'

2. $v \rightarrow \emptyset\ [T, TT, D, DD, N, n, nn, r, rr, l, ll] - (+)\ lu$

A vowel preceded by alveolar, retroflex consonants and followed by *-l* is optionally dropped. The dropping of the vowel depends upon the speed of the speech of an individual:

puli + lu → pullu/pululu	'tigers'
pani + lu → panulu/panlu	'works'

3. $D \rightarrow [L,N] / V\text{-}(+)\ [l,n]$

D becomes *L,N* when preceded by a vowel and followed by *l* and *n*. Later the following *l* and *n* also become *L* under the influence of preceding one:

kōDulu → *kōDlu* → *kōLLu*

vāDini → *vāDni* → *vāNNi*

4. *[l,n]* → *[L,N] / retroflex consonants*

Non retroflex *l,n* become retroflex *L* and *N* when they are either preceded or followed by retroflex consonants:

kālu + lu → *kāLulu* → *kāLLu*

nemali + lu → *nemaLulu* → *nemaLLu*

By the application of the above rules, retroflexion in plural forms can be explained though the plural marker is *[-lu]*. Later studies proposed *–Lu* as the basic form for plural morpheme and derived *-lu* (Ramachandra Rao, 1975). In view of such controversies regarding retroflexion in plural forms, it is better to view the problem from psycholinguistic perspective also. Already two child language studies in Telugu were carried out reporting on plural formation. Nirmala's (1981) study is a combination of longitudinal and cross sectional study of four children whose age range was 1:6 - 3:0 shows that retroflexion was not used as a strategy for plural formation in their speech because of the general delay in acquiring retroflex consonants. Sailaja (1989) carried out a study which was a blend of longitudinal and cross-sectional approaches. Only one child at 2.5 age used retroflexion as a strategy for plural formation of the stem ending in *NDu* for two words. They are as follows:

	sg	pl
'fruit'	*paNDu*	*paLLu*
'pillow'	*diNDu*	*diLLu*

Except these forms, other children did not show retroflex forms. The data for the above two studies was from children of lower age group. This paper is an experimental study collecting data from older children studying fifth class who are about 10 years of age. Our aim is to point out different strategies, viz. lateralization, partial assimilation, insertion of *ND*, addition of *-lu* used by children to avoid the most complex process of retroflexion.

Methodology

a) Subjects: 30 girls studying fifth class belonging to three different social groups are chosen selecting 10 for each. First group of girls represent lowest social strata whose parents are daily wage earners and who are not exposed to formal education. The parents of second group earn stable income and are educated and devote some attention to their children. Third group belongs to the highest social cadre whose parents are educated and well off paying sufficient attention towards their children. The schools they study can be graded in similar fashion.

b) Material: Twenty five words which are familiar to children of this age group are listed covering the stems ending in *ru, Du, Di, NDu, NDi, nnu, lu, li.* Each class of stems have atleast two words except the one which ends in *-NDi.* Examples of words from each category of stems are given:

mosali 'crocodile'; *kundēlu* 'rabbit'; *kannu* 'eye';
uru 'village'; *paNDu* 'fruit'; *baNDi* 'cart'; *baDi* 'school':
tammuDu 'brother'.

c) Method of elicitation: Singular form of each item was uttered and asked the child to provide plural form. The children were made to feel free with the field worker in order to have natural speech. The responses of one child were recorded at one time. The responses were recorded and transcribed.

d) Evaluation: Percentage responses for each process of pluralization with respect to different categories of stems were calculated based on the target number of responses. Such a type of percentage calculation was done in three groups. Groupwise percentages were tabulated for each category of stems and compared. Based on these results, the status of retroflexion as a target form considered in the standard dialect is analysed.

Interpretation of results

Stems ending in NDu and NDi: following types of processes are found in the responses given by children for this category of stems:

Stems ending in *NDu:*

eg: *guNDulu*	'stones'	(addition of *lu*)
guNDLu	,,	(partial assimilation)
guLLu	,,	(retroflexion)

Stems ending in *NDi:*

eg: *baNDilu*	'carts'	(addition of *lu*)
baNDulu	,,	(addition of *lu* with vowel harmony)
baNDLu	,,	(partial assimilation)
baLLu	,,	(retroflexion)

In group I and II two processes are seen in *-NDu* stems: 1. addition of *-lu*; 2. partial assimilation. Addition of *-lu* is higher in group I. In group II the second process is higher. In group III in addition to the above 2 processes, retroflexion process is also seen which is of negligible percentage. Partial assimilation is more in *-NDi* stems. Addition of *-lu* is more in group II and III also apart from group I. These observations are shown in the following table:

Strategies of pluralization	Stems ending in ND	Group I	Group II	Group III
Addition of *-lu*	*-i*	60	60	40
	-u	60	35	15
Vowel harmony	*-i*	20	--	10
Partial assimilation	*-i*	20	40	30
	-u	40	65	70
Lateralization	*-i*	--	--	--
	-u	--	--	--
Retroflexion	*-i*	--	--	20
	-u	--	--	15

Table 1. Percentage of responses for stems ending in *NDu* and *-NDi*

Stems ending in Di and Du: Following are the types of processes found in children's responses:

Stems ending in *Di*:

kõDilu	'hens'	(addition of *lu*)
kõDulu	„	(addition of *lu* with vowel harmony)
kõDLu	„	(partial assimilation)
kõllu	„	(lateralization)
kõLLu	„	(retroflexion)

Stems ending in *Du*:

ẽDulu	'years'	(addition of *lu*)
ẽDLu	„	(partial assimilation)
ẽllu	„	(lateralization)
ẽNDLu	„	(instertion of *N* before *D*)
ẽLLu	„	(retroflexion)

D when followed by *-i,* addition of *-lu* is of higher percentage in 2 groups, though the process of retroflexion is also observed in group II with considerable percentage (20%). In group III retroflexion is slightly higher than addition of *-lu*. When *D* is followed by *-u*, in group I lateralization process is more. In groups II and III, the process of retroflexion is higher. Percentage of responses for this category of stems is shown in the following table:

Strategies of Pluralization	**Stems ending in -D**	**Group I**	**Group II**	**Group III**
Addition of *-lu*	*-i*	67	50	33
	-u	29	30	10
Vowel harmony	*-i*	13	10	17
Dropping of *Du*	*-u*	4	7	--
Partial assimilation	*-i*	10	20	7
	-u	7	10	37
Lateralization	*-i*	10	--	--
	-u	42	7	10
Insertion of *N/-D/*	*-i*	--	--	--
	-u	14	--	--
Retroflexion	*-i*	--	20	43
	-u	4	46	43

Table 2. Percentage of responses for stems ending in *-Di* and *Du*

Stems ending in lu and li: Different processes used by children in pluralizing this category of noun stems are given as follows:

Stems ending in *-lu*

pantulu	'teacher'	(without any plural marker)
pantululu	,,	(addition of *lu*)
pantullu	,,	(dropping of *u*)

pantuLLu	,,	(retroflexion)
Stems ending in *-li*		
vākililu	'front yard'	(addition of *lu*)
vākilulu	,,	(addition of *lu* with vowel harmony)
vākillu	,,	(dropping of *i*)
vākiNDlu	,,	(insertion of *ND*)
vākiLLu	,,	(retroflexion)

When *-l* is followed by *-u* singular forms without any change are given as plural forms, identifying the final *-lu* as plural marker. This strategy is comparatively more in I and II groups. If it is multisyllable, of all the processes used, dropping of *-u* is more in percentage, in group I. In disyllables addition of *-lu* is more frequent. In group II retroflexion is slightly higher in both *di-* and multisyllable words followed by *-u*. Dropping of *u* resulting in forms with non reflex *-lu* is next in hierarchy in this group. In group III retroflexion is higher both in *di* and multisyllables. When *-l* followed by *-i* which are multisyllabic both in group I and II dropping of *-i* is more. It implies that the children who could acquire the vowel harmony rule *i* → *u* / *- lu* / have changed the final /*-i*/ into *-u* and later dropped it. Those who could not yet acquire this vowel harmony rule have simply added /*-lu*/ to *-i* ending words. This fact is clear when we compare the percentage of addition of *-lu* in different groups. In all three groups more percentage is seen for the addition of *-lu* when multi syllable words end in *-i* , compared to multi syllable words ending in *-u*. In group III retroflexion is higher compared to other strategies. The following table illustrates the above observations:

Strategies of pluralization	Stems ending in -l	Group I	Group II	Group III
Singular form	*-i* (Multi)	--	--	--
	-u (Di)	25	15.7	15
	-u (Multi)	31	30	17.8
Addition of *-lu*	*-i* (Multi)	20.7	18.6	22.4
	-u (Di)	45	15.7	25
	-u (Multi)	10	6.6	7.1
Vowel harmony	*-i* (Multi)	8.6	5.1	--
Dropping of *i/u*	*-i* (Multi)	50	62.7	26.5
	-u (Di)	30	31.6	5
	-u (Multi)	51.7	30	17.8
Insertion of *ND*	*-i* (Multi)	--	--	--
	-u (Di)	--	--	--
	-u (Multi)	3.4	--	--
Retroflexion	*-i* (Multi)	5.2	8.5	44.9
	-u (Di)	--	36.8	55
	-u (Multi)	3.4	33.3	57.1

Table 3. Percentage of responses for stems ending in *-li* and *lu*

Stems ending in -nnu: Children formed plurals in the following way:

kannulu	'eyes'	(addition of *lu*)
kanlu	,,	(dropping of *nu*)
kaNDLu	,,	(insertion of *D* after *N*)
kaLLu	,,	(retroflexion)

Addition of *-lu* is higher in group I and II. In group III dropping of *-nu* is higher. The process of addition of *-lu* is next in hierarchy. Retroflexion process is negligible. This is shown in the following table:

Strategies of pluralization	Group I	Group II	Group III
Addition of *lu*	90	63.3	43.3
Dropping of *nu*	3.3	20	53.3
Insertion of *D /N-/*	6.7	16.7	--
Retroflexion	--	--	3.3

Table 4. Percentage of responses for stems ending in *-mmu*

Stems ending in *-ru*: Following processes are found in the data for pluralization of this type of noun stems:

gõrulu	'nails'	(addition of *-lu*)
gõrlu	,,	(dropping of *-u*)
gõllu	,,	(lateralization)
gõLLu	,,	(retroflexion)

In group I and II addition of *-lu* is more. In group III dropping of *-u* is more. Retroflexion process is very negligible. These observations are illustrated in the following table:

Strategies of pluralization	Group I	Group II	Group II
Addition of *-lu*	65	70	15
Dropping of *-u*	25	30	48
Lateralization	10	--	--
Retroflexion	--	--	5

Table 5. Percentage of responses for stems ending in *-ru*

Conclusions

I. The plural forms in standard dialect are with retroflexion. Of all the processes of pluralization addition of *-lu* is the simplest one without any change either in the singular noun stem or in the plural suffix. Dropping of final vowel *u* (including the *-u* which is from original *-i*) is

important strategy in order to have either partial assimilation, lateralization or retroflexion. The order of pluralization rules proposed by Ramarao as discussed in the introduction also reveals the same phenomenon. Vowel dropping rule operates after stem is changed before plural morpheme triggering the assimilatory processes:

paNDu + lu →	*paNDLu*	'fruits'		(partial assimilation)
sing plu	*pallu*	,,		(lateralization)
	paLLu	,,		(retroflexion)

tammuDu + lu →	*tammullu*	'younger brothers'		(lateralization)
*s*ing plu	*tammuLLu*	,,	,,	(retroflexion)

guDi + lu →	*guDulu*	'temples'		(vowel harmony)
sing plu	*gullu*	,,		(lateralization)
	guLLu	,,		(retroflexion)

II. In group I and III, stems ending in *-l* followed by *-u* show highest percentage of dropping of final vowel in multi syllable words whereas in disyllable words the final vowel is retained inhibiting further morphophonemic changes though in group II disyllable words show slightly higher percentage of loss of final vowel. This shows that the length of the syllable is responsible to bring out morphophonemic changes. This has already been observed by Ramarao (1979).

III. It has already been pointed out that the loss of final vowel *-u* triggers further morphophonemic changes. In the case of stems ending in *-i*, children have to acquire another rule by which the final *-i →-u* before */-lu/*, which in turn is lost before other processes like partial assimilation, lateralization and retroflexion take place. Children who could not yet acquire this vowel harmony rule simply retain the final *-i*

to which *-lu* is added. If Table III and I are seen, stems ending in *-ND*, *-l* show more percentage of addition of *-lu* strategy when they are followed by *-i* rather than *-u* in all three groups. Those who have acquired the vowel harmony rule drop the final *-u* which is from original *-i*. This is another dimension of complexity which a child has to pass through in order to acquire the target plural form with retroflexion.

IV. There is no phonological environment for stems ending in *-nnu, -ru*, triggering retroflexion process in the plural morpheme */-lu/*. This is the reason why no percentage of retroflexion is seen in Table 4 and 5 in both I and II groups. Group III shows very negligible percentage of retroflexion. Lack of phonological environment is another impeding factor for the acquisition of retroflexion in plural formation.

V. For stems ending in *lu, li, Du* and *Di* all groups I, II and III show retroflexion though the percentage of responses vary. Group I do not show the strategy of retroflexion with any other stems except this particular category though it is very negligible. In this category phonological environment is responsible for the process of retroflexion in plurals.

VI. Stems ending in *NDi, NDu* show highest percentage of partial assimilation in all three groups as this happens to be the widely prevalent form in Telangana dialect. In III group for this category of stems, retroflexion process is found though very less in percentage. Dialectal variation in language is also responsible in inhibiting the acquisition of target form with retroflexion.

VII. In the light of above discussion it is evident that the process of retroflexion in plural formation in standard dialect is a very complex phenomenon. There are also studies where it is proved that the linguistic complexity causes late acquisition of plurals. Margaret Omer

reports that acquisition of plural number is one of the most difficult aspects of linguistic structure to be mastered by Egyptian Arabic children (cf. Ferguson and Slobin 1973). She shows that older children as old as 15 erred in pluralizing even familiar nouns. She observed that Arabic has a small class of regular plurals and a fairly large class of irregular plurals. This sort of irregularity in language causes difficulty for children to acquire. Delay in the mastery of complex irregular plurals in English even among the older children (6.4) was observed (Cox 1989).

VIII. All these studies prove that the degree of linguistic complexity plays a vital role in mastery of target forms. In order to acquire the target plural forms with retroflexion which are used in standard dialect, conscious effort is required both from child as well as instructor. This is also clearly evident from the given tables where percentage of responses with retroflexion are shown in group III comprising of children who are from higher strata of society studying in considerably good school where more attention is paid to child. It may be concluded that apart from linguistic complexity, proper instruction both from parents and teachers may help the child to master the target form. However, there is no point in stressing the child to master plurals with retroflexion when plural form without retroflexion are widely prevalent.

References

Cox, V.M. 1989. Children's Over Regularization of Nouns and Verbs. *Journal of Child Language,* 16:203-6.

Ferguson, C.A. and D.I. Slobin. 1973. *Studies in Child Language Development.* New York: Holt, Rinehart and Winston.

Nirmala, C. 1981. First Language (Telugu) Development in Children: A Short Descriptive Study. Doctoral dissertation, Osmania University.

Ramarao, C. 1979. Syllabic Structure Conditioning in Morphophonology. *Osmania Papers in Linguistics,* 5:1-10.

____ . 1982. *teluguloo velugulu*. Hyderabad: Andhra Saraswatha Parishattu.

Ramachandra Rao, C. 1975. teluguloo bahuwacanamu. *telugu,* 4:44-51.

Sailaja, V. 1989. Development of Number and Case Inflection in Telugu Children. MPhil dissertation, Osmania University.

OPiL 19: 59-70 (1993)

THE CHANGING OF s → h → ø IN PUNJABI[1]

Sukhvinder Singh
G.N.D.U. Regional Centre, Jalandhar

Abstract: *The paper deals with two interrelated sound changes in progress in Punjabi. The progression of these sound changes, i.e. s → h and h → ø, seemed to be chronologically differentiatable. The paper also raises certain questions regarding the sequential (linear) operation of these sound changes.*

The present discussion focuses its attention on two interrelated sound changes that are found in Punjabi. They are:

(i) *s* → *h*
(ii) *h* → *Ø*

The following examples illustrate these changes:

(i) *s* → *h*
sIndu 'inhabitant of Sind' → *hIndu*
trISnaa 'thirst' → tIs → *teh*
wIS 'poison' → *wIs* → *weh*
Swaas 'breath' → *sah*
(cf. Chander 1959: 164, 190)

(ii) $h \rightarrow \emptyset$ *hɛ* 'is' → *ɛ*
haã 'yes' → *aã*
hi 'emphatic' → *i*
(cf. ibidem: 180)

The first sound change is more traceable among the Iranian languages. We find a regular correspondence between the Indo-Aryan *s* sound and the Iranian *h* sound. In point of fact, the changing of *s* to *h* is a continuation of a process that had taken place in the early history of the Indo-Iranian group. The second change, i.e. *h* → Ø, is more common among the Indo-Aryan languages, particularly in Punjabi where *h*, like voiced aspirated sounds *bh, dh, jh, Dh, gh*, has converged with *tones* (cf. Gill and Gleason 1969:51).

The Punjabi language mainly draws its vocabulary either from MIA, for instance, (Skt) *adya* 'today' → (MIA) *ajju* → (Pbi) *ajj*; (Skt) *carma* 'leather' → (MIA) *camma* → (Pbi) *camm*, or from Persian, for instance, we find in Punjabi (Per) *hafta* 'seven days time' instead of (Skt) *sapta*. So the changing of *s* → *h* is in no way an innovation which we find exclusively in the Punjabi language. The changing of *s* → *h* is more or less a pan-Indian linguistic process traceable in majority of Indian languages.

One would like to know whether these sound changes in progess are simultaneous or sequentially (chronologically) differentiatable in Punjabi. The simultaneous nature of these changes are hardly tenable as the Punjabi language traces a good number of such lexical items in which *h* has not yet changed into Ø, i.e. *tones*. For example, *saaDaa*, 'our' → *haaDaa*, *pasu* 'animal' → *pahu*, etc. Then the other alternative is most probable. In a way these changes are taking place side by side in which the outcome of former, i.e. *s* → *h*, becomes the input of latter one, i.e. *h* → Ø. If linear sequence of the occurence of these two changes

is accepted, then, another related question arises about the occurrence of *h* in all the three environments.

It has been usually viewed that the glottal *h* has lost its consonantal status in word-final position in all the dialects of Punjabi, and has converged with *tone*. As per Gill and Gleason (1969:51), non-initial *h* normally has no consonantal value, but represents high tone / on its preceding vowel. It relates to their non-acceptance of *h* being a sound occurring in word-final and word-medial positions. Joshi (1980:39) has also passed a similar judgement on it claiming that glottal *h* in the Majhi dialect of Punjabi occurs exclusively in word-initial position. In other dialects, such as Doabi, Malwai, and Poadi, glottal *h* does occur in word-medial position.

According to the point of angles adhered by these linguists, it could be concluded that :

i) *h* does not occur in word-final position in all the Punjabi dialects: and

ii) *h*, in the Majhi dialect, occurs exclusively in word-initial position, whereas, in other dialects, it does occur word-initially and word-medially as well.

But, if, we observe the progression of changing of *s* to *h* and then getting lost in favour of tones, we see that there are a good number of such lexical items which has gone through the first phase of this sound shift (i.e. *s* → *h*), but have not yet experienced the second one, particularly in the Majhi dialect of Punjabi. It relates to a linguistic situation very much conducive for the occurrence of *h* in all three environments, especially in a dialect regarding which statements were used to made repeatedly that this dialect does not permit the occurrence of *h* word- finally (pre-pausally) and word-medially. In this paper, it is claimed that *h*, in the Majhi dialect, does occur in word-final and word-medial positions, exclusively in those lexical items in which *s*

is changed or getting changed in favour of *h*, but have not yet gone through the second phase of this change (i.e. *h* → Ø). Lexical diffusionists, who advocate the view that a sound change in progress is lexically observable, have succeeded in proposing a three stage progression of lexical diffusion in every speech community, i.e. unchanged or U-words, in initial stage, V-words or words that exhibit variable pronunciation in the intermediate stage, and changed or C-words in the final stage (Wang 1982:35).

If we look at data presented in Tables 1.1-3, it becomes explicit that the concerned sound change exhibits initial two stages of its progression, i.e. unchanged words and variable words. There is a tendency among Punjabi speakers, particularly of this dialect, to change *h* into *tones* in all the three environments of a word, but the back feeding of *h* is not through changing of *s* to *h*, rather original *h* sound gets converged with tone frequently. Out of one hundred and five items, collected from nine speakers[2] belonging to the Majhi dialect, where *s* occurred in all the three environments:

Lexical items	Subjects' reference								
	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9
saaDe 'our'	*h-*	*s-*			*s-*		*h-*		*s-*
saanũ̃ 'to us'	*h-*		*s-*					*s-*	
saaDi 'our'	*h-*						*h-*		
saaDe ,,	*s-*	*s-*			*h-*		*h-*	*h-*	
saaDe ,,	*s-*	*s-*			*h-*		*h-*	*h-*	
saaDi ,,	*h-*		*s-*						
si 'was'	*h-*	*s-*	*s-*	*s-*		*h-*	*h-*	*h-*	*h-*
si 'was'	*h-*	*s-*				*h-*	*h-*		
saaDe 'our'	*h-*				*h-*				
saaDe ,,	*h-*						*h-*		
saaDe ,,	*h-*						*h-*		
saanũ̃ 'to us'	*h-*						*h-*		
si 'was'							*h-*		
saab 'Sir'		*s-*			*s-*			*s-*	
saariaã̃ 'all'		*s-*							
sattaã̃ 'seven' (OBL)	*s-*	*s-*							
saari 'all'			*s-*					*s-*	
saal 'year'			*s-*					*s-*	
sut 'cotton'				*s-*					
sutRi 'cotton string'				*s-*					
SUru 'start'				*s-*					
sige 'was' (they)						*h-*			
sige ,, ,,						*h-*			
sigaa ,, (he)						*h-*		*h-*	
sigi ,, (she)						*h-*			
sigaa ,, (he)						*h-*		*s-*	
SUaaraa 'dry date'							*s-*		
saal 'year'							*s-*		
sUkdaa 'dries'							*s-*		
sIweaã̃ 'graveyard' (OBL)							s-		
saáe 'engagement'							*s-*		
sO 'hundred'							*s·*		
saare 'all'								*s-*	

Table 1.1 (*s* → *h* / # --)

Lexical items	Subjects' reference								
	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9
asĩ 'we'	*-h-*	*-h-*					*-h-*	*-h-*	*-h-*
asĩ ,,	*-h-*						*-h-*		*-h-*
kIse 'somebody'	*-h-*								
pEse 'money'	*-h-*								
asĩ 'we'									*-h-*
tUsaã 'you' (OBL)					*-h-*				
waaste 'for'					*-h-*	*-h-*			
waaste ,,					*-h-*	*-h-*			
tUsĩ 'you'							*-h-*		
tUsĩ ,,							*-h-*		
tUsĩ ,,							*-h-*		
dasaã 'ten' (OBL)							*-h-*		
hasde 'laughs'							*Ø/h*		
asĩ 'we'									*-h-*
pasu 'animal'								*-h-*	
asĩ 'we'									*-h-*
asĩ ,,									*-h-*
asĩ ,,									*-h-*
maSak 'leathern water bag'									-c-
kass 'tie'		*-h-*			*-h*				
kUS 'some'		*-S*							*-c*
das 'ten'			*-h*				*-h*		
Is 'this'				*-s*					
Is ,,				*-s*					
ras 'rope'									*-c*
ras ,,									*-c*
ras ,,									-c
ras ,,									-c

Table *1.2 s→h / -- #, v-v/c*

The use of retroflex laterals and nasals is a prominent feature obtaining in the coastal dialect. The upper class (this is specifically used to include all the other castes which enjoy social prestige besides Brahmins) speakers of the coastal area, both educated and uneducated, retain the retroflexion, whereas the non-upper-class educated speakers of the coastal dialect have free variation of retroflex and non-retroflex forms of laterals and nasals. Here they are generally governed by formal/informal situations.

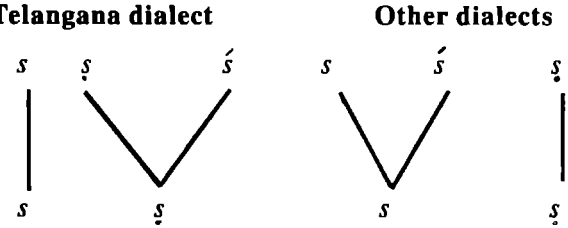
The retroflex lateral/nasal is used in the Rayalaseema dialect in formal speech only. In informal situations, speakers replace the retroflex lateral/nasal consonant with an alveolar consonant.

The retroflex lateral and nasal consonants are totally absent in Telangana speech. Only such of the educated class who strictly observe spelling pronunciation in their speech, sometimes achieve these sounds, but otherwise they replace them with alveolar consonants. Out of interest, sample data from twelve school teachers of Telugu language was collected from Telangana dialect area. Examples are shown below:

Orthographic form	**Teachers speech form**	**Gloss**
raːṇi	*raːni*	'queen'
vaːṇi	*vaːni*	'Goddess of speech'
daːṇa	*daːna*	'fodder'
aṇukuwa	*ankuwa*	'obedience'

Thus, uneducated speech of the Coastal dialect, non-formal speech of the Rayalaseema dialect and in total Telangana dialect, do not have retroflex lateral and retroflex nasal consonants. The examples in the table-I show this:

regional dialect or social dialect of Telugu, is disputable. Palatal *[ś]* is only found before front vowels, *[s]* being used in other contexts. In the orthography all three sibilants are represented by different symbols. But they merge in the ways shown below in the case of educated speakers.



This difference in merging is related to regional dialect variations. *[ś]* and *[ṣ]* merge into a single unit *[ṣ]* in Telangana dialect, where as *[s]* and *[ś]* merge into a single unit *[s]* in other dialects. In other words, in Telugu educated speech, there are only two distinctive sibilants, dental and retroflex. However, uneducated speakers of all regional dialects have only one sibilant. The dental, retroflex and palatal sibilants have all merged into a dental sibilant *[s]* in their speech.

5 Retroflex ḷ and ṇ

The stop consonants of retroflex quality are present in all the forms of Telugu. Retroflex nasal and retroflex lateral are the two remaining retroflex consonants (besides retroflex sibilant). These two consonants are present in certain speech forms across the Telugu-speaking area. However, they are distinctive in different styles of Telugu.

Alveolar *[l]* and *[n]* occur in place of the retroflex forms in non-standard speech. Speakers, based on their educational background, perceive the retroflex lateral and nasal consonants, but do not adhere strictly to their pronunciation.

tongue tip touching the roof of the mouth. In the case of laterals, the tongue tip is curled back, but not as much as in the case of stops.

This suggests why all speakers, irrespective of their educational or other social background, have retroflex stops. In the case of *ṭ* 'the contact between the tongue and the front part of the roof of the mouth may vary from alveolar to post-alveolar (Kostić *et al* ibid:110). I conclude from this statement that as long as it does not fall within the domain of a dental sound, it is considered as a retroflex stop. In case of *ḍ*, 'the occlusive period is shorter than *ṭ*' (ibid:114). In the usage of uneducated speakers we observe that both *ṭ* and *ḍ* have complete closure when they are in gemination. As we have already observed, geminate consonants occur only in word-medial position. That is to say, the retroflex *ṭ* and *ḍ* in gemination (occurring in word-medial position) are common to all speakers.

ḷ and *ṇ* occur only in word-medial position. Both these involve and abrupt burst, by releasing the point of contact of the underside of the tip of the tongue. The retroflex nasal, *ṇ*, can be classed with other stop consonants as far as retroflex quality is concerned. The lateral consonant *ḷ* is less retroflexed. As a matter of fact, some uneducated speakers have the following possibilities in word-medial positions. This refers to the Coastal and Kalinga dialects:

baḍi > *baRi* *baḷi* 'school'
bari

mu:ḍu > *mu:Ru* *mu:ḷ u* 'three'
mu:ru

4 Sibilant distinctions

Dental, palatal and retroflex sibilanats are to be considered originally presant in classical Telugu. Only two of these sibilants, that is, dental and retroflex, have distinctive functions in all regional dialects. The question of whether palatal *[ś]* has distinctive function in any

larger for *š* an than *ś*. The tip of the tongue leans down while the front and mid parts of the tongue are raised towards the alveo-palatal area.

(ibid:153)

By treating it as palatal fricative Kostić *et al* differ from all others who label it as a retroflex sibilant.

The above observations of traditional scholars as well as modernists, show that there is a remarkable difference in the phonetic qualities of the sounds *ṭ, ḍ, ṇ, ḷ* and *ṣ*. The sibilant consonant has more of non-retroflex features, where as the other four consonants have more retroflex features.

3 Need for considering retroflexion

In the uneducated speech there are retroflex stops but the retroflex nasal, lateral and sibilant sounds are absent. Uneducated speech has all the five terms of the P system, viz. bilabial, dental, retroflex, palatal and velar.

V/$\underline{v}P_{\underline{t}}$ (exponents are *ṭ* and *ḍ*) are found in uneducated speech just as in the speech of other speakers. In the N system, unlike others who have three terms, bilabial, dental and retroflex, uneducated speakers (who do not have any sociocultural exposure) have only two terms, i.e. bilabial and dental. In all cases where others have $N_{\underline{t}}$ (exponent *ṇ*) they substitute N_t (exponent n). The same is the case in the L system. $L_{\underline{t}}$ (exponent of *ḷ*) is not present in their system. In this system again, instead of the three terms they have only one. In educated speech of the Telangana and Coastal areas, however, the S system has two terms, t and *ṭ*.

Kostić *et al* have observed that the quality of retroflexion is clearly audible in the case of *ṭ, ḍ, ṇ, ḷ,* but not *ṣ*. Traditional scholars observed that only stops have the tongue tip curled back and the underside of the

occlusive period is shorter for voiced retroflex ḍ than its voiceless pair ṭ. Due to the less tense front barrier, the consonant may have incomplete occlusion. If in initial position, occlusion is complete, as well as in medial position after a short vowel. If the consonant stands as a first member in a cluster, the occlusion is normal. In intervocalic position it is altogether replaced by a flap sound. The period of explosion for this is weaker than that of ṭ.

(ibid:114).

ṇ retroflex nasal occurs only in word-medial position.

The tip of the tongue is curved back with its innerside placed against the post-alveolar area similar to the position of the tongue for retroflex ṭ. During the release of the front barrier there is an abrupt burst very similar to that of ḍ.

(ibid:178)

ḷ retroflex lateral occurs only in word-medial position.

The tip of the tongue is curved up and placed on the post-alveolar ridge. The contact with the lower part of the tip of the tongue and post-alveolar ridge is firm especially just before disjuncture. For ḷ retroflex lateral the separation (of the tip of the tongue from the place of contact) results in an abrupt, explosive-like burst.

(ibid:187)

š voiceless palatal fricative occurs in word-initial and medial positions.

The configuration of the tongue is approximately the same for the arituclation of fricative ś. The difference between š and ś is in the volume of front cavity which is formed between the innerside of the front teeth, the alveolar and post-alveolar area and the surface of the front part of the tongue. This cavity is

label to them as 'displaced' articulations, and expresses that some adjective which is more specific than one indicating only the passive articulator must be used to refer to it. He lists retroflexion as a displaced articulation when the point of the tongue is raised towards the hard palate, and also curled back as well. The label retroflex which is used for this class of consonants, does not directly identify the two articulators concerned. Kostić *et al* (1977) describe the Telugu retroflex consonants as follows:

> ṭ is a voiceless (post-alveolar) retroflex stop and is restricted to word-initial and medial positions. At the time of articulation of ṭ, the lip position is either neutral, or rounded if it is followed by a back vowel. It is specifically observed that the tip and the root of the tongue, as well as the position of the larynx are involved in the articulation of this consonant. The tip of the tongue is raised to a point up to and beyond the alveolar ridge pressing it with its innerside. The contact between the tongue and the front part of the roof of the mouth may vary from alveolar to the post-alveolar area. The firmness of the contact may be spread over the edges of the tongue, covering all the post-alveolar ridge, forming a closed chamber in the front part of the mouth. The mid and back part of the tongue slopes down, pressing the root of the tongue against the hyoid bone, lifting up the laryngeal system. The resonator formed in the palatal area of the buccal cavity, and that of the laryngeal area connected with pharyngeal cavity, are responsible for the retroflex ṭ.
>
> (ibid: 110-11)

ḍ voiced unaspirated postalveolar retroflex consonant occurs in word-initial and medial positions.

> The place of contact between the tip of the tongue and the post-alveolar area is approximately the same as for retroflex ṭ. The

Alone or combined with consonants (other than retroflex), ṣ is to be pronounced as *kh*. Allen (ibid.) tells us that this pronunciation is attested by Grierson in his modern Indo-Aryan vernaculars.

As already mentioned, retroflex sounds are not native to Indo-Aryan languages. They are Dravidian in origin. In Telugu the peculiarity with retroflex consonants is as follows:

a) The retroflex stop series involves five different types, viz. ṭ, ḍ, ṭh, ḍh, and ṇ. Of these only the four oral sounds can occur in word-initial position. The nasal retroflex can only occur in word-medial position. Aspirated retroflex sounds are less frequent than unaspirated ones.

b) The retroflex lateral occurs only in word-medial position. The word-medial occurrences are mostly Sanskrit borrowings when the consonant is single. In geminate form it occurs in native Telugu vocabulary.

c) The retroflex sibilant occurs mostly in Sanskrit vocabulary forms which are borrowed into Telugu. It also occurs in Hindustani vocabulary borrowed into Telugu.

It is to be noted that the retroflex consonants are of three different classes in Telugu: (a) stops, (b) liquids, and (c) sibilants.

Of these three types, it is only the stops which definitely behave like retroflex consonants totally, that is with the tongue tip curled back and the underside of the tongue tip touching the roof of the mouth. In the case of liquids the tongue tip is curled back, but not as much as in the case of stops. In the case of sibilants, there is no curling at all. Let us now look at the descriptions of modern phoneticians:

2.3 Abercrombie (1967:51) very clearly states that in certain types of stricture the active and passive articulators are organs which, when they are at rest, do not lie immediately opposite each other. He gives a new

closure processes to the apical articulator. There is need of a further *prayatna,* i.e. articulatory effort. Allen concludes that it would have been desirable to include this at this point in the treatise.

Allen (1953:52) notes that the traditional treatises recognised the term 'retroflexal' *(prativēṣṭita),* and the grammarians and phoneticians gave a special term for this as *muurdhanya* which is an adjective derived from *muurdhan* - head. There the definition was as follows: 'For the *muurdhanyas* the articulator is the tip of the tongue retroflexed' *(muurdhanyānām jihwāgram prativēṣṭitam).* They further note that in the *ṭ* series, contact is made with the tip of the tongue rolled back in *'muurdhan' (jihvāgrēṇa prativēṣṭ ya mūrdhani ṭa varga).*

tribhāṣyaratna says that *muurdhan* refers to the upper part of the buccal cavity. Allen expresses doubts over the point whether word *muurdhan* was ever used in this special sense. The reason for this doubt is that *pratijnā sūtra* refers to *śiras* (which means head) in place of *muurdhan* in a list of place of articulations. Allen cites the occurrence of some what obsolete forms like cerebral and cacuminal to prove his theory. It has rightly been pointed out by Allen that retroflex sounds were borrowed into Indo-Aryan languages from Dravidian at a much later date, and as a result a precise phonetic description is lacking.

The *āpiśāli śikṣa* has made an acute observation with regard to the retroflex series. It notes that in the retroflex series the contact is made not with the tip but with the part next to the tip or the underside of the tip *(jihwōpāgrēṇa mūrdhanyānām, jihwāgradhakaraṇamvā).*

2.2 Firth (1935:XIX) observes, 'The Indian *ṭ* is not made with the tip in the English manner, but with the very edge or rim of the tip, which is lightly curled back to make this possible'.

Allen notes (ibid:56) that in the retroflex series there remains only a pecularity connected with the fricative *ṣ*. He cites *pratijnā sūtra* which is repeated in a number of the later *śikṣās*. The observation is as follows:

Le Page and Keller. (1985:14) define linguistic behaviour as a series of acts of identity in which people reveal both their personal identity and their search for social roles. There are certain phonetic features in Telugu which clearly mark regional dialects and social dialects. In a way, by observing the presence of the features (or otherwise) mentioned here, we will be able to identify the speaker's social background (i.e. with regard to his educational status and cast) and regional background (i.e. from which dialect region he hails, etc.) very easily. It may also be possible for us to predict, at the same time, the speaker's attempts at moving towards the so-called 'standard' form of the language.

2 Retroflexion

Retroflexion is generally discussed by Indian traditional scholars in connection with places of articulations and also in relation to its prosodic function. Allen (1953) observes that to consider the retroflex articulations on the same terms as the velars, palatals, dentals or labials is, even from the point of view of the Indian descriptive framework, not entirely justified.

2.1 In the *taittireyi pratiśakhya* there is a mention of the position of articulators in the neutral state. It states that the tongue is extended and depressed, and the lips are in the position for *a̲*. Allen (1953:33) motes this and says that in such a condition the velar, palatal, dental and labial articulators are approximately opposite their respective places of articulation. He further states that the utterance of this series of sounds is effected simply by means of the closure processes ranging from complete closure to open. Allen makes clear that retroflexes differ from the rest. The traditional Indian treatises recognise this by stating that the retroflex series is articulated 'by rolling back the tip of the tongue'. Allen interprets this further, and says that the place of articulation is not automatically determined by the application of the

OPiL 19: 71-83 (1993)

RETROFLEXION AS AN ACT OF IDENTITY IN TELUGU SPEECH

J. Venkateswara Sastry
Osmania University, Hyderabad

Abstract: *The retroflex lateral [ɭ] and retroflex nasal [ɳ] are not present in certain speech forms across the Telugu speaking area. They are distinctive in different styles of Telugu. The question of whether palatal [ś] has distinctive function in any regional or social dialect of Telugu is disputable. The retroflex sibilant [ʂ] provides a peculiar solution to dialect division. The presence or absence of all the three retroflex sounds, serves as an act of identity.*

1 Introduction

During my field work in the Telugu speaking areas of Andhra Pradesh I realised that people have different views towards what is 'correct' language. But all of them have a tendency to use a variety which is appropriate to the context. The speakers have a 'phonetic consciousness' while making use of the variety of language. This consciousness may sometimes fit appropriately into the situation, or sometimes it may result in hyper forms. This phonetically conscious effort of the speaker is noted and in this paper I propose to consider retroflexion as a phonetic feature which helps us to list social acts of identity.

three (7-9) to age group III (above 56). Subjects with the numbers 1,3,4,6,7,8 and 9 are male, and remaining are female. Subjects with the numbers 2,5,7,8 and 9 are illiterate, 1,4 and 6 are matriculate, and the subject number 3 is a graduate.

References

Chander, Duni. 1959. *pãnjaabi bhaashaadaa wIkaas*. Chandigarh: Punjab University Publication Bureau.

Gill, H.S. and H.A. Gleason, Jr. 1969. *A Reference Grammar of Panjabi*. Patiala: Punjabi University.

Joshi, S.S. 1980. pãnjaabi wIakarn ate dhuni jUgat. *Pakha Sanjam*, XIII: 36-42.

Wang, William S.Y. 1982. Explorations in Language Evolution. *OPiL*, 8 (supplement).

The first two examples explore the probability of *h* to get changed into *low tone*, and an initial vowel carrying *low tone* is very much peculiar to Majhi dialect of Punjabi, whereas, on the other hand, other dialects do not entertain to it. In the next two examples, the probability of *h* getting changed in favour of tone is marginal and in the last two examples, the changing of *h* to tone does not seem, phonetically, possible, especially in the lexical items where *h* occurs finally, and the penultimate segment in the word is a *schwa* sound. It relates the linguistic environment very much conducive for the retension of final *h* in the pronunciation.

Notes

1. Here, the changing of h → denotes that *h* has lost its consonantal status. Though it is being compensated with tones, it is not always true. For instance, *haã̃* 'yes' → *aã̃*. So should not be confused with tones. Abbreviations and diacritic marks used in this paper stand for:

MIA	= Middle Indo-Aryan
Skt	= Sanskrit
Pbi	= Punjabi
Per	= Persian
S	= subject
OBL	= oblique form
\	= low tone
/	= high tone
*	= indicates hypothetical form
~	= nasalization

2. The language sample is drawn solely from the Majhi dialect as other dialects, viz. Doabi, Poadi, Malwai, do not share with this change. Out of nine speakers, first three (1-3) belong to age group I (15-30), second three (4-6) to age group II (31-55) and the last

In this way, the study disproves the hypothesis of the non-occurrence of glottal *h* in the word-final position as well as in word-medial position, especially in the Majhi dialect of Punjabi, and claims that glottal *h* is fully audible as a consonant word-finally and word-medially in this dialect and its occurrence remains exclusively confined to those lexical items which have experienced the change of *s* → *h*. It has been plained afore that this particular sound change (*s* → *h* → Ø) is in progress not simultaneously but is sequentially differentiable, i.e. (i) *s* → *h* (ii) *h* → Ø. The applicability of the second phase of this particular change is more frequent in word-initial position and less frequent in word–medial and word–final positions. Though there is prevalent tendency prevailing in Punjabi language of converting *h* into tones when it occurs word-medially and word-finally. But in relation to this particular change, *h* when occurs non-initially, is relatively less vulnerable to getting lost in favour of *tones*. However, obviously, the probability of *h* to get merged with *tone*, in this particular environment, can not be bypassed.

In the chronological preference of changing of *h* to *zero* (i.e. *tone*), the word-initial position of its occurrence takes precedence over the word-medial and word-final positions, that is to say that the changing of *h* to tone would take place initially in word-initial position and then non-initial ones. Observe the following examples:

i) *saare*	'all' →	*haare* →	**àare*
ii) *saaDe*	'our' →	*haaDe* →	**àaDe*
iii) *asi*	'we' →	*ahi* →	**ai*
iv) *pEse*	'money' →	*pEhe* →	**pÈe*
v) *das*	'ten' →	*dah* →	*?*
vi) *ras*	'rope' →	*rah* →	*?*

ii) *s* → *h* (final position)

das	'ten' →	*dah*	S-3
kas	'tight' →	*kah*	S-5
ras	'rope' →	*rac*	S-9
kUS	'some' →	*kUc̆*	S-9

None of the speakers has showed a tendency of converting *h* into *tones* in either linguistic environment. It relates to the two stage progression of lexical diffusion of sound change, i.e. unchanged words (maintenance of original *s* in pronunciation) and variable words (alternative usage of *s* and *h*). The third stage of progression (i.e. changed words) or the second phase of this particular change (i.e. *h* → Ø) has, probably, not yet started. The progression of this sound shift seems, currently confined to the first stage, i.e. of *s* getting lost in favour of *h*. For example, two speech segments are given below to authenticate the linear sequence of the occurrence of this sound shift (*s* → *h; h* → Ø) and to show how come two conflicting phonological processes are in progress simultaneously, i.e. converting *h* into *tones* and regaining it by converting *s* into *h*. Observe the following examples:

i) *haaDe khú ̀Undaa higaa* S-8

our well happens was

'We have had a well'

ii) *lokki à̀hde ̀Unde san* S-7

people (OBL) laugh happen was

'The people used to laugh at'

à̀hde (original word is *hasde*) in example (ii) is a fantastic instance which alone explains the entire phenomenon. Initial *h* is dropped in favour of *low tone*, and medial *s* is converted into *h*. It relates the simultaneity of occurrence of two conflicting phonological processes (*à̀hde ̀Unde* < *hasde hUnde*).

The remaining four subjects, either replaced the original sound *s* with *h* in all the lexical items or retained it. For example:

i) *saanu*	'to us' →	*saanu*	S-3
si	'was' →	*si*	S-3
ii) *saaDe*	'our' →	*saaDe*	S-2
saal	'year' →	*saal*	S-2
iii) *sut*	'cotten' →	*sut*	S-4
sutRi	'cotten string'→	*SutRi*	S-4
iv) *sigaa*	'was' →	*higaa*	S-6
si	'was' →	*hi*	S-6
sigi	'was'→	*higi*	S-6

Similarly, thirty six lexical items in which *s* occurred non-initially were isolated of which, only three maintain the pronunciation of *s*, and in remaining thirty three lexical items, *s* is replaced either by *h* or by *c*. For example:

i) *s* → *h* (medial position)

asi͂	'we' →	*ahi͂*	S-1
kIse	'someone'→	*kIhe/kohe*	S-1
pEse	'money' →	pEhe	S-1
waaste	'for'→	*waahte*	S-5
waaste	'for' →	*waahte*	S-6
tUsi	'you' (OBL) →	*tUhi*	S-7
hasde	'laughs' →	*ȟhde*	S-7
pasu	'animal'→	*pahu*	S-8
maSak	'leathern water bag'→	macak	S-9

Subjects' reference	Frequency of occurrence of *s* (initially)	Pronounced as *s-*	*h-*	*c-*	Frequency of occurrence of *s* (medially/ finally	Pronounced as *s*	*h*	*c*
S-1	13	3	10	-	5	-	5	-
S-2	7	7	-	-	3	1	2	-
S-3	6	6	-	-	1	-	1	-
S-4	5	5	-	-	2	2	-	-
S-5	5	1	4	-	2	-	2	-
S-6	9	-	9	-	3	-	3	-
S-7	20	8	12	-	8	-	8	-
S-8	8	4	4	-	3	-	3	-
S-9	2	1	1	-	13	-	7	6

Table 1.3 Quantitative figure of *s* becoming *h*

The pronunciation of original *s* is retained only in thirty two items. In rest of the lexical items, it is replaced either with *h* or with *c*. Out of seventy lexical items with an initial *s*, forty are replaced with *h*. Five subjects have exhibited variable pronunciation alternatively using *s* and *h* for original *s*. For example:

saaDaa	'our'	→	*haaDaa*	S-1
saaDe	'our'	→	*saaDe*	S-1
si	'was'	→	*hi*	S-1
saab	'Sir'	→	*Saab*	S-5
saaDe	'our'	→	*haaDe*	S-5
si	'was'	→	*hi*	S-7
saal	'year'	→	*saal*	S-7
sigaa	'was'	→	*higaa*	S-8
saanu	'to us'	→	*saanu*	S-8
si	'was'	→	*hi*	S-9
saaDe	'our'	→	*SaaDe*	S-9

Ortho graphic form	Coastal upper class	Coastal non-upper class	Rayala-seema formal	Rayala-seema informal	Telangana informal	Gloss
ra:ṇi	*ra:ṇi*	*ra:ṇi - ra:ni*	*ra:ṇi*	*ra:ni*	*ra:ni*	'queen'
bo:ṇi	*bo:ṇi*	*bo:ṇi - bo:ni*	*bo:ṇi*	*bo:ni*	*bo:ni*	'first purchase'
pelli	*pelli*	*pelli - pelli*	*pelli*	*pelli*	*pelli*	'marriage'
malli	*malli*	*malli - malli*	*malli*	*malli*	*malli*	'again'
kaḷa	*kaḷa*	*kaḷa - kala*	*kaḷa*	--	*kala*	'art'

Table-I Retroflex nasal and lateral distribution

The following examples of *sandhi* in the plural formation of Telugu also show that nasal and lateral retroflex consonants are restricted in their distribution.

kannu 'eye'

bandi 'cart' *-lu* 'plural suffix'

mullu 'thorn'

kannu + lu

- *kaḷḷu* Coastal dialect
- *kaṇḍlu* ~ *kanlu* Rayalaseema dialect
- *kanlu* Telangana dialect

bandi + lu

- *baḷḷu* Coastal dialect
- *baṇḍlu* Rayalaseema dialect
- *banlu* Telangana dialect

mullu + lu

- *muḷḷu* Coastal dialect
- *muṇḍlu* Rayalaseema dialect
- *munlu* Telangana dialect.

Notes

1. For my analysis, I made use of data which I collected during the fieldwork between 1968 and 1977, and also some personal notes. I also made use of the data published by the Telugu Akademi in their Telugu Dialect Bulletin Series. I was, in fact, myself involved in the dialect survey of the Telugu Akademi in the initial period and my data is published in two of its bulletins (1971, 1972). The data in general provide a great deal of evidence for features of educated and uneducated speech. During 1986, I collected some more data to fill this gap. It was on the following lines:

a) Caste based	**b) Region based**
Brahmins (5)	Telangana (3)
Non-Brahmins (6)	Coastal (6)
Christians (3)	Rayalaseema (3)
	North Andhra (2)
c) Subject based	**d) Sexwise**
Telugu teachers (4)	Men (12)
History teachers (3)	Women (2)
Science teachers (4)	
Maths teachers (3)	

All the fourteen subjects cited above are college teachers.

2. The voiceless palatal fricative *[ś]* is, in fact, less frequent in speech. Speakers who are aware that there exist three graphemes in the syllabary, still maintain only two in their pronunciation. The description by Kostić *et al* (1977) is restricted to idealistic speech form. It is my firm belief that palatal *[ś]* is restricted to written language. In pronunciation it is either dental or post dental.

3. Swarajya Lakshmi (1984) observes that 'this may be one of the reasons for the merger of *[ś]* and *[ṣ]* in Telangana dialect because *[ṣ]* occurs in native words for which *[ś]* occurs in other dialects. I do not agree with this for the reasons explained in note 2 above.

4. A plain dental *[s]* explains that the speaker is uneducated. If the orthographic form of palatal *[ś]* is pronounced as dental *[s]* in speech, the speaker is from non-Telangana area and if it is pronounced as retroflex *[ṣ]*, then the speaker is from Telangana area.

References

Abercrombie, D. 1967. *Elements of General Phonetics.* Edinburgh: Edinburgh University Press.

Allen, W.S. 1953. *Phonetics in Ancient India.* London: Oxford University Press.

Firth, J.R. 1935. *Colloquial Hindustani.* (Quoted from Allen 1953).

Kostić, D. et al. 1977. *A Short Outline of Telugu Phonetics.* Calcutta: Indian Statistical Institute.

Le Page, R.B. and A.T. Keller. 1985. *Acts of Identity, Crede-Based Approaches to Language and Ethnicity.* Cambridge: Cambridge University Press.

Radhakrishna, B., ed. 1971. *telugu māṇḍalikālu (karīmnagar jillā),* Telugu Dialect Bulletin Series: 1. Hyderabad: Telugu Akademi.

_____ 1972. *telugu māṇḍalikālu (guṇṭūru jillā),* Telugu Dialect Bulletin Series: 4. Hyderabad: Telugu Akademi.

Swarajya Lakshmi, V. 1984. *Influence of Urdu on Telugu (A Study of Bilingualism).* Hyderabad: Dr. V. Swarajya Lakshmi.

OPiL 19: 85-98 (1993)

PITCH PATTERNS ASSOCIATED WITH THE GLOTTAL FRICATIVE IN PUNJABI: A PRELIMINARY INVESTIGATION[1]

Kamlesh Sadanand and K.G. Vijayakrishnan

Central Institute of English and Foreign Languages, Hyderabad

Abstract: *While it has been established that Punjabi is a tone language, the details of the realisations of the various pitch contours with respect to the segmental and syllable phonology of the language have not been investigated in detail. This paper proposes to examine the effect that the voiceless glottal fricative [h] has on the pitch realisation of words pronounced in isolation in some detail.*

1.0 Introduction

It has already been reported in the literature that most dialects (including the standard dialect) of Punjabi have tone and that there is a three way tonal distinction (cf. Joshi 1988, Sandhu 1968 and Sadanand 1992). For instance, the word /ko:ḍa:/ has three different meanings depending on the tone used. It could mean 'whip' when pronounced with what we call the normal/neutral pitch contour (henceforth PC1); it would mean 'leper' when pronounced with a sudden high steep fall initiated in the first syllable which we refer to as pitch contour 2 (PC2); and it means 'horse' when pronounced with a fall, rise and fall which we

call pitch contour 3 (PC3). In this paper we investigate the relationship between PC2 and PC3 and the glottal fricative in words in Punjabi. In 1.1, we establish the details pertaining to the pronunciation of /h/ in different positions of Punjabi words. We also discuss the details pertaining to the pitch track recordings. In 1.2, we give a phonological analysis of the phenomenon.

1.1 Preliminaries

The status of /h/ in Punjabi is slightly unclear specially when compared with most other consonant sounds in the language. Word initially, it is always enunciated clearly. But word finally, it is never pronounced, e.g. whereas the /h/ in /ha:r/ 'garland' is pronounced, the /h/ in /ra:h/ 'way' is never pronounced. We claim that the pitch contour variation is a reflex of the underlying /h/ in the final position. In the medial position, in many cases there is a /h ~ Ø/ variation depending on the style of speech, e.g. /paha:ḍ/ 'mountain' in the formal style and /pa:ḍ/ in the casual style. But the presence or absence of /h/ does not seem to affect the pitch contour used, which is the same in both cases, viz. PC3. We assume that /h/ is present underlyingly in the medial and final positions too though it is not realised on the surface at the segmental level. Prior to its deletion, by the application of a phonological rule, the pitch contour changes that are associated with the positional variants of /h/ are brought into effect. Our claim regarding the presence of /h/ underlyingly is reflected in the Punjabi orthography.[2]

Since our primary concern is with the relationship between the glottal fricative, pitch contours and the presence or absence of a vowel in the immediate environment of the target sound, we do not undertake to motivate the underlying representations offered here specially with reference to vowel quality. The representation of the data that is given in this paper is fairly close to the orthographic representation which we

believe could be fairly close to the underlying representation of these words. However, we do not offer any arguments in favour of this assumption since it is beyond the scope of this paper. For the purposes of our discussion it would suffice to concern ourselves with the presence/absence of a vowel (long/short) before/after the underlying /h/.

Consider the derived words in (1):

(1)	a_1.	rah 'live'	[re̤]	b_1.	raha:iś 'domicile'	[rija:iś][3]
	a_2.	mu:h 'mouth'	[mu:]	b_2.	muha:vre: 'proverbs'	[mua:vre:]
	a_3.	kah 'say'	[ke̤]	b_3.	kaha:vat 'saying'	[ka:vat]
	a_4.	kah 'say'	[ke̤]	b_4.	kaha:ṇi: 'story'	[ka:ṇi:]
	a_5.	kah 'say'	[ke]	b_5.	kuha: 'causative'	[kua:]
	a_6.	la:h 'take off'	[la:]	b_6.	luha: 'causative'	[lua:]
	a_7.	bah 'flow'	[be̤]	b_7.	baha: 'causative'	[baa:]
	a_8.	sah 'bear'	[se̤]	b_8	saha:ra: 'support'	[sa:ra:][4]

The forms in (1a) are associated with PC2. However, the corresponding forms in (1b) are associated with PC3. The change from PC2 to PC3 forms part of the derivation from (1a) to (1b).

Unlike derivations which seem to change the pitch contour, inflected forms tend to retain the pitch contour of the base. The

and /ra:h/ 'way'. Alternative pronunciations like (kaha:ṇi:) and (ka:ṇi:) 'story' were included to asses the effect of vowel deletion on the realisation of the tonal contour. Finally, derivations and inflections were included to examine the nature of tonal alternation in the Punjabi data.

The pitch tracings in the Appendix seem to indicate that the glottal fricative /h/ is a tone depresser - it induces a steep fall (High-Low melody) to be initiated on the following/preceding vowel. From words like /pa:r/ 'across' and /kiraṇ/ 'ray' we conclude that the unmarked pitch pattern is a Mid-High-Low melody (MHL) with M and L associated with the left and right edges respectively and H spread out in the middle. The pitch tracings of words with /h/ in different positions lead us to believe that the tonal pattern associated with /h/ is superimposed on the unmarked melody. For instance, /h/ initial words have a drop in pitch in the beginning of the word not found elsewhere, compare /pa:r/ 'across' with /ha:r/ 'garland' and /kiraṇ/ 'ray' with /hiraṇ/ 'deer'. Similarly, comparing /paha:ḍ/ 'mountain' with /kama:l/ 'extraordinary', we find that the medial /h/ in the former is associated with a fall independent of the gradual fall at the end of the unmarked pattern. As for the final /h/, the steep fall generated by the glottal fricative is associated with the final mora of the preceding vowel and the remaining part of the unmarked melody (which generally induces a gradual fall) is not realised. Finally, the difference between derivation and inflection is that whereas the latter does not affect the pitch pattern of the base, e.g. /mu:ã:/ 'mouths', the former does, e.g. /mu:h/ 'mouth' ~ /muha:vre:/ 'proverb'. In 1.2 below, we give a formal account of the phenomenon.

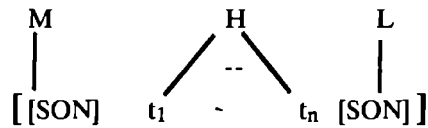
1.2 The Analysis

The pitch variation in the data is accounted for in terms of autosegmental linking between elements of the tone melody and the tone bearing elements in the segmental sequence. We begin with the unmarked tone melody - MHL. (5) below is a formal statement of the unmarked pitch pattern observed in words like /pa:r/ 'across' and /kiran/ 'ray' where M and L are at the edges and H spread out in the middle:

(5) Linking of the Unmarked Melody-PC1

(a) The unmarked tone melody in Punjabi is MHL.

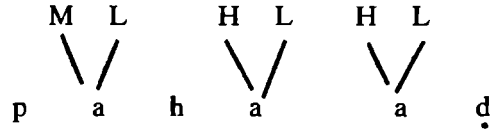
(b) Edge association[6]



(5b) ensures that the M and the L tones at the peripheries are linked to sonorants at the edges of the segmental sequence and the H in the middle to all the tone bearing elements -t_1 t_n - in between (vowels and also perhaps nonsyllabic sonorants). Notice that none of the vowels are multiply linked to tones in the unmarked case.

We now consider words like /paha:d/ 'mountain' and /kaha:ni:/ 'story' pronounced without any of the underlying vowels being deleted. The tonal sequence in these words is - M L H L H L. Assuming that the tonal melody associated with /h/ is superimposed on the unmarked pattern and it occurs in the middle, we isolate the melody LHL and attribute it to the glottal fricative. In a word like /pahaad/ (with all the moras spelt out as individual vowels), we see that the three troughs in the tonal melody are associated with the three moras. But notice that all the three moras are linked to two tones each as shown in (6) below:

(6)



To account for the data at hand, we stipulate that each mora may be linked to a maximum of two tones. The derivation in (6) is accounted for by ordering the tone rules as in (7):

(7) a. The unmarked melody is MHL.

b. Edge association.

Link the tones M and L to the sonorants at the peripheries of the segmental sequence contained in [ ].

c_1. The tonal melody generated by /h/ is LHL.

c_2. Insert the melody LHL to the left of the as yet unlinked H of the unmarked melody.

c_3. The HL of the LHL triggered by /h/ is syllable bound, i.e. it must be linked to the mora adjacent to /h/ in the same syllable.

d. Link the unlinked tones to all the tone bearing units.

e. Not more than two tones may be linked to any tone bearing unit.

f. Association lines may not cross.

We can now account for the words /paha:ḍ/ and /kaha:ṇi:/ with three troughs in the pitch contour. When the sequence /ah/ is deleted in both these words, the tonal sequence ML which is linked to the deleted vowel also disappears as there are no tone bearing units to which they can be linked. By adding (8) to (7 a-f), we can account for the nonrealisation of the unlinked tones:

(8) Delete unlinked tones.

Consider now the pitch pattern of words with /h/ in the initial position, e.g. /ha:r/ 'garland' and /hiraṇ/ 'deer'. There is a considerable dip in the pitch contour of both these words which can be taken care of

by the application of ($7c_2$ and c_3). (7_e) ensures that the initial M is delinked to prevent a short vowel from being linked to three tones. (7c) takes precedence over (7a) to ensure the maximal linking of the marked tone melody.

Turning to the /h/ final words, take a word like /kah/ 'say' which has a single mora. The pitch contour of this word is HL. To begin with, the complete tonal melody of this word is M (L H L) H L. (With the melody associated with the /h/ in parenthesis). ($7c_3$) ensure the linking of the HL in parenthesis and (7_e) and (8) wipe out the unlinked tones on the left and right.

Take the case of /la:h/ 'take off' with a sonorant consonant, a long vowel and a final /h/. Since the HL melody is linked to the mora to the immediate left of /h/, we expect the word to surface with the pitch contour M L HL. However, the pattern we see is M HL (see (15) of the Appendix). To account for this, we propose a rule of mid simplification given in (9) below:

(9) Mid simplification

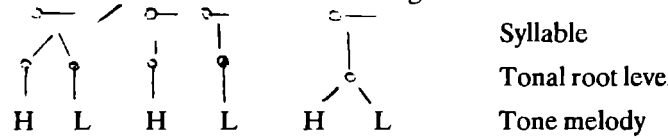
M L H L]

A mid low melody is simplified to a mid tone before a final high fall linked to a single mora. However it should be noted that though (9) accounts for the pitch pattern of a word like /la:h/ 'take off', a word like /ra:h/ 'way' does have the pattern M L HL contrary to our expectation with respect to rule (9). Perhaps the consonant /r/ is in some way responsible for the nonapplication of the rule in question. We will not pursue the matter any further in this paper.[7]

Before we look at derivations and inflections, an observation about the HL melody associated with /h/ is in order. Notice that unlike other tone sequences, this melody - HL - is always linked to a single

mora even when there is an unlinked, adjacent mora. Unlike true 'tone clusters' in the sense of Yip (1988), which usually associate in a one-to-one manner if accessible tone bearing units exist, this HL sequence behaves like a 'branching tone' as in Yip (1988). (10) is based on (2) of Yip (1988):

(10) Tone cluster Branching tone



Branching tone, as Yip observes, associates as a unit. Keeping this observation in mind, let us look at the pitch contours in derivations and inflections. The derived forms in (1) exhibit tonal alternation which, as we pointed out earlier, is a consequence of resyllabification. Whereas the branching tone HL attaches to the final mora in the forms in (1a), it attaches to the first mora of the suffix in the forms in (1b). The only assumption we need to make is that (7 a-f) applies in a noncyclic fashion, i.e. derivational suffixation precedes rules of tone linking. The sample derivations in (11) below illustrate the point:

(11) Derivation

a.	**(ML)**	**HL**	**(HL)**	**b.**	**(M**	**L)**	**HL**	**H L**
		kah			k	(a)	ha:	ni:

The elements in parenthesis in (11a) are not realised at all and the elements in parenthesis in (11b) are optionally realised depending on the style of speech.

We had observed earlier that the pitch pattern of an inflected form is the same as that of the base. This can be taken care of by stipulating that (8) (the deletion of unlinked tones) takes place prior to inflectional affixation. (12) below illustrates the tonal pattern in an inflected form (see Eliezer (1984) for a similar analysis):

(12) Inflection

a. **(M L) HL** **(H L) b. HL**

kah ka i:

The segmental sequence of the inflectional ending is associated with the right element of the branching tone, i.e. the L tone (as in the Mandarin data in Yip (1988)).

1.3 Conclusion

We looked at the pitch contour variations associated with the glottal fricative in Punjabi and argued that what appeared to be variants (PC2 and PC3) can, in fact, be derived from the same underlying source - a sequence of a unitary tone and a branching tone, i.e. L HL. We also established that tone mapping must follow derivational affixation but precede inflectional morphology in Punjabi.

Notes

1. In this paper, the long vowels are closer/higher than their short counterparts. The vowels /e̝/ and /o̝/ are more open than /e/ and /o/ respectively. /a:/ represents a centralised, low, unrounded vowel and /a/ a mid-central, unrounded vowel. A /. / below the consonant stands for retroflection and /d̝/ represents the voiced retroflex flap. The symbols /c/ and /j/ stand for the voiceless and voiced alveo-palatal consonants respectively. Finally, the symbol /~/ indicates nasalisation.
2. We are grateful to Professor B.M. Sagar (personal communication) for the information pertaining to post-vocalic /h/ in Punjabi orthography.
3. The verbs in (1a) have, for some strange reason, a final /i/ in the orthography. But these words are clearly monosyllabic at all stages of the derivation.

4. As mentioned earlier, many of the derived forms are optionally pronounced with a /h/. However, the tonal contour is the same with or without the /h/.
5. The plural of /mu:h/ 'mouth' occurs in a compound like /do: muhã: sapp/ 'two headed snake'.
6. Notice that in words which end in a sonorant, the pitch is lower than in words which end in an obstruent (contrast /kaha:vat/ with /muha:vre:/, (12) and (19) respectively in the Appendix).
7. (9) is problematic on two counts. Firstly, it does not apply to /ra:h/ 'way' whose tonal melody is M L HL unlike /la:h/ 'to take off' whose tonal melody is M HL. Secondly, it does apply to derived forms where its SD is not met, e.g. /luha:/ causative of /la:h/ with the tonal sequence M HL H L when it should have been M L HL H L (see (16) in the Appendix). However, as in /ra:h/, in a derivative which begins with /r/, (9) does not apply, e.g. the tone melody of /rija:iṣ/ 'domicile' derived from /rah/ 'to stay' is M L HL H L (see Appendix (21)).

References

Eliezer, J. 1984. Some Aspects of the Autosegmental Phonology of English and Punjabi. MLitt dissertation, CIEFL.

Joshi, S.S. 1988. *The Phonology of the Punjabi Verb.* New Delhi: Classical Publishing Company.

Sadanand, K. 1992. Long Stop Consonants in Punjabi. T. Balasubramanian and V. Prakasam, eds. *Sound Patterns for the Phonetician: Studies in Phonetics and Phonology in Honour of J.C. Catford.* Madras: T.R. Publications.

Sandhu, B.S. 1968. *The Tonal System of the Punjabi Language.* Punjab: Parkh.

Yip, M. 1988. Contour Tones. *Phonology Yearbook*, 6: 149-75.

Appendix

1. pa:r

2. ha:r

3. kiraṇ

4. hiraṇ

5. hi:ra:

6. paha:ḍ

7. pa:ḍ

8. kaḍa:h

9. ra:h

10. keh

11. kua:

12. ka:vat

13. kaha:ṇi:

14. ka:ṇi:

15.la:h

16. lua:

muh

18. muã:

19. mua:vre:

20. reh

21. rija:iš

OPiL 19: 101-119 (1993)

NEWS OF THE DEPARTMENT 1993

Faculty Publications

Lakshmi Bai, B. (Co-edited with Aditi Mukherjee). *Tense and Aspect in Indian Languages*. Hyderabad: Centre of Advanced Study in Linguistics, Osmania University, and Booklinks Corporation.

Mukherjee, Aditi (Co-edited with B. Lakshmi Bai). *Tense and Aspect in Indian Languages*. Hyderabad: Centre of Advanced Study in Linguistics, Osmania University, and Booklinks Corporation.

_____. (Co-authored with Ramakant Agnihotri and A.L. Khanna). English Tenses and the Indian Learners. B. Lakshmi Bai and Aditi Mukherjee, eds. *Tense and Aspect in Indian Languages,* 143-54. Hyderabad: Centre of Advanced Study in Linguistics, Osmania University, and Booklinks Corporation.

Nagamma Reddy, K. Acoustic Correlates of Voicing Contrasts in Tamil and Telugu. P.V.S. Rao and B.B. Kalia, eds. *Speech Technology for Man-Machine Interaction*, 113-26. New Delhi: Tata McGrow-Hall Publishing Company Limited.

Vasanta, Duggirala. Input from Linguistics for the Growth of Speech and Hearing Profession in India. N. Rathna, ed. *Speech and hearing in India: Thirty Years*, 72-89. Bangalore: Indian Speech and hearing Association.

_____. Lipreading Indentification and Discrimination Skill of Telugu Deaf Children in Normal and Special Schools. *Journal of Indian Speech and Hearing Association,* 10.

_____. Phonetics and Communication Disorders: Some Reflections on the Goals, Boundaries and Applications of Phonetics. *Indian Linguistics*, 54/1-4.

Vijayanarayana, B. Location of Time with Special Reference to Telugu. B. Lakshmi Bai and Aditi Mukherjee, eds. *Tense and Aspect in Indian Languages*, 101-10. Hyderabad: Centre of Advanced Study in Linguistics, Osmania University, and Booklinks Corporation.

PhD Awardees

Amitav Choudhry

Language Interference and Mother Tongue Maintenance: A Case Study of Bengali Speaking Children in the Telugu Speaking Areas of Hyderabad and Secunderabad. (Supervisor: Professor B. Ramakrishna Reddy)

R. Arunachalam

Rhetoric in English and Tamil: A Contrastive Study (Vols 1 and 2). (Supervisor: Professor C. Ramarao)

MPhil awardee

A. Jaganmohana Chary

Morphological Disturbances in Telugu Agrammatics. (Supervisor: Dr. A. Usha Rani)

PhD Dissertation Abstracts

Language Interference and Mother Tongue Maintenance: A Case Study of Bengali Speaking Children in the Telugu Speaking Areas of Hyderabad and Secunderabad. Choudhry, Amitav. (Supervisor: Professor B. Ramakrishna Reddy)

This study attempts to determine the level of interference in the language of the Bengali minority especially school age children whose L1 is Bengali and who have settled along with their parents in Hyderabad, who during their language acquisition period and also

during their schooling have come into cantact with the regional language, i.e. Telugu, and also Dakkhani/Urdu/Hindi and English.

Chapter one is introductory and looks at Hyderabad as a potential area for research from the sociolinguistic point of view. This chapter also contains a brief history of the Bengali speech community, and methodology/parameters of investigation.

Chapter two deals with the language attitudes of the Bengali minority in Hyderabad. Using the questionnaire based on the Likert scale, this chapter evaluates validity and uniformity of the subjects through a 'test of significance'.

Chapter three examines some of the existing tests to develop a suitable test to measure bilingual ability in the Indian context.

Chapter four is on bilingualism, and presents linguists' view point on this aspect.

Chapter five reviews a few theoretical concepts on the aspect of language and linguistic interference. It also attempts to analyse the actual factors responsible for interference at the phonological, lexical and grammatical levels in the language of the Bengali speaking children in Hyderabad.

Rhetoric in English and Tamil: A Contrastive Study (Vols 1 and 2). Arunachalam, R. (Supervisor: Professor C. Ramarao)

This dissertaion studies the narrative and text analysis of discourses in English and Tamil from contrastive points of view in the name of the discipline of rhetoric. It applies the frameworks of Prince (1982) and Halliday (1985) to analyse critically the narratological phenomena and the textual features of the discourses in Engish and Tamil and concretizes, wherever possible, the literary aspects discerned in the narrative analysis of discourses. Its scope is restricted to analyse the written literary narrative discourses namely R.K. Narayan's *Waiting for the Mahatma* (1955) in English and N.

Parthasarathi's *aatmaavin raakankal* (1969) in Tamil by using methods of interpretative procedures.

Part I, consisting of chapter one, provides a background to the study. In order to establish how the study of language has been holistic or otherwise, section 1 focuses on the sentence grammars which treat the sentence as the maximum unit of language for their own reasons and hence make the study of language partial, while section 2 deals with the rhetoric-based grammars which study language in use in terms of text, discourse and narrative analysis. Sections 3,4 and 5 discuss the framework, materials and methods of the study respectively.

Part II deals with the narrative analysis in terms of Encoding consisting of narrating and narrated and Decoding comprising reading and narrativity adopted from Prince's (1982) *Narratology: The Form and Functioning of Narrative.* Chapters two and three bring out critically the narratological phenomena of the chosen discourses in English and Tamil respectively. Chapter four presents their comparisons and contrasts.

Part III is concerned with the text analysis on the basis of clause as message (textual function), clause as exchange (interpersonal function) and clause as representation (ideational function) at the structural level and the concept of cohesion at the non-structral level derived from Halliday's (1985) *An Introduction to Functional Grammar.* Chapters five and six examine critically the textual features of the chosen discourses in English and Tamil respectively. Chapter seven summerises their comparisons and contrasts.

Part IV, consisting of chapter eight concludes the study with remarks and suggestions for further research. Appendices I to VIII have the materials used for text analysis in English and Tamil. Appendix IX is briefly concerned with the functions of language in Tamil.

MPhil Dissertation Abstract

Morphological Disturbances in Telugu Agrammatics. Jaganmohana Chary, A. (Supervisor: Dr. A. Usha Rani)

This study is an attempt to explain the morphological disturbances of Telugu agrammatics. It tries to explain the break down and subsequent recovery of the language within a given period, among agrammatics.

Chapter one defines aphasia and agrammatism with a neurolinguistic perspective. It also presents the classification of aphasia and the contribution of various fields like psychology, neurology, speech pathology to aphasiology.

The second chapter provides methodology and two types of test material. The first one is the Telugu version of the Boston Diagnostic Aphasia Exam (BDAE, an English original) adapted by Vasanta and Usha Rani (1989) and the second one is an unpublished material for evaluation of agrammatism in Telugu developed by Vasanta and Usha Rani. The second one deals with the Telugu inflectional morphology in general and plurals and case markers in particular. Chapter three presents a survey of Indian and other studies on agrammatism.

Fourth chapter deals with the morphological analysis of plurals, case relations, pronouns and tense system in agrammatics' speech. Fifth chapter presents the following observations:

i) Subjects under study showed uniformity in the disturbance of morphological categories.

ii) In plural formation, subjects correctly supplied the plural marker *-lu* but either substituted or omitted the plural forms where morphophonemic changes were necessary.

iii) Case system and tense system are impaired with a disturbed agreement in the language.

iv) Patients' responses are towards simplified structures.

The dissertation also contains an appendix in which the test format is given.

(Abstract was prepared by A. Usha Rani)

Report of the Research Project

[The research project described below has been carried out at the Department of Linguistics, Osmania University, during July 1989 - December 1992. The project was funded by the U.G.C., under their Career Awards scheme; Grant No. F 1-1/89 (JS- MC)]

Contrastiveness in the Speech of Telugu Deaf Children.

Investigator: Duggirala Vasanta.

Since it is through hearing that a young child experiences the speech patterns of others and compares them with his/her own speech efforts, it is not surprising that severe hearing loss dating from birth (congenital) or shortly thereafter (prelingual) has a devastating effect on the development of contrastive system of vowels and consonants. Unlike normal hearing children who rely on the acoustic products associated with the speech sounds, deaf children are forced to pay attention to the process information associated with movements of the articulators and the resulting tactile-kinesthetic feedback. This shift in modality from auditory to tactile/kinesthetic and visual senses is partly reflected in the phonetic and phonological errors exhibited by deaf persons. For instance, it is commonly reported that in deaf children, the phonological voicing contrast for plosives may be phonetically abnormal in that the adult voiceless bilabial plosive may become voiced one and the adult voiced segment may be realized as an implosive. Thus, *pin - bin* may become [bin - ɓin]. The implosive [ɓ] has the correct visual lip pattern but other features that are inappropriate.

Much of the past research on the speech of deaf children has been confined to English and other European languages and most of these studies attempted to describe segmental errors in deaf in relation to matched normal hearing control subjects. However, for the purposes of educational planning, it is more important to study subgroups of deaf children to examine the effects of degree of hearing loss and differences in lipreading skills on their phonetic and phonologtical competence. This report is based on a larger study, funded by the U.G.C., designed to develop assessment of materials in Telugu to study phonetic and phonological capabilities of two sub-groups of congenitally deaf Telugu children.

The data to be presented in this report comes from six deaf children in the age range 9-13 years who are enrolled in normal schools. These subjects are divided into two groups based on the degree of their hearing loss and lipreading ability. Important subject information is summarized in Table - 1:

	sex	Age Years.	Grade	PTA Hearing loss (dB)	Lipreading score (%)
G-I subj.					
A.K	M	10.3	III	95.62	28.5
P.G	M	10.6	IV	102.56	58.08
P.S	M	11.0	VI	99.37	67.16
Avg.		10.63		99.18	51.25
G-II subj.					
L.S	F	10.8	V	91.25	80.91
S.D	F	10.9	VI	76.87	79.33
K.A	F	13.5	VII	94.37	83.58
Avg.		11.73		87.49	81.27

Table - 1: Subject information

It can be seen clearly from Table -1, that group II children on the average are one year older than group I children. In terms of both hearing ability and lipreading skills, group II children fared much better than group I children. It must be noted that the hearing loss indicated in the table denotes puretone average loss for both the ears, computed by averaging hearing thresholds at 0.5, 1, 2 and 4 k Hz. The lipreading scores indicated in the table constitute composite scores of subjects on lipreading identification and lipreading discrimination subtests of a Telugu Lipreading Test developed specifically for the purposes of this project.

The vowel and consonant contrastiveness in the speech of these children was assessed using one hundred minimal pairs in Telugu, collected for the purposes of this study. Of these, forty pairs evaluated four different vowel features, ten each of the following; vowel place (e.g. In word initial position, *piṭṭa - puṭṭa* 'bird - mound' and word final position, *guṇḍi - guṇḍu* 'button - bald head'), vowel height (e.g. *miḍata - maḍata* 'grass hopper - fold'), vowel duration (e.g. *nela - ne:la* 'month - floor') and vowel vs. diphthong *(e.g. ta:ḍu - tauḍu* 'rope - husk'). Sixty minimal pairs were developed to assess consonant contrastiveness based on voicing (e.g. *pa:lu - ba:lu* 'milk - ball'), place (e.g. *pinda - kinda* 'unripe fruit - down'), and manner (e.g. *perugu - cerugu* 'curd - winnow'). All the vowel and consonant contrasts were assessed in word initial, medial/final positions. The minimal pairs, written in Telugu were processed by a computer to control for uniformity in the size and quality of graphemes. Subjects were required to read each pair twice. At a later date, they were required to complete an incomplete sentence written below each minimal pair. For example, *piṭṭa - puṭṭa*; -------- *lo: pa:mu undi.* The child was required to insert *piṭṭa* to complete the sentence for the sentence reads as, 'There is a snake in the mound'. Completion of twenty five of the hundred sentences required the

subject to produce a morpho-phonemic alternation such as adding a plural marker or case marker to one member of the minimal pair. For example, *balli - malli* 'lizard - jasmine': *go:ḍa mi:da reṇḍu ----------unna:yi;* the correct answer being *"ballulu"* for the correct version of the sentence is, 'There are two lizards on the wall'. All the responses were tape recorded inside a sound treated room. The recordings were later transcribed by two trained linguists independently. Both the transcribers received sufficient practice in listening and transcribing disordered speech prior to transcribing this data. The two transcriptions were compared and consensus was reached by the experimenter. Only when the transcription contained the intended feature, it was assigned a score of one, otherwise, it received a score of zero. The results are displayed in Table - 2

Subjects	Phonological contrastiveness (% correct) Vowel contrasts *				Cons. contrasts		
	V.p	V.h	V.d	V/diph	C.v	C.p	C.m
G-I							
A.K	30.0	20.0	50.0	0.0	20.0	65.0	23.33
P.G	20.0	30.0	60.0	10.0	0.0	70.0	26.66
P.S	20.0	30.0	30.0	40.0	10.0	75.0	10.0
Avg.	23.33	26.66	46.66	16.66	10.0	70.0	19.99
G-II							
L.S	60.0	80.0	90.0	100	0.0	80.0	66.66
S.D	80.0	100	90.0	100	20.0	95.0	76.66
K.A	80.0	100	100	90.0	10.0	75.0	33.33
Avg.	73.33	93.33	60.0	96.66	10.0	83.33	58.88

V.p: Vowel place; V.h: Vowel height; V.d: Vowel duration; V/diph: Vowel vs. diphthong; C.v: Consonant voicing; C.p: Consonant place; C.m: Consonant manner.

* The diference in performance between the two groups with respect to vowel contrastiveness met statistical significance at 0.01 level.

Table - 2: Consonant and Vowel contrasts produced correctly by the subjects during oral reading of minimal pairs in Telugu.

Even a cursory glance at table - 2 shows that the two groups differed significantly on all the vowel features and on the consonant manner feature, although only vowel contrasts achieved statistical significance. The differences in lipreading ability of the two groups is clearly reflected in their performance pertaining to production of consonant place contrasts. It must be noted that consonant place, but not consonant manner is available through lipreading. The latter is tied to the hearing ability, as shown by the observation that group I children whose hearing loss is greater than group II children scored barely 20% on consonant manner, whereas group II children scored nearly 60%. Higher scores on consonant place rather than consonant manner also suggests greater reliance of all these children on lipreading as opposed to their residual hearing.

Turning to the vowel contrasts, vowel vs. diphthong dichotomy appears to have played a major role in distinguishing the two groups in that, group I children with poorer hearing and poorer lipreading scores obtained about 17% on this contrast compared to group II children who scored 97%. Similar results were noted on vowel height, vowel place and vowel duration contrasts. As far as ability to generate morpho-phonemic alternations of words is concerned, the average score was 24.66% for group I children and 55.33% for group II children. In contrast, two normal hearing age matched controls scored 95.5% on this task.

The lack of contrastiveness among vowels in deaf children has been well attested in the literature and has often been cited as one of the contributing factors for their poor speech intelligibility. Acoustic studies on deaf speech have pointed that the deaf speakers have restricted tongue movements, particularly in the front-back dimension and that their second formant frequencies remain at or around 2000 Hz. The data of the present study were subjected to further perceptual

and acoustic analyses to seek atleast partial explanations for diminished contrastiveness in deaf children's speech production.

One group of naive listeners (N = 12) and one group of experienced listeners (teachers of the deaf; N = 12) were made to listen to a story read by the six children. The listeners were required to rate the story for intelligibility on the whole, in word (i.e. number of words understood) and in sentence context (i.e. number of words understood in the context of a sentence). The ratings of both the groups differed significantly ($p < 0.01$) for group I and group II children, although experienced listeners' ratings were consistently higher than those of naive listeners.

With a view to examine the phonological space for vowel production, as defined by the range of formant one and formant two frequencies for the three corner vowels, viz. /i/, /a/ and /u/, individual words uttered by these children were analyzed using a digital spectrograph (DSP Sonograph, model 5500). The results averaged for the three subjects in each group are plotted in Figure -1 below:

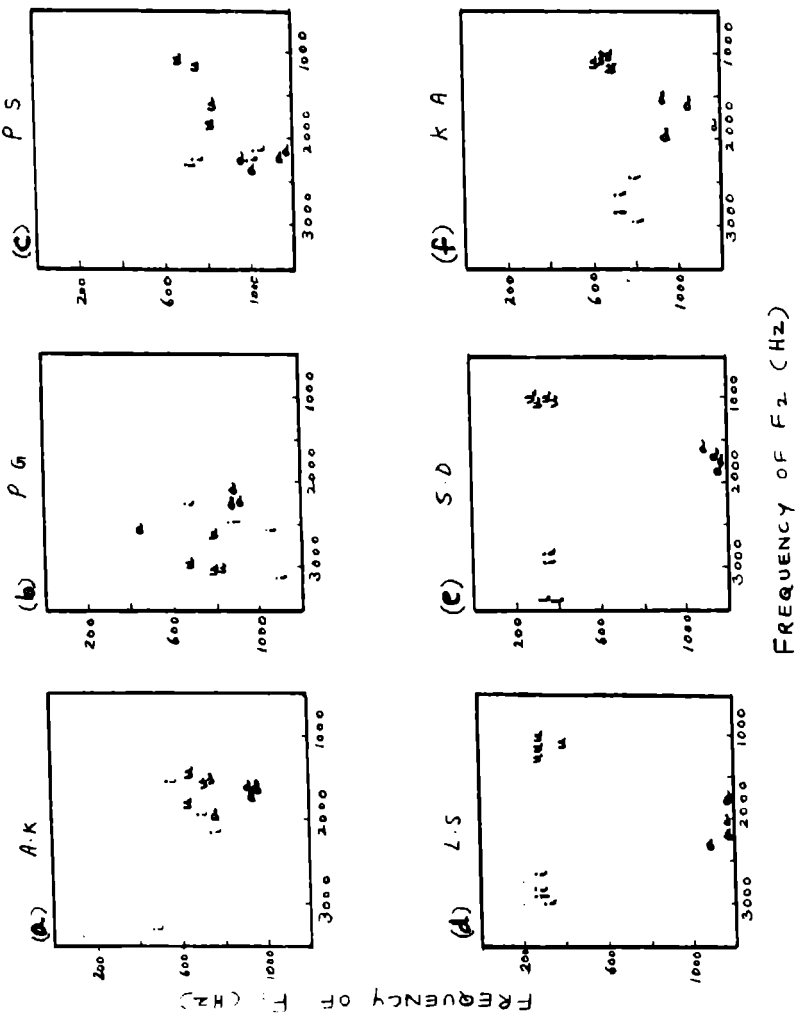


Figure - 1: F1 - F2 Plots for the corner vowels illustrating considerable reduction in phonological space for the three deaf children in G-I (plots a - c) relative to children in G - II (plots d - f).

Figure - 1 shows the extent of overlap of vowels in the case of group I subjects, in contrast to group II subjects. In the latter group, the phonological space for vowel production may be restricted relative to age-matched normal hearing subjects, but these subjects are able to keep the three vowels distinct from one another.

Further acoustic analysis of words containing short vs. long /i/, /a/ and /u/ using a mingograph revealed that the vowel duration ratios of children in group I are more deviant relative to normal values reported in the literature. Group II children on the other hand exhibited a better vowel duration contrast, as revealed by both mingographic and spectrographic records. these results are consistent with the higher speech intelligibility scores of group II children compared to group I subjects (refer to listener judgment data discussed above).

All of the above mentioned results clearly indicate that the phonetic/phonological competence of deaf children is tied up to their hearing and lipreading ability among other things and that a detailed analyses of their linguistic potential in the language to which they are exposed and in which they receive instruction in schools is essential for proper educational planning in general and to improve their speech intelligibility in particular. The most obvious clinical implication of the results of this project is that group I children would benefit from carefully designed vowel contrast training, beginning, perhaps with the vowel vs. diphthong contrast. Group II children need more training on the vowel duration contrast (which is also phonemic in Telugu) relative to other contrasts. Systematic training in lipreading lessons might improve consonant place contrasts in the speech of children from both the groups. More work needs to be done in relation to other consonant contrasts and with other groups of deaf children.

New Research Projects under the 'Research and Fieldwork' Programme of the Centre of Advanced Study in Linguistics

1. **A Survey of Word Derivation Processes in Modern Telugu.** Investigator: C. Ramarao.
2. **Telugu and English Wordfinder: A Two-Way Bilingual Dictionary.** Investigator/Compiler: B. Vijayanarayana.

Seminar

February 26-27, 1993 — Professor Aditi Mikherjee directed a two-day national seminar on **'Word Order in Indian Languages'**. Professor K.V. Subbarao, University of Delhi, inaugurated the seminar and also delivered the keynote address. The inaugural session was presided over by Professor S.K. Verma, Vice-Chancellor, Central Institute of English and Foreign Languages, Hyderabad. During the paper-reading sessions 24 papers were presented by the scholars belonging to different institutions from all over India. Dr.V. Swarajya Lakshmi was the secretary for the seminar.

Visiting Faculty

February 2-15, 1993 — **Professor G.S. Rao,** Indira Gandhi National Open University, New Delhi, delivered a series of lectures on 'Dravidian Studies, Sociolinguistics as the Base of Historical Linguistics, and Literacy Education'.

December 8-17, 1993 — **Professor Ajit K. Mohanty,** Department of Psychology (Centre of Advanced Study), Utkal University, Bhubaneswar, gave a set of lectures on 'Current Developments in Psycholinguistics'.

■ Lectures/Talks

9th and 14th September, 1993	**Professor Jacob Tharu,** Department of Testing and Evaluation, Central Institute of English and Foreign Languages, Hyderabad, gave two lectures on 'Statistical Techniques in Social Sciences'.
September 24, 1993	**Dr. Tejaswini Niranjana,** Lecturer, Department of English, University of Hyderabad, spoke on 'Translation and Colonialism'.
September 27, 1993	**Dr Mohan G. Ramanan,** Reader, Department of English, University of Hyderabad, gave a lecture on 'A Survey of the Theory of Translation'.
October 7, 1993	**Professor R. Sri Hari,** Department of Telugu, University of Hyderabad, delivered a talk on 'Rule Order in Pāṇini'.
November, 2-4, 1993	**Professor J.P. Dimri,** Department of Russian, Central Institute of English and Foreign Languages, Hyderabad, gave three lectures on 'Indian Grammatical Traditions: Pāṇini'.
December 18, 1993	**Dr. Varijakshi Prabhakaran,** Lecturer, Department of Indian Languages, University of Durban-Westville, South Africa, spoke on 'Status of Indian Languages in South Africa'.

■ Research Fellowship

Dr. K. Nagamma Reddy received a Research Fellowship from the Central Institute of Indian Languages, Mysore, to undertake a project on 'Segmental Timing in Indian Languages: A Comparative Acoustic Phonetic Study'.

■ UGC National Fellowship

Professor J. Venkateswara Sastry joined as a UGC National Fellow in Linguistics on 1st October, 1993. This fellowship is awarded to the teachers of outstanding eminence in their respective fields.

As a holder of this prestigious fellowship, he proposes to work on a research project 'Telugu Intonation'. Variations which take place in the pitch of the voice in connected speech constitute intonation. There is some phonetic relation between stress-rhythm and stress-intonation in stress-timed languages such as English. This has been noted by many phoneticians. Professor Venkateswara Sastry aims to work on stress-rhythm-intonation aspects in syllable-timed languages such as Telugu. The tenure of this fellowship is for two years.

■ Faculty Activities

Professor B. Lakshmi Bai

February 26-27, 1993	Presented a paper on 'Question Word Fronting in Hindi: An Experimental Study' at a National Seminar on Word Order in Indian Languages organized by the Centre of Advanced Study in Linguistics, Osmania University, Hyderabad.
July 20, 1993	Presented a talk on 'bhāshā vignān sikṣhan kā pariprēkṣya' at an Orientation Course organized by Kendriya Hindi Sansthan, Hyderabad.

December 22-24, 1993 Presented a paper on 'Linguistic Curriculum: A Need for Change' and chaired a session on 'Indian Languages and Linguistics' at a Seminar on The Dialogue on Future Linguistics in India organized by the Central Institute of Indian Languages, Mysore.

Professor Aditi Mukherjee

February 26-27, 1993 Presented a paper on 'S-V Proximity and Translation' at a National Seminar on Word Order in Indian Languages organized by the Centre of Advanced Study in Linguistics, Osmania University, Hyderabad.

March 15-16, 1993 Delivered two lectures on 'Indian English' at the UGC Refresher Course in English organized by the Central Institute of English and Foreign Languages, Hyderabad.

Nov. to Dec., 1993 Wrote a unit on 'Language Standardization and Language Modernization - Options Before Term Planners' as text matter for the PG Diploma in Translation Studies (PGDTS) course being offered by the University of Hyderabad.

Dr. V. Swarajya Lakshmi

February 26-27, 1993 Presented a paper on 'OSV Structure in Telugu - Functional Perspective' at a National Seminar on Word Order in Indian Languages organized by the Centre of Advanced Study in Linguistics, Osmania University, Hyderabad.

Dr.K. Nagamma Reddy

March, 1993	Gave six lectures on 'Telugu Phonetics and Phonology' at the UGC Refresher Course in Telugu organized by Telugu University, Rajamandri.
March 1-27, 1993	Lectured on 'Phonological Translation' at the UGC Refresher Course in Linlguistics (Theme: Translation) conducted by the Academic Staff College, University of Hyderabad, Hyderabad.
July 15-17, 1993	Presented a paper on 'Lengthening of Consonants in Sequences: Evidence for Syllable Division in Telugu' and chaired a session on 'Endowment Lectures' at the XXI All India Conference of Dravidian Linguistics, Kuppam. Also presented a joint-paper on 'A Comparative Analysis of Consonant Seqences in Russian and Telugu'.
August 10-15, 1993	Presented a paper on 'The Role of Computers in Speech Research' at the XVII Indian Social Science Congress, Bangalore.

Mr. B. Vijayanarayana

March 1-27, 1993	Attended the UGC Refresher Course in Linguistics (Theme: Translation) conducted by the Academic Staff College, University of Hyderabad, and translated R.K. Narayan's story 'An Astrologer's Day' into Telugu as a project assignment.

Dr. D. Vasanta

January 29, 1993	Participated in a panel discussion on 'Professional Training in Speech and Hearing in India' and presented a paper on 'Lipreading

	Skills of Telugu Deaf Children' at the Silver Jubilee National Conference of the Indian Speech and Hearing Association.
February 26-27, 1993	Presented a paper (co-authored with V.Sailaja) on 'Word Order Variation within Dative Constructions in Telugu: A Psycholinguistic Perspective' at a National Seminar on Word Order in Indian languages organized by the Centre of Advanced Study in Linguistics, Osmania University, Hyderabad.

Dr. A. Usha Rani

February 26-27, 1993	Presented a joint-paper on 'On the Preservation of Word Order in Aphasics'at a national Seminar on Word Order in Indian Languages organized by the centre of Advanced Study in Linguistics, Osmania University, Hyderabad.

Mr. K. Ramesh Kumar

July 15-17, 1993	Presented a paper on 'The Existential Verb 'Be' *uṇḍu* in Ganjam Telugu: A Morphological Comparison' at the XXI All India Conference of Dravidian Linguistics, Kuppam.
August 10-15, 1993	Presented a paper on 'Language Choice: A Survery of Telugu Students' at the XVII Indian Social Science Congress, Bangalore.

NEW BOOK AT A GLANCE

B. Lakshmi Bai and **Aditi Mukherjee**, eds. *Tense and Aspect in Indian Languages.* Hyderabad: Centre of Advanced Study in Linguistics, Osmania University and Booklinks Corporation, 1993. 154 pp. ISBN 81-85194-16-5. Rs. 200/-

This volume contains eleven selected papers presented to a National Seminar on **'Tense and Aspect in Indian Languages'** organised by the Department of Linguistics at Osmania University. The themes of these papers range from purely definitional and theoretical issues to explorations into and description of specific languages.

The theoretical issues discussed include the problems of separating and defining Tense and Aspect as different categories, their relationship with the processes of pidginization and child language development, and the treatment of Tense and Moods in the Indian grammatical traditions.

Two papers provide a historical perspective to Tense and Aspect in South-Central Dravidian and Tibeto-Burman language families. Tense and Aspect in Malayalam and Kannada have been analysed and presented in the GB framework. The volume also contains descriptions of Tense and Aspect in Telugu, Kuvi and Tamil. One paper deals with Tense and Aspect in English from the point of view of the Indian learners.

CONTRIBUTORS: **Ramakant Agnihotri, Jean Aitchison, H.S. Ananthanarayana, Bernard Comrie, M. Israel, K.A. Jayaseelan, A.L. Khanna, Aditi Mukherjee, N. Pramodini, Anju Saxena, M.V. Sreedhar, Sanford B. Steever, K.V. Subbarao, K.V. Tirumalesh, B. Vijayanarayana.**

OSMANIA PAPERS IN LINGUISTICS

VOLUME 19, 1993

CONTENTS

Articles