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VOWEL SANDHI AND SYLLABLE STRUCTURE IN KABYLE BERBER*

Yousef Bader

In this paper on Kabyle Berber we look at external sandhi phenomena[1] involving occurrences of vowels across word or morpheme boundaries. It will be shown that the basic rules of vowel-elision and glide-insertion needed in order to account for the data follow from general principles related to constraints on possible syllable structures in the language. I will mainly rely on an approach to syllable structure as sketched in work by Halle and Vergnaud (1980) and further developed for the purposes of Malayalam by Mohanan (1982). On this view phonological segments are represented in terms of three separate tiers: the segmental tier (or 'melody' tier), a skeletal tier of C's and V's representing the syllabic profile of the segmental tier, and a tier of Onsets and Rimes. As we shall see, most of the phonological rules associated with vowel sandhi in Kabyle are more easily expressed if formulated in terms of Onset and Rime. I shall begin by stating the problem, and proceed to discuss the solutions in light of the data available.

1. The problem

One important aspect of sandhi rules in Kabyle and other Berber languages is related to the occurrence of vowels across word or morpheme boundaries. As the data in (1) and (2) illustrate, the problem consists -in its simplest form- in the fact that Kabyle does not tolerate a sequence of two vowels in a row.[2] Whenever such a sequence arises due to the juxtaposition of two words or morphemes, where the first is vowel-final and the second vowel-initial, Kabyle seems to put into operation a double mechanism designed to break the hiatus resulting from the juxtaposition of such items. Through this mechanism, such a sequence is eliminated by either deleting one of the two vowels (examples in (1)) or inserting a glide between them (2).

(1) a. /yufa uššen/-→ yufuššen[3]
found jackal 'he found a jackal'
b. /yuged BaBa içerri/-→ yugedBaBiçerri
bought father lamb 'my father bought a lamb'
c. /uzzu aḍyerg/-→ uzzaḍyerg
bush will burn 'the bush will burn'
d. /bla urumi/-→ blurumi
without Frenchman 'without the Frenchman'
e. /içerri urumi/-→ içerrurumi[4]
lamb Frenchman 'Frenchman's lamb'
f. /aḍyezlu aḥmed içerri/-→ aḍyezluḥmediçerri
will slaughter Ahmad lamb 'Ahmad will slaughter the lamb'

(2) a. /uzzu aggi/-→ uzzuyaggi
bush this 'this bush'
b. /azekka aggi/-→ azekkayaggi
grave this 'this grave'
c. /yenna as/-→ yennayas
told him 'he told him'
d. /yenna aç/-→ yennayaç
told you 'he told you'

Previous Berberists (Basset and Picard, 1948; Abdel Massih, 1968; Penchoen, 1973; and Saib, 1976 among others) merely alluded to the problem and did so only when an example they brought up for some unrelated topic illustrated the operation of vowel sandhi. To account for the data, they formulated or just assumed rules like the ones in (3) and (4):

(3) V---→ Ø/V Elision Rule

(4) Ø---→ y/V_____V Glide-Insertion Rule

Rule (3) merely states that a vowel is deleted when it occurs next to another vowel without specifying which vowel (first or second) undergoes the deletion or which environments precipitate the deletion of one rather than the other. As for rule (4), it does no more than state that a palatal glide is inserted between two vowels occurring in a row without referring to the environments motivating the insertion over the deletion of one of the two vowels. In sum, no indication is given as to which vowel undergoes elision (3) or which environments favor glide-insertion (4) over deletion.

2. The Data and Proposed Solutions

The solutions given above for vowel sandhi in Kabyle and other Berber dialects oversimplify the problem to a great deal, I believe. They do no more than account in a clumsy way for just a portion of the data at hand. As will be shown all throughout this paper, the problem is indeed much more complex than the data in (1) and (2) would suggest and involves processes other than vowel-elision and glide-insertion. Rules such as vocalization will be seen to form an important aspect of the solution to be proposed.

The purpose of this section is to describe the facts of Kabyle, namely, the distribution of the rules and the changes resulting from the juxtaposition of two vowels across word or morpheme boundary. In addition to stating the different (syntactic) environments for the elision and glide-insertion rules, it will be suggested that a good portion of the rules involved follow from general principles of the language, namely, the syllable template and syllable-building rules specific to Kabyle. If the template and rules are taken into consideration, the fact that no two vowels can occur in a row in Kabyle receives a formal explanation. The cases involving elision and vocalization will be considered first. The rule of glide-insertion will be discussed later.

2.1. Elision and Vocalization

Most of the data at hand suggest that, as a general rule, it is the

first vowel in a sequence of two which undergoes elision. This is always the case when each pair of the categories listed in (5) occur in that order in a phrase or a sentence:

(5) a. Subject-Verb
b. Subject-Object
c. Verb-Object
d. Noun-Noun (genitive construction)
e. Noun-Adjective
f. Preposition-Noun (object of a preposition)

In a sequence involving a vowel-final verb and a vowel-initial subject, however, the generalization stated above does not consistently hold. Instead, it seems that elision depends on considerations related to the height and backness of the vowels involved: a low vowel is lost at the expense of a high one and a front vowel is deleted when next to a high back syllabic sound (full illustrations will be given in 2.1.2 below). First, the cases involving precedence-based elision will be discussed. The cases related to elision apparently depending on vowel quality will be examined in the second place. The apparent anomalies to each rule will be handled whenever they arise.

2.1.1 Precedence-Based Elision

As mentioned earlier, in most environments involving a sequence of two words the first of which is vowel-final and the second vowel-initial, it is the vowel of the first word which is deleted. When the vowels of both are identical, it is difficult -if not impossible- to tell which one is lost. However, on the analogy of the other cases, I will assume that it is the first one which is also deleted.

Examples illustrating the various groupings in (5) are given in (6-11) below. The examples include every possible (ans available) combination of the three phonemic vowels of Kabyle, i.e. i, u, and a.

(6) Subject-Verb

a. a][i-> i : /BaBa iruḥ/-> BaBiruḥ[5]
father left 'my father left'
b. a][u-> u : /BaBa uriruḥara/-> BaBuriruḥara
father did not leave 'my father did not leave'
c. a][a-> a : /BaBa aḍiruḥ/-> BaBaḍiruḥ
father will leave 'my father will leave'
d. u][a-> a : /uzzu aḍyerg/-> uzzaḍyerg
bush will burn 'the bush will burn'
e. u][u-> u : /uzzu urireqqara/-> uzzurireqqara
bush will not burn 'the bush will not burn'
f. i][a-> a : /isli aḍiruḥ/-> islaḍiruḥ
fiancé will leave 'the fiancé will leave'
g. i][u-> u : /isli uriruḥara/-> isluriruḥara
fiancé did not leave 'the fiancé did not leave'
h. i][i-> i : /isli iruḥ/-> isliruḥ
fiancé left 'the fiancé left'

(7) Subject-Object[6]

a. a][i-> i : /yuged BaBa içerri/-> yugedBaBiçerri
bought father lamb 'my father bought a lamb'
b. a][u-> u : /yufa BaBa uššen/-> yufaBaBušsen
found father jackal 'my father found a jackal'
c. i][a-> a : /yuged emmi axxam/-> yugdemmaxxam
bought son house 'my son bought a house'
d. i][u-> u : /yuged emmi uššen/-> yugdemmušsen
bought son jackal 'my son bought a jackal'

(8) Verb-Object

a. a][i-> i : /yufa içerri/-> yufiçerri
found lamb 'he found a lamb'
b. a][u-> u : /yufa uššen/-> yufušsen
found jackal 'he found a jackal'
c. u][a-> a : /aḏyezlu aqšiš/-> aḏyezlaqšiš
will kill boy 'he will kill the boy'
d. u][i-> i : /aḏyezlu içerri/-> aḏyezliçerri
will kill lamb 'he will kill the lamb'
e. i][a-> a : /yebbi aqšiš/-> yebbaqšiš
hit boy 'he hit the boy'
f. i][u-> u : /yebbi uššen/-> yebbušsen
hit jackal 'he hit the jackal'

(9) Noun-Noun

a. a][i-> i : /azekka irumyen/-> azekkirumyen[7]
grave Frenchmen 'Frenchmen's grave'
b. a][u-> u : /azekka urumi/-> azekkurumi
grave Frenchman 'Frenchman's grave'
c. u][i-> i : /ulmu irumyen/-> ulmirumyen
plant Frenchmen 'Frenchmen's plant'
d. i][u-> u : /içerri urumi/-> içerrurumi
lamb Frenchman 'Frenchman's lamb'

(10) Noun-Adjective

a. u][a-> a : /ulmu ameqqran/-> ulmameqqran
plant big 'big plant'
b. i][a-> a : /içerri ameqqran/-> içerrameqqran
lamb big 'big lamb'

(11) Preposition-Noun

a. a][u-> u : /bla uššen/-> blušsen
without jackal 'without the jackal'
b. a][i-> i : /bla irumyen/-> blirumyen
without Frenchmen 'without the Frenchmen'

Given the data in (6-11), one might say that a rule like the one in (12) can account for the consistent elision of the first vowel in a sequence of two:

(12) V---> Ø/_____V

Different reasons, such as ease of pronunciation and/or restrictions on sounds occurrences in Kabyle, might be invoked in order to justify the existence of such a rule. I believe, however, that the elision phenomenon receives a formal explanation within the syllable template and syllable-building rules of Kabyle.

On the basis of most data in the language, the following syllable shapes could be distinguished:

(13) a. V : arumi, iguren, uḍan

b. CV : BaBa, seksu, ali

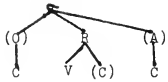
c. VC : azgar, argaz, iqžan

d. CVC : argaz, amšiš, θaddarθ

e. CVCC: θaddarθ, ameqqran, ineqq

Several remarks are in order concerning the syllable shapes and the data in (13)above. First, on the basis of native speakers' intuitions and on the analogy of other languages (such as Arabic and Latin), I assume that an intervocalic consonant syllabifies with a following vowel. Second and on the same basis, I assume that in the case of a sequence of two consonants between vowels, the first consonant syllabifies with the preceding vowel and the second with the following vowel. Third, an intervocalic geminate cluster behaves like a sequence of two consonants in the same environment. Fourth, Kabyle admits vowel-initial words and, hence, vowel-initial syllables (unlike Arabic, for instance). Fifth, syllables of the shape in (13e) are restricted to specific environments and segments. They occur only in word-final position when the last segment of the word in question is the feminine suffix θ or a geminate cluster and in word-medial position when a consonantal segment immediately follows a geminate cluster (cf. ameqqran).[8] Because of these restrictions on their occurrence, I assume that the syllables of the shape CVCC have a special status. By this I mean that this kind of syllable will be better accounted for if the last C-slot is assigned to an 'Appendix' node (see Halle and Vergnaud (1980) for more details on the notion of Appendix and arguments in favor of its postulation). All other CV slots pertaining to the syllable shapes in (13) above will be assigned to Onset and Rime positions subject to the following conditions: a) an Onset node will dominate the C-slot (if any) preceding the V-slot; b) a Rime node will dominate the V-slot and the following C-slot (if any). Given these considerations, the template in (14) will be able to account for the syllable structures in Kabyle:

(14) Syllable Template of Kabyle



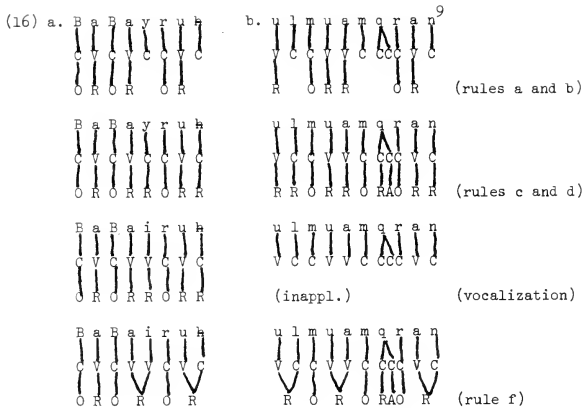
Some consequences follow from the template above. First, a Rime node may dominate at most one V-slot, the latter being also the only obligatory constituent of the syllable. Second, unlike Arabic, the Onset node is not an obligatory constituent of the syllable in Kabyle.

On the basis of the facts and data above, I assume the syllable-building rules in (15) for Kabyle. It is to be warned at this point that I opt here for the position which assumes that schwa is not a phoneme of the language but is rather inserted by rule. In Bader (forthcoming) I argue in favor of the latter position mainly because the occurrence of schwa seems to be predictable and its inclusion in the underlying representations of formatives would mean that native speakers can not make generalizations about their language.

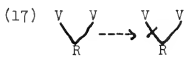
(15) Syllable-Building Rules:

a) assign a vowel to a Rime;
b) assign a prevocalic consonant to an Onset;
c) assign to an Appendix a C slot dominating the feminine suffix <u>O</u> as well as the right member of two C slots linked to a geminate cluster;
d) assign a string of one or more unassigned consonants to alternating Rime and Onset positions starting from the right end of the string;
e) glides dominated by Rime nodes vocalize into the corresponding vowels;
f) join under one Rime node two consecutive Rime positions;
g) if a Rime fails to dominate a vowel slot, adjoin a V slot as a left daughter to the Rime;
h) spell out a V slot that is unlinked to a segment in the phonemic tier as schwa;
i) final syllabification is obtained by grouping together the Onset and Rime (plus a following Appendix, if present) into a syllable.

With the help of these syllable-building rules, the derivations for phrases like <u>BaBiruh</u> (6a) and <u>ulmameqqran</u> (10a) would proceed as in (16a) and (16b), respectively. In Bader (forthcoming), I argue that syllabification in Kabyle is made at the phrase level because the grammar of this language would be much simpler and would dispense with several rules if such a position is adopted.

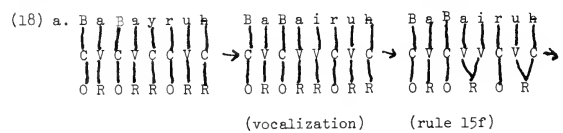


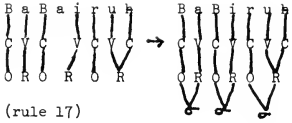
At this point in the derivations, however, we notice a violation of the syllable template in (14), namely, a Rime node dominating two V slots. As a result, a mechanism has to be devised in order to avoid the generation of such unacceptable structures. For these purposes, a rule deleting the left-hand branch of a Rime node dominating two V slots can be invoked. This rule is represented in (17) below:



This rule deletes the left-hand V slot. Subsequently, the leftover melody elements which do not get linked do not surface (cf. Mohanan (1982:126) for a similar phenomenon in Malayalam).

Rule (17) has to be ordered after rule (f) of the syllable-building rules phrased in (15). Given rule (17) and the syllable-building rules, the correct derivations for the strings in (16) are given in (18) below:

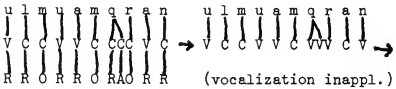




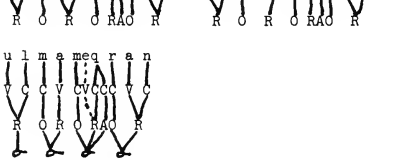
(rule 17)

(later rules of 15)

b.



(vocalization inappl.)

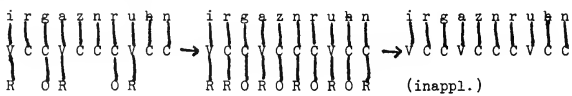


(later rules)

Thus, it can be seen that the elision of the first vowel in a sequence of two follows from the syllable-building rules phrased in (15) above and from constraints on syllable shapes in the language, namely, that a Rime node may not dominate two V slots.

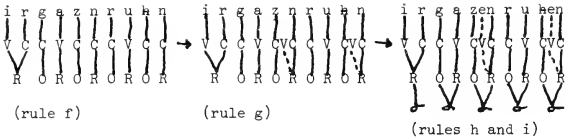
The derivation in (19) for irgazen ruhen 'men left' (from /irgazn ruhn/) is intended to show that the syllable-building rules phrased above yield the correct forms for phrases not involving successive vowels across the words constituting them:

(19)



(inappl.)

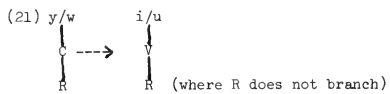
(rules a and b) (rules c and d) (vocalization)



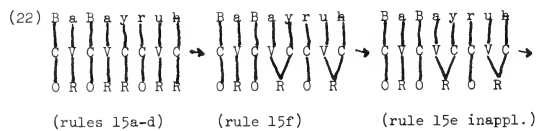
Two of the forms in (6) have alternative phonetic representations which apparently constitute counterexamples to the analysis developed so far, in the sense that the vocalization rule in (15e) fails to apply. These forms are reproduced in column A in (20) below and their alternative realizations in column B.

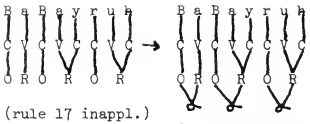
(20)	Column A	Column B	
	BaBiruħ	BaBayruħ	(cf. 6a)
	isliruħ	isliyruħ	(cf. 6h)

We can account for the forms in column B above by an analysis which stipulates that rules (15e) and (15f) of the syllable-building rules, i.e. the vocalization rule and the rule which groups under one Rime node two consecutive Rime positions, admit two possible orderings with respect to each other. The usual ordering, given in (15) above, derives the forms in column A in (20) as well as all the forms in (6-11) above without any difficulty. A second ordering, which would be able to derive the forms in column B above, would require that the vocalization rule (15e) apply after rule (15f). If this is the case, both the glide and the vowel preceding it will be dominated by one Rime node, thus bleeding the environment for the application of the vocalization rule, reformulated as follows:



Given this new ordering, rule (17) becomes inapplicable since its environment, which requires that the Rime dominate two V-slots, is not met. In such a case, the derivation of a form like BaBayruħ would proceed as follows:





(rule 17 inappl.)

(later rules of 15)

2.1.2 Vowel Quality-Based Elision

As mentioned above, in the cases involving a sequence of Verb+ Subject,[10] where the first item is vowel-final and the second vowel-initial, the elision of the first vowel is not systematic. This means that the relationship of precedence is no longer relevant in determining which vowel is deleted. In fact, as evidenced by the data in (23), the first vowel is lost only when it is a, or in case it is i and followed by u. Otherwise, it is the second vowel which is deleted. More specifically, u is never lost and i is deleted only when it is next to u. In all other cases, a is truncated.

(23) a. a][u-> u : /yenza wtaksi/-> yensutaksi
was sold car 'the car was sold'
b. a][i-> i : /yenza yçerri/-> yenziçerri
was sold lamb 'the lamb was sold'
c. a][a-> a : /yenza ahmeḋ/-> yenzahmeḋ
was sold Ahmad 'Ahmad was sold'
d. u][a-> u : /akyezlu ahmeḋ/-> akyezluhmeḋ
will you kill Ahmad 'Ahmad will kill you'
e. u][i-> u : /akyezlu yçerri/-> akyezluçerri
'the lamb will kill you'
f. u][u-> u : /akyezlu wrumi/-> akyezlurumi
'the Frenchman will kill you'
g. i][a-> i : /aḋyili ahmeḋ/-> aḋyilihmeḋ
will exist Ahmad 'Ahmad will exist'
h. i][u-> u : /aḋyili wrumi/-> aḋylurumi
'the Frenchman will exist'
i. i][i-> i : /aḋyili yçerri/-> aḋyiliçerri
'the lamb will exist'

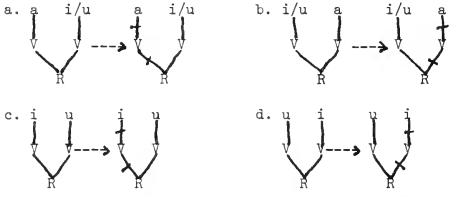
The data in (23) clearly suggest that if a generalization is to be captured, the relationship of precedence can not be invoked in order to determine which vowel is to undergo elision. I believe, however, that a generalization can still be captured if we take into consideration the fact that a low vowel is always deleted when it is next to a high vowel whereas a high front vowel is lost next to its back counterpart. Two rules like those in (24) and (25) can be invoked in order to account for the data above.

(24) $\begin{bmatrix} V \\ -high \end{bmatrix} \dashrightarrow \emptyset / \begin{bmatrix} V \\ +high \end{bmatrix}$

(25) $\begin{bmatrix} V \\ -back \end{bmatrix} \dashrightarrow \emptyset / \begin{bmatrix} V \\ +back \end{bmatrix}$

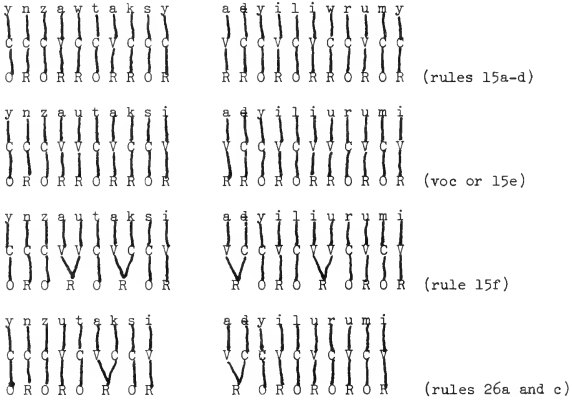
In terms of the analysis based on syllable structure and followed here, I assume that in the case of Verb+Subject forms the elision rule (see (17) above) does not invariably delete the left-hand V-slot. Instead, this rule should be allowed to look upward to the vowel melodies involved and then delete the appropriate V-slot as well as the vowel which it dominates on the basis of the provisions made by rules (24) and (25). Thus, the elision processes taking place in the case of Verb+Subject forms are accounted for by the mirror image rules (24) and (25) which abbreviate the following four rules:

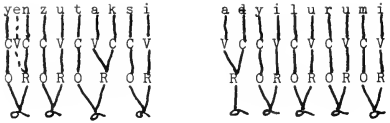
(26)



As illustrations, the derivations for <u>venzutaksi</u> and <u>adyilurumi</u> are given in (27):

(27)





(later rules of 15)

Many of the forms in (23), however, have alternative phonetic realizations in which the glide fails to vocalize and, hence, elision does not take place. These forms can be accounted for by following the analysis developed in 2.1.1 above for forms like BaBayruḥ (see (20) above) which switches the ordering of the syllable-building rules (15e) and (15f). The data which have alternative pronunciations are listed below in column A, where vocalization precedes Rime erasure and in column B (where Rime erasure precedes vocalization).

(28)

Column A	Column B	
yenzutaksi	yenzawtaksi	(23a)
yenziçerri	yenzayçerri	(23b)
aḍyilurumi	aḍyiliwrumi	(23h)
aḍyiliçerri	aḍyiliyçerri	(23i)
akezluçerri	akezluyçerri	(23e)

The fact that forms such as underlying /ynza yçrri/ surface under two shapes -yenziçerri and yenzayçerri for the example at hand- leads us to posit the following hypothesis: one might claim that the existence of the second form itself, i.e. the one with the glide showing up on the surface, follows from the fact that the first segment of the second word is underlyingly a glide. Given this, one would predict that if the first segment of the second word is underlyingly a vowel, only one phonetic form, namely, the one in which elision takes place, is possible. This prediction does in fact prove to be correct. If we contrast an example like 'the lamb was sold', where the word for 'lamb' is underlyingly /yçrri/ (bound state in Berber requires the elision of the initial vowel and glide-prefixation) with another like 'he found a lamb', where the word for 'lamb' is underlyingly /içrri/, we find that the first sentence has two possible shapes, namely, those given above, whereas the second has only one phonetic realization as illustrated below:

(29) /yufa içrri/-→ yufiçerri/*yufayçerri
he found lamb 'he found a lamb'

Another example would be the following:

(30) /yrza imi/-→ yerzimi/*yerzaymi
he broke mouth 'he broke the mouth'

An important consequence follows from the examples in (29) and (30). It is that there is no devocalization rule in the language -at least as far as the forms discussed here are concerned- because if there was such a rule (preceding rule (15f) of the syllable-building rules), the forms marked with the asterisk in (29) and (30) would be possible forms of the language.

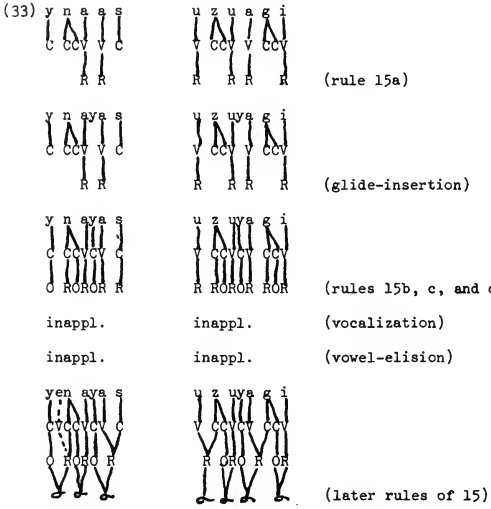
2.2. Glide-Insertion

In the cases where a vowel-final verbal form is followed by the indirect object pronominal suffixes (which happen to be always vowel-initial, as the paradigms in (31) clearly illustrate) and where a vowel-final noun is defined by the demonstrative adjective aggi 'this' (usual order in Kabyle is noun-demonstrative), neither of the resulting adjacent vowels is lost. Instead, as evidenced in (31) and (32), the palatal glide is inserted between the two vowels in order to break the hiatus. A simple rule of glide-insertion like the one in (4) above can be formulated in order to account for this phenomenon. This rule would apply at the melody core producing a palatal glide. It should be allowed to apply early within the syllable-building rules in (15), namely, immediately after rule (a), so that the newly-generated y could be subject to the general rules assigning consonants to Rime and Onset nodes. In the case of the inserted glide, it will always be dominated by an Onset node since it is prevocalic (rule b) and, therefore, it will never undergo the vocalization rule which follows a bit later. It is to be stressed, however, that the domain of the glide-insertion rule is exclusively the word (since a verbal form+indirect object pronominal suffix and a noun+demonstrative constitute a single constituent, i.e. a word, as opposed to the categories listed in (5), where the corresponding items belong to separate words). This stipulation is of great importance and necessary in order to prevent the glide-insertion rule from applying to the data given in 2.1 above, where a rule of vowel-elision rather than glide-insertion is in force.

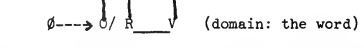
(31)	efkig	'I gave'	yenna	'he told'
	?efkigi	'I gave me'	yennayi	'he told me'
	efkigaç	'I gave you'	yennayaç	'he told you'
	efkigas	'I gave him/her'	yennayas	'he told him/her'
	?efkigag	'I gave us'	yennayag	'he told us'
	efkigawen	'I gave you'	yennayawen	'he told you'
	efkigaçent	'I gave you (f.)'	yennayaçent	'he told you (f.)'
	efkigassen	'I gave them'	yennayassen	'he told them'
	efkigassent	'I gave them (f.)'	yennayassent	'he told them (f.)'

(32) a. /azekka+aggi/-→ azekkayaggi
grave this 'this grave'
b. /uzzu+aggi/-→ uzzuyaggi
bush this 'this bush'
c. /içerri+aggi/-→ içerriyaggi
lamb this 'this lamb'

Sample derivations for <u>yennayas</u> and <u>uzzuyaggi</u> are given in (33) below:

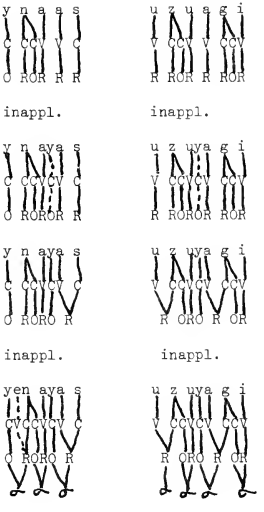


Alternatively, within the approach to syllable structure followed so far, the glide-insertion rule can be interpreted as inserting an Onset between two Rimes dominating V slots. The C slot dominated by the newly created Onset node will be later spelled out on the phonemic tier as <u>y</u>. This rule, whose domain is strictly the word, will have to be ordered before the syllable-building rubric which joins under one Rime node two adjacent Rime positions (i.e. Rime erasure). Such a rule can be formally expressed as follows:



With the help of this rule and other syllable-building rules, the derivations for <u>yennayas</u> and <u>uzzuyaggi</u> can proceed as follows:

(35)



3. Conclusion

In this paper, the problem of vowel sandhi in Kabyle Berber has been investigated. It has been shown that this problem is best handled if reference is made to constraints on possible syllable structures and the syllable-building rules of the language. The rules of vocalization, vowel-elision and y-insertion needed in order to account for the data have been demonstrated to be more easily expressed if formulated in terms of Onsets and Rimes, the immediate constituents of the syllable.

This paper dealt only with cases involving two vowels across word or morpheme boundary. It did not consider cases where a vowel and a consonant occur in the same environment. At least one interesting phonological process seems to take place in the latter cases: it involves the gemination of the consonantal segment. However, the data already at hand are still sketchy and the cases involved are left for future research.

NOTES

*In this paper, I describe the speech of Rachid Benkeddache, a native of Ain el Hammam (ex-Michelet), a town located about 50 km south-east of Tizi Ouzzou, Algeria. Rabah Amir, who comes from a nearby town, was also consulted on some of the data in the paper. Special thanks go to Michael Kenstowicz and Charles Kisseberth for very helpful suggestions and comments. This study was supported by funds from the University of Illinois Research Board, 1982.

[1]Linguists usually distinguish between two types of sandhi rules, or rules for putting together linguistic formatives. The first type is called internal sandhi, or processes by which inflectional and derivational endings are attached to roots and stems. The second type is referred to as external sandhi, or rules linking words within phrases and linking morphemes of compounds. Such rules have been recognized in linguistic descriptions since the time of the Indian grammarians, from which we get the term (cf. Clayton, 1981).

[2]An interesting and, perhaps, important observation here concerns the fact that Kabyle does not exhibit a contrast in vowel length. In spite of some Berberists' attempts to establish vowel length contrasts in various Berber dialects, Basset (1952:9-10) asserts that the morphology and phonology of these languages does not seem to be affected by vowel length. He adds that the native speaker himself is not aware of such contrasts.

[3]The following symbols are used for transcriptions: q is a voiceless uvular stop; θ, ð are the voiceless and voiced dental fricatives; x, ɣ are the velar fricatives; ç, j are uvular fricatives, slightly palatalized; ʃ, ʒ are the palatal fricatives; ʧ, ʤ are palatal affricates; β is the voiced bilabial fricative; ħ, ʕ are the laryngeal fricatives; ə represents schwa. A dot under a consonant represents emphasis.

[4]urumi is actually derived from /n-wrumy/ by n-deletion and vocalization of the glides (see Bader (forthcoming) for more details concerning these rules).

[5]iruħ is derived from /y-ruħ/ by glide vocalization.

[6]I will ignore from now on the cases illustrating sequences of identical vowels because they are not illustrating as to which vowel is lost.

[7]irumyen is derived from /n-yrumyn/ by n-deletion, vocalization and schwa insertion.

[8]Syllables of the shape CVCC are also found when the word ends in a sequence of [+sonorant] sounds and either s, z, or ɣ. The latter sounds could also be considered 'appendices' to the syllable.

[9]I follow Halle and Vergnaud (1980) in assuming that q is phonetically

realized as qq, as opposed to q, which is phonetically q.
C

[10]Kabyle is a Verb-Subject-Object language. In the examples where subject precedes the verb, we can assume that a topicalization rule is in operation.

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"WE MAKIN' SOME COOKIES": A CHILD LANGUAGE CASE STUDY OF THE EFFECTS OF SITUATIONAL VARIATION ON PRAGMATIC FUNCTION AND SYNTAX

Charlotte Blomeyer
Tamara Valentine

This study of a three year old girl learning English as a second language focuses on the sensitivity of her speech to changes in context after eight months in the U.S.A. Four dominance measures are employed to describe conversational contexts where either the play topic or our subject's interlocutors are different. A modified version of Cole et. al.'s (1978) coding scheme is used to describe changes in pragmatics functions, and a new pragmatic category, 'cooperative descriptions' appears to function as a control strategy. The usefulness for developmental research of MLU, verbal auxiliary system, question formation, and future formation as indicators of grammatical complexity is also examined in view of our results regarding their situational variation.

1.0 Introduction. Much recent interest in the fields of first and second language acquisition has centered on the role of conversation as the primary source of input in non-classroom learning situations. Depending on changes in different aspects of the conversational context, such as the physical setting, the topic/task, and the interlocutors, the language learner must acquire the ability to change the form and content of speech. Descriptions of the function of children's language in different contexts in first and second language acquisition research are reported in Ervin-Tripp and Mitchell-Kernan (1977), Dore (1979), and Hatch (1978, 1980). In a first language study of preschool children by Cole et. al. (1978) both the function and surface grammatical complexity of speech are related to differences in the conversational setting and and interlocutor. Our study of a second language learner is unique in that our three language samples are of conversations in a non-laboratory setting where only one aspect of the context changes at a time. Therefore, the effects o a change in interlocutors can be isolated from those effects resulting from a change in topic.

Our subject, Carolina, was a three-year-old native Spanish speaker who was acquiring English as a second language. In our videotapes she is conversing in English while playing with a preschool aged peer in her bedroom. In two of the three conversational contexts the topic of play (cooking with playdough) is the same, but her interlocutors are different; they are either Carolina's best friend or her sister

and videotaper. In the third situation she also talks to her sister and the videotaper, but the topic of play changes to that of a doll tea party. Differences in Carolina's speech appear to be related to differences in the play topic or to differences in her relationships with her interlocutors as described by four measures of dominance.

In the process of analyzing the pragmatic functions of Carolina's speech we develop a new way of categorizing declarative statements which reflect dominance relations among preschoolers. This is to divide all declarative utterances which describe current or future events into 'egocentric' and 'cooperative' descriptions. 'Egocentric' here is only vaguely used in Piaget's (1926) meaning, in that the category of 'egocentric descriptions' includes speech which is related only to the speaker's own actions. 'Cooperative descriptions' are those which are not 'egocentric', i.e., they describe the actions of the speaker's interlocutor, or the actions of both the speaker's interlocutor and the speaker.[1] Upon further investigation it appears that 'cooperative' descriptions are a strategy to control others which is more subtle than other strategies, such as directives, which are used by preschool children (Wood, 1981).

In investigating the possibility that surface syntactic structure might also be affected by changes in the topic or interlocutor, we report that differences in Mean Length of Utterance (MLU) are statistically significant, while all the other aspects of surface syntax remain the same. In this case, MLU is not a measure of surface grammatical complexity, but rather reflects the number of one morpheme utterances which Carolina uses. The proportion of one morpheme utterances is related to dominance relations and changes in topic. There is currently considerable debate as to the value of using MLU as a measure of grammatical complexity in developmental studies since the functions of speech as well as the child's syntactic competence can influence MLU (Dore, 1979; Iwamura, 1980; DeVilliers and DeVilliers, 1982; Garman, 1979). The fact that large changes in MLU in our samples are not at all related to differences in surface grammatical complexity is a strong argument for using MLU as a developmental measure of syntax only if language data is sampled very carefully. In our conclusion we discuss in detail the implications for future research of our findings regarding the usefulness of the various measures of dominance, pragmatic functions of speech, and surface syntax. We also consider what future research is necessary to find the place of 'cooperative descriptions' in children's acquisition of control strategies.

2.0 Review of the Literature.

2.1 Pragmatic Functions. In <u>How to Do Things with Words</u> Austin (1962) raises the question of how speech acts are classified. A number of linguists attempt to solve this problem by proposing various schemes based on their intuitions about the most important illocutionary functions of speech. <u>Illocutionary function</u> of an utterance refers to the intention of a speaker in making an utterance; i.e., how one wishes the utterance to be interpreted by the interlocutors. As

Vershuren (1983) points out, the number of possible pragmatic classification schemes is infinite because each theorist has a different perspective on what is important in speech. Even if it were possible to find an a priori classification scheme on which all linguists agree, there are other problems with this approach to classifying speech when it is applied to samples of natural language. In order to find out the illocutionary force of an utterance one must have access to its speaker and then ask what the intentions were in making the utterance. Obviously in the case of video or audiotaped material, problems exist in questioning the speaker. Even if the conversational participants are located, the speaker's memory of intentions in making particular utterances may be inaccurate, especially since the speaker's recollections may be colored by the utterances' perlocutionary force (an utterance's perceived effect on the interlocutors). In examining children's language, as in this study, it is probable that a young child's perception of the illocutionary force of utterances may be even more inaccurate than those of an adult, and even if these perceptions are accurate it is quite difficult to induce the child to express linguistic intuitions (See Brown, 1973, for a discussion of difficulties which arise when obtaining syntactic judgments of a three year old.) Finally, it is probable that some functions of language, such as manipulating interlocutors, are not completely under conscious control, and, therefore, speakers cannot articulate their true intentions.[2]

For these reasons sociolinguists who analyze the pragmatic functions of children's speech take a more ethnomethodological approach (Garfinkel, 1972) based on the usually unstated assumption that each researcher invents classification schemes which reflect what is systematic in the data (Gumperz and Hymes, 1972). These classification schemes are not based on intuitions of the speakers, but rather on what the researcher perceives to be measurable aspects of speech, correlated with some interesting sociological fact about the relationships between the interlocutors, the task, or the setting.

To measure differences in the pragmatic functions of language we modified Cole et. al.'s (1978) classification of utterances. Their classification was developed specifically to describe the speech of adults and preschool children in a nursery school, and, therefore, it appeared that it might be suitable for our data. The system is based upon the "propositional content, grammatical structure and illocutionary function of utterances" (Cole, et. al., 1978, p. 13). It is generally possible to easily identify the propositional content and grammatical structure of an utterance. These two aspects of the utterance, in combination with the setting and the actions of the participants, are considered in deciding its illocutionary function. Traditionally, in the philosophy of language, illocutionary function is limited to utterances which have propositional content, such as requests, statements, and performatives. Cole et. al.'s classification scheme differs in that it includes responses to requests, acknowledgments of nonrequests, and organizational devices which do not have propositional content.

These extra categories are necessary additions if all of the speech of the participants in on-going conversations is to be described. In addition, in Cole et. al.'s research, these categories reflect the researchers' judgments about appropriate verbal tasks in nursery school settings.

While these new categories are useful, we found that modifications in other categories are necessary in order to adequately describe our data. Some of these modifications are due to the fact that their classification scheme reflects speech events in a school setting, while our data is from a home setting. Their distinction between 'descriptions', which express observable facts, and 'statements', which express hopes, pleas, etc., did not seem relevant in our study because so few statements were uttered. This small number of statements might be due to the immaturity of our subjects or the 'down-to-earth' context of the play situation. Whatever the reason, in this case it seems more useful to place all declarative utterances with propositional content into one category, that of 'descriptions'.[3]

In addition, in coding our data, Cole et. al.'s category of 'performatives' is not useful. First, Cole et. al. do not define 'performative' as it is traditionally used in the philosophy of language. Their category includes utterances which "accomplish facts by being said" (Cole et. al., 1978, p. 75). This description sounds as though it would encompass what are traditionally called 'performative verbs', i.e., to promise, to order, to baptize, to sentence, etc. However, Cole et. al.'s 'performatives' category includes only 'protests', 'jokes', 'claims', 'warnings', and 'teases'. It is not clear why Cole et. al. do not include other speech acts based on performative verbs in the 'performatives' category. For example, they classify 'predictions' as 'statements' and 'promises' as 'responses'. It has also been claimed by Austin (1962) that all utterances are performative in that all conversational speech performs some illocutionary act (informing, requesting action, or information, etc.). If Cole et. al. are using 'performative' in this more general sense, then all of their categories of pragmatic function are 'performatives'.

On the other hand, one can view Cole et. al.'s 'performatives' as merely special instances of other categories in their classification scheme. According to their examples, in most cases, 'warnings' and 'protests' are 'requests for action; but they could also conceivably be 'statements', i.e., "I think a storm is coming." or "I wish you wouldn't do that". Likewise, Cole et. al.'s examples of 'claims', 'teases', and 'jokes' are 'descriptions' or statements', but they may take almost any other form, such as requests, responses, acknowledgments, or organization devices. This leads to double coding of utterances (Dore, 1977). While this sort of double coding is conceivably useful to researchers interested in developing a corpora of particular routines, such as jokes or protests, they are not of interest to our study. Therefore, the few 'protests' and 'claims' which occurred in our data are placed under the categories of 'action requests' and 'descriptions', respectively. Our final classification scheme, including the subdivision of 'descriptions' into egocentric and cooperative descriptions, is given in Table 1 below.

TABLE 1

CODES AND EXAMPLES OF CONVERSATIONAL ACTS*

I. Requests - solicit information, action or acknowledgment.

Yes-No Questions, Wh-Questions, Clarification Questions, Action Requests, Permission Requests, Rhetorical Questions.

II. Responses - provide information directly complementing prior requests.

Yes-No Answers, Wh-Answers, clarifications, Compliances, Qualifications, Repetitions.

III. Descriptions - express observable facts, past or present, and rules, attitudes, feelings, beliefs, etc.

A. Egocentric descriptions
B. Cooperative descriptions

Identifications, Events, Properties, Locations, Rules, Evaluations, Internal Reports, Attributions, Explanations.

IV. Acknowledgments - recognize and evaluate responses and non-requestives.

Acceptances, Approvals/Agreements, Disapprovals/ Disagreements, Returns.

V. Organizational Devices - regulate contact and conversation.

Boundary Markers, Attention-Getters, Speaker Selections, Politeness Markers, Accompaniments.

[*For definitions of each example please refer to Cole et. al. (1978)]

2.2 Syntax. In measuring differences in Carolina's surface syntax in three situations, we examined her morpheme acquisition, question formation, verbal auxiliary system, and MLU. Brown (1973) and DeVilliers and DeVilliers (1973) report that fourteen morphemes are acquired in an invariant order by children learning English as their mother tongue. However, the invariant order of morpheme acquisition for children learning English as their first language is not found for children learning English as their second language (Hatch, 1978). In addition, Rosansky (1976) claims that individual variation over time is so great that a 'true' order of morpheme acquisition is very difficult to establish. Similarly, in studies of English as a second language, acquisition of the Aux verb system and of question formation also shows great variation, both between individuals and between groups (Hatch, 1978; Lightbown, 1978). Nevertheless, regardless of the various learning strategies employed, individual children do show progress over time in acquiring these structures; therefore, these aspects of syntax are still useful tools in measuring syntactic development. In our study we wished to test the possibility that all these aspects of syntax are sensitive to differences in situation.

MLU is a commonly used measure of child language development in first language acquisition studies. Brown and his associates (1973) standardized the rules for its calculation and were able to relate MLU to various stages of morpheme acquisition, the production of future forms, and the ability to combine clauses. MLU is also used as a measure of development in studies of child second language acquisition (Hatch, 1978). It is generally accepted that MLU shows situational variation (Dore, 1977; Dale, 1976) and is used as one measure of situational variation in the language of three to four year olds (Cole et. al., 1978). In Cole et. al.'s study, variation in MLU appears to be due to differences in the proportions of different pragmatic categories of language, especially descriptions and responses to WH-questions, and to differences in grammatical complexity. However, the differences between the situations compared (children discussing an excursion with an adult in a classroom and the same children in a supermarket) are relatively large compared to the three conversational contexts which we examine. Therefore, we were interested in discovering whether there are any differences in MLU in these three contexts and how any such differences might be related to differences in surface syntax or pragmatic functions.

2.3 Dominance Measures. We wished to show that there are differences in our subjects' pragmatic and syntactic use of language relative to different conversational contexts, although the differences between the contexts are slight. To show that the relationships between the interlocutors are different in each context, we use four measures of 'dominance' (relative success in controlling one's own and other participants' actions)[4]: (i) proportion of successful requests for action, (ii) proportion of successful initiations of conversational topic, (iii) amount of speech, and (iv) number of conversational turns. Several researchers report that the status of the participants has an effect on the forms of utterances employed. For instance, in Wood and Gardner (1980) the proportion of indirect and direct requests used by three to four year old children apparently varies depending on each child's status as 'one-up' or 'one-down' in a dyad. 'One-up' or 'one-down' status is determined by measuring a child's relative success in achieving compliance to requests. Furthermore, Wood (1981) asserts that a child's dominance or success in bossing around another child may vary tremendously over time.

Besides using the percentage of successful requests for action for each interlocutor as a measure of status in a particular situation, we also use three measures of dominance which show differences in discourse behavior. Fishman (1977) observes that women are much less successful than their spouses in initiating conversational topics. Eakins and Eakins (1976) report that women have fewer turns than men. The amount of speech is used as a measure of relative conversational dominance with husbands and wives (Soskin and John, 1963; Argyle et. al., 1968). Watson-Gegeo and Boggs (1977) and Dore (1977) discuss children's competition for turns and topic initiation, and Cole et. al. (1978) use utterances per minute as a measure of situational variation

with children. It is our opinion that successfully nominating conversational topics, taking frequent turns, and producing large numbers of utterances are indicators of dominance or assertiveness regardless of age or sex of the interlocutors in cooperative play situations. In fact, using all of these measures in addition to the percentage of successful requests for action gives a clearer picture of the relative status of the interlocutors in each situation.

3.0 Data Base. The subject of this study is a Colombian girl, Carolina, who at the beginning of our study was 3 years, 5 months, and had lived in the United States eight months. Prior to her arrival in the United States her only exposure to English was counting and simple greetings. For eight hours each day during the work week, Carolina was in a monolingual English day care center. In addition, babysitters and some family friends spoke English in the home. Carolina and her sister, Marta, frequently conversed in English at home, while most of their speech with their parents was in Spanish.

Both Carolina's parents were graduate students, and the family was upper middle class. Carolina was the youngest child of two in the family; her sister was five years old at the beginning of the study. Both Carolina's parents were fluent in English and they planned to enroll both girls in a bilingual American-style private school on their return to Colombia. We do not have access to any intelligence tests or to other school assessments of Carolina's cognitive and social abilities. However, many different situations are represented in the total tape samples, both at home and at the day care center. Thus it was possible to assess her verbal abilities by using the Meecham Verbal Language Development Scale (Meecham, 1959) and to assess her social maturity by using the Vineland Social Maturity Scale (Doll, 1965). In the videotapes, Carolina performs all the tasks in both scales which are considered to be typical of three to four year olds,and some typical of four to five year olds; therefore, her development appears to be slightly above normal for her age.

The data used for this study are four hours of videotapes taken from 1 May to 1 June, 1978, which were collected by Zuniga-Hill for her Ph.D. dissertation at the University of Illinois (Zuniga-Hill, 1981). These particular tapes were chosen out of a total of twenty tapes spanning four months, because the setting remained constant. Also a study (Blomeyer and Valentine 1982) of Carolina's English-as-a-second-language development over the four month period, had established that there is no apparent syntactic development from 1 May to 1 June. Within this one month period, there are three tapes on different dates of one physical setting, i.e., Carolina playing with Marta and/or friends in her bedroom. The playthings are always the same, i.e., a plastic cloth, playdough, a board, cookie cutter molds, muffin tins, rolling pins, and various containers. The other toys in the room (dolls, books, games, etc.) remain constant as well.

4.0 Results. In this section we discuss the results of our analysis: first, the different dominance positions of the interlocutors

in each situation; second, how these dominance positions are related to the pragmatic functions of Carolina's language; and third, an analysis of Carolina's surface syntax in the three situations. Both researchers of this study independently coded and counted all the dominance, syntactic and pragmatic measures; later comparison found agreement between the researchers on 91% to 96% of all the coding. The few disagreements over coding were settled by discussion of the videotape.

4.1 Carolina's Relative Dominance Position in each Conversational Context.

4.1.1 Context #1. On tape #2, May 1, Carolina is playing with her best friend, Sonya, a three and a half year old Swedish girl, who also began learning English as a second language in August, 197 . Sonya and her sister lived near Carolina and attended the same day care center. According to Carolina's mother, they were the only children who came to play with her two girls on a regular basis. From the 12.16 minute sample of their play on this tape, Carolina and Sonya appear to be almost equally balanced in terms of dominance (Table 2).

TABLE 2

DOMINANCE MEASURES*

	Total Utter-ances	Requests for Action		Topic Initiation		Utter. per min.	Turns per min.
		% Utter.	% Success	% Utter.	% Success		
Context #1 (5/1/78)							
C. to S.	70	.21	.80	.44	.81	5.75	4.76
S. to C.	66	.21	.53	.35	.81	5.42	3.95
Context #2 (5/24 & 6/1)							
C. to M.	106	.20	.61	.22	.56	3.02	1.97
M. to C.	259	.32	.71	.31	.74	7.40	2.57
C. to Z.	77	.05	.75	.13	.91	2.20	1.57
Z. to C.	94	.29	.63	.29	1.00	2.70	1.57
Context #3 (5/24/78)							
C. to M.	32	.19	.80	.16	.80	5.08	2.38
M. to C.	34	.29	.40	.18	.67	5.40	1.90
C. to Z.	29	.18	.80	.20	.67	4.58	2.06
Z. to C.	14	.43	.67	.14	1.00	2.22	1.10

[* In this and the following tables, C. refers to Carolina, S. refers to Sonya, M. refers to Marta, and Z. refers to Zuniga-Hill.]

While Carolina is more successful than Sonya in her requests for action, they are almost equal in numbers of turns, numbers of utterances and successful initiation of topic. This virtual equality in cooperative play is also evident when viewing the videotapes; not only is verbal turn-taking extremely regular, but also hand movements in handling the materials are coordinated with speaking turns and follow the same regular alternating rhythm.

4.1.2 Context #2. On two later tapes, #5 (May 24) and #6 (June 1), Carolina is playing with her sister, Marta. The videotaper, Zuniga-Hill, frequently interacts wthh both girls. In this situation there is not the regular verbal or hand movement turn-taking behavior evident in context #1. Carolina and Marta either handle the playdough simultaneously and independently of each other, or Carolina passively watches her sister. There are two samples of this situation within one week, one twenty minutes long and the other fifteen minutes. Since this is a very short time frame, we hypothesized that there would be no significant differences between the samples on any of our pragmatic, syntactic, or dominance measures, and, indeed, the differences are very small and statistically insignificant. Therefore, in order to have the advantage of analyzing a larger corpus, we combined the two samples.

As can be seen from Table 2, in terms of the gross numbers of Carolina's attempts to initiate a topic or a request (and the proportion of time that she was successful), the turns per minute and utterances per minute, Carolina is less dominant than her sister, Marta. In fact, we analyze two other tapes in which Marta, Carolina and other children appear, and in these situations, Marta is also the most voluble and dominant child. From Table 2 it can also be seen that Carolina is equal with Zuniga-Hill, in terms of numbers of turns and utterances, and in terms of the proportion of successful requests for action and initiation of topic, but she makes very few requests of Zuniga-Hill and rarely initiates a topic with her.

In comparing Carolina's interaction patterns in contexts #1 and #2 we find a statistically significant difference only between Carolina's successful initiation of topic with Sonya in context #1 and with Marta in context #2, ($z=1.65$, $p=.05$). Nevertheless, the differences between all the measures in both contexts are consistent enough to indicate a probable real difference in Carolina's relative dominance in the two contexts, i.e., in context #1, Carolina is slightly dominant with her best friend, while in context #2, she is less dominant than her sister.

4.1.3 Context #3. In this situation Carolina's interlocutors remain the same as in context #2, but the topic of play is different. At one point in the middle of Tape #5 (May 24), Zuniga-Hill suggests that the two sisters have a teaparty for their dolls with the playdough. There follows a six-minute segment of tape in which the girls play 'teaparty'. Carolina stands up from her seat on the floor and begins collecting dolls one at a time, then arranges them around the playdough area on the floor. Marta remains seated by the playdough, making 'cookies'. For the first two minutes of this sample Carolina talks

to Zuniga-Hill, explaining her doll arrangements. Afterwards, Carolina switches from Zuniga-Hill to interacting with her sister. Carolina continues to be more assertive with her sister on all measures than in context #2 (see Table 2 above). At the end of this segment, Carolina leaves to talk to her parents in another room. When she returns a few minutes later the girls no longer play 'teaparty', but rather 'cook' with playdough, and Carolina's old dominance patterns with both Marta and Zuniga-Hill are resumed.

4.1.4 Interpretation. It is reasonable to assume that the differences in measures of dominance in each conversational context can be explained in terms of social rank and familiarity, because children are adept at making these differentiations by the middle of their third year (Ervin-Tripp, 1979). In context #1, Carolina is almost a perfect co-equal with her best friend, being dominant in only one measure, the proportion of successful requests for action. In terms of social rank and familiarity, this is not surprising; Carolina and Sonya are equals in age and social background and have been in contact for eight to twelve hours per day for eight months. Carolina's slight dominance may be due to the physical setting; the girls are playing, afterall, in Carolina's bedroom. (In one audiotape made in Sonya's house, where Carolina rarely visited, Carolina is virtually silent.)

In context #2, Carolina is playing with her sister, Marta, who is typically assertive with her sister and other children both at home and at school, and who makes many requests and initiates many topics. In addition, Marta competes with Carolina for attention from teachers and parents, frequently overtalking Carolina so that her remarks cannot be heard clearly. Carolina is usually very silent and non-assertive in situations where Marta is present, both in Spanish and English contexts. Given this general pattern, it is not surprising that Carolina is much less dominant than Marta on all measures. Furthermore, Zuniga-Hill, the researcher, appears to be trying to 'get Carolina to talk', as she interrupts the girls' play to ask Carolina questions. At the time of these tapings, Zuniga-Hill had contact with Carolina over a four month period both at the daycare center and in Carolina's home. She consistently played the role of teacher/researcher. Given this role, her relative failure in drawing Carolina out is not unexpected (Labov, 1972). Zuniga-Hill's failure to induce Carolina to talk may also be due to the researcher's physical separation from the girls, since she is handling the camera. It is also consistent with their role relations that Carolina is relatively non-assertive with Zuniga-Hill in terms of making large numbers of requests or initiating many topics, even though she is fairly successful in doing so.

However, the sudden change in the dominance patterns in context #3 is surprising. Zuniga-Hill's suggestion to have a doll party apparently is sanction for Carolina to become more dominant. Whether Carolina's past experience with Zuniga-Hill and Marta enters into this change is a matter of speculation; in some other tapes Zuniga-Hill

supports Carolina in confrontations with her sister. While the small sample size does not permit statistical confirmation of Carolina's being relatively more dominant in context #3 than in context #2, the results on all measures are so consistent that it seems a reasonable conclusion. It should be noted that Carolina is slightly more successful in controlling her sister's actions in terms of the proportion of successful action requests and successful topic initiation. And she has more turns and produces more utterances. However, Carolina is still relatively non-assertive in that she makes fewer action requests than Marta and initiates few topics with her. Carolina is not a co-equal with Marta as she is with her best friend; Marta retains her rank as 'big sister'.[5]

4.2 Pragmatic Functions of Language. As is to be expected when interaction patterns are so different, Carolina's language use in each of the three above contexts is also quite different. Our modification of Cole et. al.'s (1978) categorization of the functions of speech captures some differences in language use which may be the result of Carolina's dominance position. (See Table 3 below).

TABLE 3
PRAGMATIC CATEGORIES
(Percentage of Carolina's Total Utterances to each Person)

Context	#1	#2		#3	
	To S.	To M.	To Z.	To M.	To Z.
Requests	.44	.25	.13	.26	.36
Descriptions	.40	.30	.39	.52	.52
Responses	.10	.27	.43	.19	.07
Acknowledgments	.02	.18	.05		
Organizational Devices	.09	.01		.03	

In context #1 where Carolina is almost a perfect co-equal with Sonya, the majority of her utterances are either requests or descriptions, and there is an equal balance between these two categories. In context #2 where Carolina is so much less dominant than Marta, she makes many acknowledgments to Marta and fewer requests or descriptions than she does with Sonya in context #1. We already noted that Carolina initiates few topics and makes few requests for action to the researcher in this situation, so it is not surprising that her total number of requests to Zuniga-Hill is quite low, while there are a large number of responses to Zuniga-Hill's requests. Finally, in context #3, where Carolina is relatively more dominant than Marta, she has a larger number of descriptions and fewer responses than in context #2, and no acknowledgments.

In order to show more clearly the functions of Carolina's descriptions with different interlocutors, we further divided the category of descriptions into those which are 'egocentric' and those which are 'cooperative'.

TABLE 4

EGOCENTRIC AND COOPERATIVE DESCRIPTIONS

	Total Utterances	Egocentric Descriptions	Cooperative Descriptions	% Successful Cooperative Descriptions
Context #1				
C. to S.	70	12	16	.33
S. to C.	66	15	8	.38
Context #2				
C. to M.	106	29	3	.67
M. to C.	259	60	59	.16
C. to Z.	77	29	0	
Z. to C.	94	3	9	.33
Context #3				
C. to M.	32	15	1	.00
M. to C.	34	6	18	.17
C. to Z.	29	15	0	
Z. to C.	14	1	1	.00

As can be seen from Table 4 above, almost all of Carolina's descriptions to Zuniga-Hill in both contexts #1 and #2 are egocentric. This is not unexpected, because the researcher is not a participant in the play task and is tied to the camera. Carolina, therefore, does not make many remarks about Zuniga-Hill's actions. In turn, the researcher's utterances to Carolina consist almost entirely of requests that Carolina share toys or change position to face the camera, or are informational requests to draw Carolina out. Therefore, Zuniga-Hill produces few descriptions, most of which are cooperative, i.e., they describe Carolina's actions.

What is of interest are the different patterns of egocentric and cooperative descriptions made to peers. In context #1, Carolina and Sonya are almost co-equals, except that Carolina is more successful than Sonya in requests for action. Carolina has twice as many cooperative descriptions as Sonya. In context #2 where Marta is more dominant than Carolina, Marta produces a great many cooperative descriptions, while Carolina produces practically none. In context #3, this same pattern holds true, even though Carolina is slightly more dominant in context #2 than Marta. It appears that cooperative descriptions are usually used by the dominant partner. The fact that Marta uses cooperative descriptions with Carolina regardless of her relative failure to dominate her in this situation may be due to her typically 'bossy' style with all children and especially with her sister, or to Marta's generally higher social rank as Carolina's older sister.

On more closely examining cooperative descriptions it appears that they might function like requests for action. Examples are given below.

1. C. to S.: #1 (picking up cookie mold) Sonya, with this like this. (mashing dough flat) And you mash, you mash it. We're gonna bigger, yours. My...
2. M. to C.: #2 (picking up dough) Now here's what we gonna do. We make this ball.

These descriptions sound like inexplicit directives, but there is evidence that they do not function like them. Other researchers distinguish between direct requests (commands), indirect requests (usually questions) implied requests (I want/I need), and inferred requests (you must/have to/can), and also between commands and polite forms. Other request forms such as "let's pretend" strategies and subtle approaches such as bargaining, reminding, and promising are generally mastered by older children (Wood, 1981). Our pragmatic category of 'requests' includes all of the above request forms except those mastered by older children. (See Table 5 below). Our category of egocentric descriptions does not include any of these forms..

TABLE 5
REQUESTS FOR ACTIONS

	Direct Requests (Commands)		Indirect Requests (Questions)	Implied Requests (I want/need)	Inferred Requests (you have to/ must/can)
	You	Let's			
Context #1					
C. to S.	11	1	1		2
S. to C.	14				
Context #2					
C. to M.	17			4	
M. to C.	37	7	12	8	21
C. to Z.	4			1	
Z. to C.	12		15		
Context #3					
C. to M.	4		2		
M. to C.	7	1	1	1	
C. to Z.	2	1	2		
Z. to C.	2		4		

Other evidence that cooperative descriptions are not true directives is found in their relatively high frequency in the corpus and their low level of success, in terms of the non-verbal compliance of the interlocutor (see Table 5 above), and the absence of verbal acknowledgment of a request by the interlocutors. Garvey (1975)

reports that three to four year old children's indirect requests to their peers, while less frequent than direct requests (one of nine request forms), are relatively more successful in achieving the object of the request (75% versus 53%). Cooperative descriptions are more frequent in the speech of dominant children, and, therefore, it is unlikely that they are polite request forms, which Wood and Gardner (1980) claim are more frequently used by non-dominant children. Unlike indirect requests asked with tag questions, which are frequently used by all three children and which almost always elicit verbal responses, cooperative descriptions are never responded to verbally.

If cooperative descriptions are not requests or directives, what is their function in speech? Why should dominant children so frequently describe their partner's actions and their joint actions with their partners? Cooperative descriptions are frequently interspersed with more direct requests aimed at controlling the course of play, or with tag questions that request the partner to acquiese or at least acknowledge the dominant child's intentions:

3.	M. to C.: #2	You can't squish it, Carolina. You can't squish it, right? You can't squish it because then we gonna put it here. Right, Carolina?
4.	C. to S.: #2	(Sonya finishes making an "S" impression in dough) And--It's Sonya. It's Sonya. Do it again. (Carolina points to the impression.)

In examples 3 and 4, cooperative descriptions appear to provide justification for subsequent requests, but often they seem to simply focus attention on the dominant interlocutor's current actions or on what the speaker intends the interlocutor to do, as in examples 1 and 2.

To control the interlocutor with one's own ideas about how the action should unfold, seems to be the more general function of cooperative descriptions. Therefore, they are of more interest in the search for 'control strategies' than are directives which seek to alter the actions of others. (Ervin-Tripp, 1979). Cooperative descriptions are a way of 'not saying focally what we mean, but of conflating or collapsing several dimensions of meaning at once' (Ervin-Tripp, 1979, p. 392), i.e., the focus of the utterance is on the actions of the speaker's interlocutor, but the attempt to direct the interlocutor's attention to his or her own actions is part of the speaker's effort to control. In our conclusion we discuss the possible effects of using 'cooperative descriptions' in other research on control strategies and what such research might tell us about children's development of the ability to use language strategies.

4.3 Effects of Situational Variation on Syntax. We originally hypothesized that there might be differences in surface level syntax related to the different pragmatic functions of language used in the three contexts. However, it appears that there are no statistically significant differences in Carolina's use of Brown's (1973) fourteen

morphemes, future tense, or question formation in the three situations. The numbers of instances of some surface syntactic forms are too low. (See Table 6 below).

TABLE 6

SYNTACTIC VARIATION

	Context #1	Context #2	Context #3
Morpheme Acquisition			
Present progressive		11/11=100%	5/5=100%
uncontrac. copula	2/2=100%	3/4 =75%	
contractible copula	14/21=67%	10/17=59%	7/13=54%
3 person regular		2/2=100%	1/4=25%
3 past irregular		1/1=100%	
article	4/5 =80%	13/16 =81%	4/5=80%
on		0/1=0%	
Future Formation			
gonna	9/9 100%	7/7=100%	
gonna aux.	4/9=44%	1/7=14%	
will			1/3=33%
is going to			
no future morpheme			2/3=66%
Question Formation			
Intonation	3/5=80%	6/15=40%	7/12=58%
Subj/verb inversion			1/12=8%
Tag questions	1/5=20%	6/15=40%	4/12=33%
Embedded questions		3/15=20%	
Wh-questions	1/5=20%		

Where there are larger numbers of occurrences of contexts for morphemes, (i.e., contractible copula and article), the proportion of successful usage is quite similar in all situations. Gonna is used in forming almost all future tense statements, except for one probably memorized routine in context #3 (i.e., "I'll be right back."). Similarly, almost all questions are formed by either rising intonation or tags. We conclude that there is no evidence that these syntactic patterns are affected by situational variation.

However, as can be seen in Table 7 below, there are differences between Carolina's MLU in all three situations. When analyzed with an Analysis of Variance (ANOVA), this difference is found to be statistically significant ($f=7.49$, $p=.0007$). The differences between the means are statistically significant only in contexts #1 and #2 (using Scheffe's method, the difference between the means is 1.01, $p = .001$). Differences in MLU of this magnitude would seem to reflect differences in surface level grammatical complexity,[6] but in this case they do not. Given our results in Table 6 above, the values are apparently not affected by the other syntactic aspects which were studied.[7]

TABLE 7

MEAN LENGTH OF UTTERANCE (MLU)*

MLU with one morpheme utterances included					
Context #1		Context #2		Context #3	
MLU	S.D.	MLU	S.D.	MLU	S.D.
3.80	1.7	2.79	1.93	3.23	1.91
MLU with one morpheme utterances removed					
MLU	S.D.	MLU	S.D.	MLU	S.D.
4.08	1.56	4.08	1.60	3.95	1.63

[*S.D. = Standard Deviation.]

We examined vocabulary in the three contexts to see if this also affected MLU. The differences in the proportion of each category to the total utterances of each sample are so slight that it is very doubtful that vocabulary usage affects MLU in these contexts.

On examination of the possibility that pragmatic functions might account for the differences in MLU, we do not find that different proportions of the pragmatic categories are related to the differences in MLU (unlike Cole et. al. (1978)). Having noted that there are different proportions of one morpheme utterances in Carolina's speech in each context, removed all of the one morpheme utterances from her speech sample we in order to see if this accounts for some of the differences in MLU. To our surprise, the one morpheme utterances account for nearly all the differences in statistical variability in MLU. Their removal produces MLU's which are virtually the same across all three situations. The results of an ANOVA show that there are no statistically significant differences between the MLU's with the one morpheme utterances removed.

Why would the situation effect the numbers of one morpheme utterances and thus MLU to this extent? The answer appears to lie in Carolina's relative dominance position and the pragmatic functions of the one morpheme utterances. Table 8 illustrates the percentage of all utterances which are one morpheme utterances and the percentage of one morpheme utterances which are responses and acknowledgments or non-responses and non-acknowledgments for each context. The responses are further divided into responses to action requests and responses to information questions.

TABLE 8

ONE MORPHEME UTTERANCES (OMU)

	OMU/Total Utterances	OMU nonacknowledgments and nonresponses/ Total OMU	OMU responses/ Total OMU		OMU acknowledgments/ Total OMU
			To Action Requests	To Info Quests.	
Context #1					
To S.	.10	.82	.18		
Context #2					
To M.	.39	.18	.29	.11	.42
To Z.	.43	.23	.42	.32	.03
Context #3					
To M.	.31	.60	.40		
To Z.	.17	.40		.60	

In context #1 where Carolina is co-equal in dominance with her best friend, she has the highest MLU, and the lowest proportion (10%) of one morpheme utterances, 18% of which are responses. In contrast, Carolina has the lowest MLU in context #2, where she is clearly lowest in dominance compared with both her sister and the researcher. In this situation the highest proportion (40%) of one morpheme utterances occurs, 80% of which are responses or acknowledgments. In context #3, Carolina is more dominant than in context #2 with her sister and the researcher, but is still less dominant than in situation #1 with her best friend. Here her MLU is less than in context #1 and greater than in context #3; 25% of her utterances consist of one morpheme and 50% of the one morpheme utterances are responses. Since only a small number of one morpheme utterances (five to eight) in each sample are not responses or acknowledgments, it appears that what crucially affects MLU is the number of one morpheme responses and acknowledgments.

It is interesting that in context #2 the MLU of Carolina's utterances to her sister is the same as the MLU of her utterances to the videotaper (MLU=2.80) especially since the one morpheme utterances to her sister are responses to action requests and acknowledgments, and the one morpheme utterances to the researcher are responses to action requests and information requests. Considering the large number of utterances averaged, it is unlikely that this is the result of a statistical artifact. It suggests that relative low dominance in a situation may have a general affect to produce one morpheme utterances regardless of the specific roles played by the speaker's interlocutors or the pragmatic functions of their speech.

Cole et. al. (1978) and Labov (1972) report that situational variability affects the number of children's one word responses in adult-child interactions. Our study shows that variation in the

situation can affect the numbers of one morpheme utterances given to child interlocutors as well. While our results are consistent with previous research, to our knowledge MLU has not previously been shown to be sensitive to such relatively minor changes in the situation as a change in play topic as between context #2 and context #3. Also in previous research the differences in MLU are related to differences in both pragmatic function and surface syntax. In our study, only pragmatic function of language is reflected in the different MLU's, and not grammatical complexity.

5.0 Conclusion. This case study has significance for future second language acquisition research in both pragmatics and syntax. First of all, the large differences between the three conversational contexts which we observed in the linguistic measures of dominance and pragmatic functions of speech suggest the desirability of carefully selecting natural language samples. In longitudinal studies where the focus is on a child's development of the ability to use discourse conventions or other means to express particular communication functions, researchers may have to find samples in which the physical setting, interlocutors, and topic are the same. Where the focus of research is on describing conversational competence at one particular period in the subject's language development, there are clear advantages to selecting samples where only one aspect of the conversational context varies. In our case, examining two situations where only the interlocutors are different allowed us to describe the discourse conventions and pragmatic functions of a conversation between two almost perfectly co-dominant children and to compare this conversation to one between two sisters. By examining the situations where only the topic changed, we were able to pinpoint more accurately the particular measures which show that Carolina is less dominant than her sister across two situations, i.e., the number of attempts and not the relative success in initiating topic and making requests. It would be interesting in future research to see if these two dominance measures continue to be accurate indicators of status. In any case, our use of four measures of dominance certainly demonstrates the value of using a variety of such measures; if, for instance, we had used only the proportion of successful requests for action as our dominance measure, we would not have been able to show that Carolina and her best friend are essentially co-dominant nor that Carolina is still relatively non-dominant in relation to her sister in context #3.

The insights offered by several dominance measures also permitted us to propose explanations for Carolina's pragmatic use of language and inspired us to look for other ways of categorizing her 'descriptions' which reflected Carolina's relative dominance. One of the categories, 'cooperative descriptions' appears to be a control strategy. It would be extremely interesting to find out if this strategy is transferred from Colombian speech, or was learned in the U.S.A. Since 'cooperative descriptions' are easily coded, hopefully it is possible to find out

how frequently they occur in the speech of Colombian preschoolers and/or adults as compared to their occurrence in the speech of native English speakers. Of course, to find out how universal the strategy 'cooperative descriptions' is one would have to look at the speech of other language groups as well.

It is also possible that 'cooperative descriptions' occupy a place between the indirect requests used by three to four year olds and the more advanced control strategies used by older children, such as bargaining, refuting arguments in advance, and 'let's pretend' games. Because Carolina is cognitively and socially mature for her age and is in contact with an older sister who makes frequent use of this control strategy, it is possible that Carolina is advanced in its use. Finding the proportion of 'cooperative descriptions' and other control strategies used by children aged three to eight years would give a better picture of the importance of 'cooperative descriptions' in developing sophisticated communicative competence.

Our other pragmatic categories are based on Cole et. al.'s (1978) classification scheme. Our modifications of it reflect the low numbers of occurrences in our data of certain forms and our desire to avoid 'double-coding'. This adaptation reflects both the differences between a nursery school setting and a home setting, and our focus on general pragmatic functions and not special conversational forms. The revised classification scheme shows differences in pragmatic functions of speech in different contexts in our study and demonstrates its potential usefulness for future research of preschool speech.

Our findings regarding the effects of different contexts on surface syntax may also be useful to researchers in child second language acquisition. First, future formation and question formation and Brown's (1973) original fourteen morphemes, all of which are commonly used measures of syntactic development, apparently are not affected by changes in dominance or pragmatic functions even when language samples are small. While the findings of this study reinforce the value of these measures in longitudinal studies, more work is needed on their reliability. Since the differences between the conversational contexts studied here are relatively small, the possibility still remains that these syntactic measures may be affected by greater situational variation. Second, in this study MLU proves to be highly susceptible to minor changes in the conversational situation, and its variation is totally unrelated to surface syntax. In this case, changes in MLU measured only variation in pragmatic function. In situations where Carolina was non-dominant, she uttered a greater number of one morpheme responses and acknowledgments to both peer and adult interlocutors. This suggests that MLU may be as unreliable as Mean Length of Response (Dale, 1976) in terms of measuring syntactic development over time. If researchers continue to use MLU as a measure of grammatical complexity we suggest that the physical setting, interlocutors, and even topic of the conversational situations which are sampled must be kept constant. It is also possible that variation due to situational effects might not be

important if a extremely large corpus of utterances is averaged. Nevertheless, our findings regarding MLU are one more piece of negative evidence in the ongoing debate over the value of MLU as a measure of grammatical complexity. This like all of our findings, should be tested in studies of larger populations and cross-linguistically.

NOTES

[1]Examples of 'egocentric descriptions' are: "That piece I'm gonna big.", and "And this is pretty, this." Examples of 'cooperative descriptions' are: "Now we gonna put on this.", "She have it all.", and "You mash it." For further examples, see section 4.2 and Appendix 1.

[2]Fishman's (1977) research on the amount of "conversational work" of women compared to men provides many examples of language used to control others, which is probably not under conscious control. For instance, she found that husbands do not respond to their wives' efforts to initiate conversational topics; it is doubtful that these men recognize this as a method of dominating their wives. The control strategy which we discuss later in this paper, "cooperative descriptions", likewise may not be consciously motivated by a desire to affect the actions of the speaker's interlocutors.

[3]Another reason to put all declarative utterances which are not responses or acknowledgments into one pragmatic category, 'descriptions', is that it makes future categorization of another control strategy, 'cooperative descriptions', much easier. This control strategy includes utterances which have the same function regardless of whether they describe the on-going or the future actions of the speaker's interlocutors. Therefore it is logical that declarative utterances be a subset of one pragmatic category, 'descriptions', and not two, i.e., 'descriptions' and 'statements'.

[4]Some ethological studies attempt to describe in detail the behavioral patterns of groups of young children which are related to dominance (Strayer and Strayer, 1976; McGrew, 1972). However, Ervin-Tripp (1979, p. 390) states that "dominance is a kind of judgment of overall relationship which people make rather easily." If dominance is an overall relationship, then there is even more reason to measure it by examining many different aspects of the interaction, both physical and linguistic. Ervin-Tripp (1979) also cites work by D'Andrade which shows that dominance is one of the judgments people make even if they cannot remember the relative number of commands in an interaction. In this study we do not rely on judgments of the relative dominance of the interlocutors in each situation, but it would be interesting to see if this sort of subjective judgment coincides with our dominance measure results.

[5]Moerk (1977) discusses in detail the literature on the interdependence between behavior setting and verbal behavior due to the participants' shared background knowledge and shared perceptions of

the physical environment. However, while it is possible that in this case differences in the amount of background knowledge are responsible for the discourse differences, it seems unlikely. Carolina, her sister, and her best friend play together constantly from eight to ten hours daily both at home and at school, and we can assume that they are equally familiar with the toys and play activities. Likewise, in both 'cooking' with playdough and the 'doll tea party' all the objects of conversational interest are physically present and are located close to the participants; there appear to be equal amounts of manipulation of physical objects by the children. Therefore, it is doubtful that differences in the perceived external environment have much if any effect on discourse strategies.

[6]The MLU values in contexts #1 and #2 (3.80 and 2.79, respectively) correspond to those given in Brown (1973) for Stages IV and III in his first language acquisition study. Stage III is the period during which Brown's subjects began to create questions, negatives and imperative; in Stage IV the subjects began to embed one sentence within another. Since ours is a second language acquisition study, it is not to be expected that Brown's (1973) MLU values would correspond to equivalent states in Carolina's speech (and in fact none of the above constructions appear in our language samples). However, the fact that the MLU values correspond to striking differences in grammatical complexity in Brown's (1973) study implies that differences in MLU of this magnitude should reflect differences in grammatical complexity in other language studies. In this case, these large differences in MLU are not related to differences in surface level syntax.

[7]In our earlier longitudinal study of Carolina's acquisition of English (Blomeyer and Valentine, 1982) changes in vocabulary use affected MLU, especially the proportion of modals, adverbs, adjectives, and prepositional phrases. We also tallied vocabulary in this study, but it had no effect on MLU.

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APPENDIX 1

DISCOURSE EXAMPLES

CONTEXT #1 (Tape #2 (5/1/78))

S: And this (making "S-shaped" impression in playdough).
C: And, it's Sonya. It's Sonya. (laughs, pointing to "S" impression.) Do it again.
S: (makes another impression.) And this part.
C: (laughs)
S: (cannot get mold out of playdough.) Uh-oh.
C: (laughs)
S: And this (trying to get another mold out of playdough).
C: My, and we gonna stay right here. (laughs)
S: Uh-oh, roll it. And look it! (making mold impression)
C: (making mold impression) And look, look it that.
S: (making another impression) And this. And look it that. OK?
C: (mashing playdough) Oh, it's like hard rock.
S: (making another mold) And. (making another one) And.
C: (making another impression) And.
S: (making another impression) And see.
C: (making another impression) And see, and see mine.

CONTEXT #2 (Tape #5 (5/24/78))

C: (mashing playdough) I makin' a... There. I squish it.
M: OK, get-- Don't step on it. Play fair. Don't step on it. (Carolina is standing up and stamping on the playdough, but stops when Marta protests.)
C: No.
M: We makin' some cookies, right Carolina?
C: Right.
M: Hey, Carolina, you take all the playdough?
C: No, no.
M: You have to give some to me.
C: Mine, m-m-mine is not bigger (rolling out playdough).
M: You got lots and I don't.
C: OK, OK, I-I-I--- (gives Marta some of her playdough).
M: You have to put in the orner [oven]. Like this. This is because it gonna be lots. (Making muffin tin 'cookies').
C: (smoothing playdough in a cup) See mine? Mine soft. In the paper, right? Keep it in the paper. Keep it in the paper.
M: It soft (taking Carolina's playdough).
C: It's mine, Marta. (screaming)
M: But you got lots. Right, Carmen[Zuniga-Hill]? She has to share with me, right?
Z: Yeah, you both have to share.
C: I sharing (gives some playdough to Marta).
Z: OK. That's good.

CONTEXT #3 (Tape #2 (5/24/78))

C: (setting up a doll by the bed) And she in the, in the bed, and--
M: We making some sorpresas [party surprises] small. Do you see how we make the sorpresas? (making muffin cookies)
Z: No, your dolls can go to the party.
M: All of 'em, Carolina.
C: Just, just, just this one, right, Marta?
M: No, all.
C: No!
M: Yeah, all of 'em.
C: No, I don' like all of them.
M: Uh-huh (affirmative) you have to put all uh them. You know why, Carolina? (no pause) cause then we're not gonna have more party, not chil-children for the party. (Carolina puts another doll near the playdough). Not two children. Not two children. More children.
C: OK (getting another doll).
M: Lots, all, OK?
C: Here's one. This one uh didn't sit.
M: Uh-huh (negative). I show you how. (taking doll, making it sit) Look. This in that. Watch.
C: OK, and this one go over here now. Lourdes, now Lourdes. (moves doll by bed)

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AN AUTOSEGMENTAL ANALYSIS OF VENDA NOMINAL TONOLOGY

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This paper examines the data presented in Westphal (1962) on the tonology of nominals in Venda, a Bantu language spoken in the Zoutpansberg district of the northern Transvaal in South Africa, and demonstrates that the autosegmental approach to phonology provides a framework in terms of which a very complex pattern of tonal alternation can be accounted for in an insightful manner by means of a very few, quite simple principles.

In particular, we claim that the numerous tonal alternations exhibited by Venda nominals derive from the application of the following principles: (1) LOW DELETION--a rule which deletes a word-initial low tone from a noun after a word ending in a high tone; (2) MEEUSSEN'S RULE--a principle whereby a high tone becomes low when it is preceded by a high tone; (3) HIGH TONE SPREAD--a rule that links a high tone to subsequent vowels (provided no association lines are crossed); (4) PRE-PENULT SIMPLIFICATION--a rule that disallows a contour tone on a pre-penult vowel; and (5) FINAL SIMPLIFICATION--a rule that disallows a contour tone on the final vowel of a word.

In recent years the autosegmental approach to phonology (cf. Goldsmith, 1976) has been applied with much success to a variety of Bantu tonal systems (cf. Clements and Goldsmith, eds., forthcoming). We believe that this approach to the analysis of Bantu tonology provides considerable insight into the tonal alternations exhibited by Venda, a Bantu language spoken in the Zoutpansberg district of the northern Transvaal in South Africa.[1] The present paper will provide an analysis of the alternations exhibited by Venda nominals in the two contexts represented in (1) and (2).

(1)	beginning of phrase or word that ends in a low tone when it is pronounced in isolation	noun	end of phrase
(2)	word that ends in a high tone when it is pronounced in isolation	noun	end of phrase

We will refer to the environment in (1) as the post-low environment (though this environment includes the case where nothing precedes the noun as well as the case where a low tone-final word precedes) and the environment in (2) as the post-high environment. Each Venda noun assumes a different tonal shape in the post-high environment as compared with the post-low environment. These alternations are extremely diverse in nature, but we will demonstrate that, when viewed from an autosegmental perspective, they are the consequence of a very few, extremely general rules.

We begin our exploration of Venda nominal tonology by considering disyllabic noun stems preceded by a prefix. Such items exhibit the four possible tone patterns illustrated below. (In the transcriptions in this paper, the absence of a tone mark indicates low tone, ´ indicates high tone, and ˆ indicates falling tone.)

(3)	mu-sádzí	'woman'
	mu-tuka	'youth'
	mu-sélwa	'bride'
	mu-rathú	'brother'

Our first task is to determine the nature of the underlying tonal representations of these items.

If we were to assume that Venda has two underlying tones, H(igh) and L(ow), then perhaps the most straightforward analysis would be one where the prefixes are inherently L and each stem vowel is either H or L. According to this analysis, 'woman' would have a HH stem, 'youth' a LL stem, 'bride' a HL stem, and 'brother' a LH stem. Such an analysis is extremely attractive and obviously represents the best initial hypothesis. In order to determine whether in fact it can be maintained (either in part or in totality) it is necessary to consider the shapes that nominals such as those above take in a context where they are preceded by another word.

The nouns in (3) remain unaltered when they are preceded by a word ending in a low tone. Some examples:

(4)	ndíkhoúvhóna musádzí	'I see a woman'
	ndíkhoúvhóna mutuka	'I see a youth'
	ndíkhoúvhúdza musélwa	'I tell the bride'
	ndíkhoúvhóna murathú	'I see a brother'

However, when the preceding word ends in a H we get a modification of the tonal shapes of the nouns in question.[2] Some examples:

(5)	ndivhóná músâdzi	'I see the woman'
	ndivhóná mútûka[3]	'I see the youth'
	ndivhóná músêlwa	'I see the bride'
	ndivhóná múrâthú	'I see my brother'

The patterns of alternation found in (4) and (5) are summarized in (6) below:

(6)	musádzí	LHH	músâdzi	HFL	(F=falling tone)
	mutuka	LLL	mútûka	HFL	
	musélwa	LHL	músêlwa	HFL	
	murathú	LLH	múrâthú	HFH	

Notice that three distinct underlying tone patterns are all merged into the same HFL pattern. Only the items like <u>mu-rathú</u> retain a unique surface form.

What is going on? Clearly, we are dealing with a case where a H at the end of one word is spreading over into the next word. Within the theory of autosegmental phonology, such a spreading of the H from one word into the

next word would ideally be characterized in terms of association lines being added between the H at the end of the first word and the relevant vowel(s) of the next word.

If we were to follow the initial analysis given above for the data in (3), then in the post-high environment we would presumably have representations such as the following:

```
(7)  H   L  H  H                  H   L  L L
     |   |  |  |                  |   |  | |
     V##mu-sadzi                  V##mu-tuka

     H   L  H  L                  L   L  L  H
     |   |  |  |                  |   |  |  |
     V##mu-selwa                  V##mu-rathu
```

If we then formulate a rule of High Tone Spread that will add an association line between a H and a following tone-bearing unit,[4] we will arrive at a representation where both a H and a L are associated with the prefix of the noun. We might then formulate a rule that would somehow simplify this HL cluster to just a H on the prefix vowel. This might be accomplished either by deleting the L from the tonal tier or by disassociating the L from the prefixal vowel but allowing it to remain in the tonal tier unassociated with any vowel. In either case, the wrong results would be obtained, as shown in (8). (We have circled the prefixal L that would either be deleted or left unassociated in the tonal tier.)

```
(8)  H  (L) H  H                  H  (L) L L
     |  \   |  |                  |  \   | |
     V##mu-sadzi                  V##mu-tuka

     H  (L) H  L                  H  (L) L  H
     |  \   |  |                  |  \   |  |
     V##mu-selwa                  V##mu-rathu
```

One thing that is clearly wrong is that the H from the first word must extend as far as the <u>second</u> vowel of the noun (i.e. as far as the first stem vowel). Recognizing this fact, we might go back and reformulate our High Tone Spread rule so as to say that a H associates with the following <u>two</u> tone-bearing units. Given the underlying forms cited in (7), such a rule would mean that we would have to allow an association line to be assigned by rule across an already existing association line, as illustrated in (9).

```
(9)  H   L  L L
     |  \ |  | |
     V##mu-tuka
```

One of the basic tenets of autosegmental phonology is that association lines may not cross. We could salvage this principle by hypothesizing a universal condition whereby when a rule assigns an association line across an already existing association line, the original association line is deleted. Application of this condition to (9) would then yield the representation in (10):

(10) H L L L
V##mu-tuka

(10) is a correct characterization of the post-high pronunciation of an item such as 'youth'.

But even though this analysis will yield the correct result in the case of 'youth', it is suspect because it leaves unexplained why High Tone Spread extends a H two and only two vowels to the right in the examples under discussion. The proposed analysis treats this as an arbitrary fact. We would like to find an anlysis whereby there is an explanation for the distance that a high tone is able to spread.

The analysis that we are currently considering (where High Tone Spread extends a H onto the following two tone-bearing units and a universal condition deletes a crossed association line) will account correctly for the post-high pronunciation of 'brother', as shown in (11).

(11) H L L H H L L H
V##mu-rathu ===> (by High Tone Spread) V##mu-rathu
(=[mûrâthû])

The post-high pronunciations of 'woman' and 'bride' remain to be considered. But first we need to address ourselves to the following issue: which H's spread to the right? Up to this point, we have been allowing the word-final H of one word to spread onto a following word. But is it also the case that a word-internal H can spread onto following tone-bearing units within the same word? An item such as musélwa forces us to confront this issue. If word-internal H's are able to spread, then we would expect the following derivation:

(12) L H L L H L
mu-selwa ===> (by High Tone Spread) mu-selwa

This does not, of course, represent the correct surface form; to obtain the right pronunciation, we would require a rule of Final Simplification such as that in (13):

(13) H L
V #

where ✗ indicates that the structural change of the rule is the deletion of the association line in question. The consequence of such a rule of Final Simplification would be to undo the effects of High Tone Spread--i.e. to restore the underlying tonal shape of this word. As matters stand, we can account for musélwa either by (a) saying that High Tone Spread is triggered only by word-final H's (in which case the H in musélwa will not be able to spread onto the following vowel) or (b) invoking the application of High Tone Spread followed by Final Simplification. Later we will conclude that the approach in (b) is to be preferred since it turns out that High Tone Spread must be triggered by internal H's and, in addition, Final Simplification

is independently motivated. In subsequent discussion we will assume the (b) approach to <u>musêlwa</u> even though it has not yet been fully justified.

Let us now examine what the analysis under discussion predicts about the derivation of 'woman' and 'bride' in a post-high environment. If High Tone Spread extends a H two tone-bearing units to the right, deleting any crossed association line in the process, we will obtain the following results:

(14)

```
H   L  H  H          H   L  H  H
|   |  |  |          |  \ |  | |
V##mu-sadzi   ===>   V##mu-sadzi

H   L  H  L          H   L  H  L
|   |  |  |          |  \ |  | |
V##mu-selwa   ===>   V##mu-selwa
```

The rule of Final Simplification would apply in the latter example to eliminate the association line between the final vowel and the H. But, in any case, we will not have achieved the correct phonetic shapes.

If we compare (14) with the correct pronunciation of 'woman' and 'bride' in the post-high environment--<u>músâdzi</u> and <u>músêlwa</u>, we see that the proposed analysis goes astray in that it fails to yield a low tone on the final vowel of 'woman' and fails to yield a falling tone on the penult vowel in both words. Notice that in (14) we have assumed that High Tone Spread extends a H (up to) two tone-bearing units to the right, whether those vowels are associated with a L or a H. Since spreading a H onto a vowel that is already high would have no phonetic consequence, it is conceivable that one might propose to revise High Tone Spread so that it spreads a H only onto vowels that are associated with a low tone. Such a revision (which may well be appropriate in any case) would still result in the following incorrect derivations:

(15)

```
H   L  H  H          H   L  H  H
|   |  |  |          |  \ |  | |
V##mu-sadzi   ===>   V##mu-sadzi

H   L  H  L          H   L  H  L
|   |  |  |          |  \ |  |/|
V##mu-selwa   ===>   V##mu-selwa
```

We still lack a falling tone on the penult vowel in both words and we also lack a low tone on the final vowel of 'woman'.

We have now unearthed three mysteries regarding the post-high pronunciation of the nouns in (3). First, why does a high tone spread past the nominal prefix but not past the first stem vowel? Second, why do nouns such as 'woman' and 'bride' develop a falling tone on their first stem vowel, given that these vowels are underlyingly associated with a high tone? Third, why does the second vowel of the stem in 'woman' become low, given that it is underlyingly high?

We would like to propose a tentative solution to these mysteries. First, we would like to say that High Tone Spread in fact spreads a high tone as far to the right as possible until it is prevented from going any further due to the constraint that association lines may not cross. That is,

we will assume that High Tone Spread does <u>not</u> cross an already existing association line and that there is nothing in its formulation that specifies that a high tone will extend just two tone-bearing units to the right. But to assume such a formulation of High Tone Spread requires that at the point where it applies there must not be a low tone associated with the noun prefix in the post-high environment. Given the underlying representations in (7), where there is a low tone associated with the noun prefix, High Tone Spread would be unable to associate the H at the end of the first word with the first stem vowel since to do so would require crossing the association line between the prefix and the L. To make the representations in (7) compatible with the proposed rule of High Tone Spread and still achieve the correct surface forms, it is necessary to assume either that the noun prefix is underlyingly toneless or that it becomes toneless by some rule. If it becomes toneless by rule, there would be two ways that this could occur. One way would involve the deletion of its underlying low from the tonal tier. The other way would be for the prefix to become disassociated from the L, but with the L still remaining in the tonal tier, unassociated. We will ultimately argue that the noun prefixes are low-toned underlyingly and that their low tone is simply deleted from the tonal tier by a general rule that is not restricted just to low tones on prefixes. In the following discussion, we will simply assume the existence of this rule (which must, obviously, be ordered before High Tone Spread so as to allow that rule to spread a H past the noun prefix onto the first stem vowel). The rule deleting the prefixal low will be referred to as L-deletion.

The derivation of the post-high pronunciation of 'youth' and 'brother' is illustrated in (16).

```
(16)  H   L  L L        H   L  L  H
      |   |  | |        |   |  |  |
      V##mu-tuka        V##mu-ràthu

      H       L L       H       L  H
      |       | |       |       |  |
      V##mu-tuka        V##mu-ràthu      L-deletion

      H       L L       H       L  H
      |\      | |       |\      |  |
      V##mu-tuka        V##mu-ràthu      High Tone Spread
```

Under this proposal, High Tone Spread extends as far as the first stem vowel (that is, two tone-bearing units to the right) simply because the prefix (as a result of L-deletion) has no linked tone and thus does not bar a H from extending past it whereas the first stem vowel is linked to a (low) tone and thus blocks any further spreading of the H.

We have now suggested a solution to the first of the mysteries mentioned earlier (i.e. that High Tone Spread extends just two tone-bearing units to the right in the examples under discussion). The remaining mysteries to be accounted for involve the post-high pronunciation of 'woman' and 'bride'. In the original analysis of 'woman' it was assumed that each vowel of the stem was associated with a <u>separate</u> high tone. Suppose that instead we assumed that there is a single high tone associated with <u>both</u> stem vowels--i.e. that we have a representation such as the following:

(17) L H
mu-sádzí

Such a representation, when placed after a H at the end of another word, would produce the following representation (after the application of L-deletion to the noun prefix):

(18) H H
V##mu-sádzí

Suppose that we then assumed that there is a rule in Venda that (in some definable set of cases) changes a H to L when a H immediately precedes on the tonal tier. This rule would have the effect of changing the stem high of mu-sádzí to L. The rule of High Tone Spread would then produce the correct surface form. The derivation is shown in (19).

(19) H L H
V##mu-sadzi

H H
V##mu-sadzi L-deletion

H L
V##mu-sadzi change of HH to HL

H L
V##mu-sadzi High Tone Spread

For the sake of convenience, we will refer to the rule changing HH to HL as Meeussen's Rule.[5] This rule is widely distributed in Bantu languages in one form or another. We have now come up with an explanation for the remaining two mysteries mentioned earlier. There is a falling tone on the first stem vowel of 'woman' because that vowel is associated with a H (as a result of High Tone Spread) as well as with a L (which derives from an underlying H via Meeussen's Rule). The second stem vowel of mu-sádzí becomes low-toned in the post-high environment due to the fact that it is underlyingly associated with the same high tone as the first stem vowel--and this high tone undergoes Meeussen's Rule.[6]

If we are going to invoke Meeussen's Rule in order to explain the post-high pronunciation of 'woman', then it is necessary to assume that the rule of L-deletion does indeed eliminate the L of the noun prefix entirely from the tonal tier. If instead of deleting the L of the prefix, we merely disassociated the prefix vowel from the L, thus leaving the L in the tonal tier, we would not have the environment (i.e. HH) for Meeussen's Rule. Of course, we might try to reformulate Meeussen's Rule to say that a H is changed to L when preceded by a H and an unassociated L. But such a reformulation will fail on two counts. First, we will demonstrate later that when successive H's occur (without any intervening phonological material subject to L-deletion), Meeussen's Rule does in fact apply--i.e. the environment for this rule is indeed HH. Second, we will show later that the situation does arise where an unassociated L occurs between two H's,

and in that environment Meeussen's Rule does not apply.

Notice, by the way, that if mu-sádzí and other words like it (i.e. words having successive high tones in the stem) are given a representation with a single high tone spread over the relevant stem vowels, there is some reason to reconsider the representation of words like mu-tuka where there is a sequence of low tones in the stem. Instead of having a separate L associated with each stem vowel, it would be possible to postulate a single L tone associated with the relevant stem vowels. Later in the paper we will argue that there is some evidence against such a representation and that it is more appropriate to assume a separate L for each low-toned tone-bearing unit.

The analysis that we have developed will successfully derive the post-high pronunciation of mu-sélwa. This noun has a high on its first stem vowel but a low on its second. This means that it will be subject to Meeussen's Rule when it follows a word ending in a high. The derivation is shown in (20).

```
(20)  H   L  H  L
      |   |  |  |
      V##mu-sélwa

      H      H  L
      |      |  |
      V##mu-sélwa      L-deletion

      H      L  L
      |      |  |
      V##mu-sélwa      Meeussen's Rule

      H      L  L
      |      |  |
      V##mu-sélwa      High Tone Spread
```

We have now accounted for both the post-low and post-high pronunciation of all the items in (3)--that is, disyllabic noun stems preceded by a prefix. In addition to such disyllabic noun stems, Venda also has a few monosyllabic stems. There are just two types of monosyllabic stems, which we illustrate in (21),

(21) mu-thu 'person' mu-rí 'tree'

Clearly, 'person' has a low-toned stem and 'tree' has a high-toned stem.

These nouns will not be affected in any way when a word precedes that ends in a low tone.

(22) ndikhoúvhóna muthu 'I see a person'
ndiamba murí 'I mean the tree'

However, when the preceding word ends in a H, we find the pronunciation of these nouns modified.

(23) ndivhǒná múthu 'I see the person'
ndivhǒná múri 'I see the tree'

Notice that in the post-high environment, 'person' (a L stem) and 'tree' (a H stem) merge tonologically on the surface. The stem in both cases is pronounced low, while the prefix is high. We already have a potential explanation for this merger--namely, Meeussen's Rule, which has the effect of changing a H to L and thus can conceivably account for the merger of two stems whose only difference is that one is L and the other is H.

From the analysis as we have developed it so far, we would expect the following derivations for 'person' and 'tree' in a post-high environment:

(24)

```
H   L   L        H   L  H
|   |   |        |   |  |
V##mu-thu        V##mu-ri

H       L        H      H
|       |        |      |
V##mu-thu        V##mu-ri      L-deletion

                 H      L
                 |      |
inapplicable     V##mu-ri      Meeussen's Rule

H       L        H      L
|\      |        |\     |
V##mu-thu        V##mu-ri      High Tone Spread
```

These derivations do not provide the correct surface forms, but yet they are not far off. All that is required is that there be a rule that operates on a (phrase-)final vowel which is associated with both a H and L (in that order) to eliminate the association line between the vowel in question and the H. This rule, of course, is precisely the rule that we formulated earlier in (13) and referred to as Final Simplification. Recall that Final Simplification was required, under the assumption that a word-internal H can spread onto the following tone-bearing unit(s), in order to explain why in <u>musélwa</u> the H on the penult syllable is not also associated with the final vowel (as High Tone Spread predicts). We now see that there is independent evidence in support of Final Simplification: in (24) we see that when a word-final H would be expected to spread onto a final vowel, that vowel is not (on the surface) associated with the H. We assume, therefore, that Final Simplification is part of the tonal grammar of Venda and that it is the rule that is responsible for converting the representations at the end of (24) into the correct surface forms.[7]

Let us now turn to noun stems with three tone-bearing units. The possible post-low forms of such nouns (when a prefix precedes) are shown below:[8]

(25)	mu-kalaha	'old man'	mu-lambǒni	'at the river'
	mu-kégúlú	'old woman'	mu-ṭaŋ̀ŋgá	'young man'
	mu-dúhúlu	'grandchild'	ṭshi-vhávhâlá	'wild beast'
	mu-ṭukaná	'boy'	ma-díŋgwâne	(personal name)

The underlying representations for the items other than tshi-vhávhâlá and ma-díŋgwâne are unproblematic (given the analysis we have developed so far).

(26)

```
 L  L L L                 L  L L H
 |  | | |                 |  | | |
mu-kalaha                mu-tukana

 L    H                   L  L  H L
 |   /|\                  |  |  | |
mu-kegulu                mu-lamboni

 L   H  L                 L  L  H
 |   /\  |                 |  |  /\
mu-ḍuhulu                mu-ṭaŋŋgà
```

In the post-low environment, no rules will be applicable in the case of 'old man', 'old woman', 'boy', and 'young man'. High Tone Spread and Final Simplification will be applicable to 'grandchild' and 'at the river'; notice that Final Simplification will simply undo the change induced by High Tone Spread, restoring the item to its underlying shape.

The items tshi-vhávhâlá and ma-díŋgwâne exhibit a falling tone on their penult vowel. We suggest that this falling tone is simply the consequence of the High Tone Spread rule (i.e. there are no underlying falling tones in Venda). The underlying representations of these words would be:

(27)

```
   L   H  L H              L  H   L L
   |   |  | |              |  |   | |
tshi-vhavhala             má-diŋgwane
```

High Tone Spread will simply add an association line between the H in these words and the next vowel, thus producing a falling tone on the penult vowel of these words (since this vowel already has a L associated with it).

At this point we can consider the post-high pronunciation of the nouns in (25).

(28)

mú-kálaha	mú-lámb!óni
mú-kégulu	mú-ṭá!ŋ́ŋgá
mú-ḍúhulu	tshí-vhávhalá
mú-túkaná	má-díŋgwane

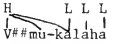
In large part, our proposed analysis will satisfactorily account for these data. One additional rule, however, will be required. Consider the case of mu-kalaha (post-low pronunciation) vs. mú-kálaha (post-high pronunciation) first. On the basis of the analysis developed so far, we expect the following derivation for the post-high case.

(29)

```
H   L  L L L
|   |  | | |
V##mu-kalaha

H      L L L
|      | | |
V##mu-kalaha      L-deletion
```

inapplicable Meeussen's Rule



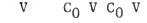
High Tone Spread

inapplicable Fall Simplification

This derivation results in an incorrect surface form since it yields a falling tone on the antepenult vowel where the correct pronunciation has a level high tone on this vowel.

Since there are no falling tones found on any pre-penult tone-bearing units in the data under consideration, we can postulate a rule of Pre-penult Simplification such as that given in (30):[9]

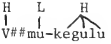
(30)

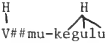


(30) disassociates a vowel from a L tone if (a) that L is preceded by a H that is also associated with that same vowel and (b) the vowel in question is followed by at least two more vowels in the word. Notice that (30) does not remove the L from the tonal tier--the L remains in the tonal tier, unassociated (for reasons that will become clear below). Application of Pre-penult Simplification to the representation at the bottom of (29) will disassociate the first stem vowel from the low tone, leaving that vowel associated just with the H. This change yields the correct surface form: mū-kālaha.

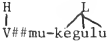
Consider next the case of mu-kēgūlū (post-low) vs. mū-kēgulu (post-high). Our analysis will correctly derive the post-high pronunciation.

(31)

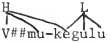




L-deletion



Meeussen's Rule



High Tone Spread

Pre-penult Simplification

inapplicable Final Simplification

The case of mu-ḍúhúlu (post-low) but mú-ḍúhulu (post-high) is entirely parallel to the case of mu-kégúlú vs. mú-kégulu (the only difference being that the last stem vowel is underlyingly high in the case of 'old man' but underlyingly low in the case of 'grandchild').

(32)

```
H   L   H  L
|   |   /\  |
V##mu-ḍuhulu

H        H  L
|        /\  |
V##mu-ḍuhulu        L-deletion

H        L  L
|        /\  |
V##mu-ḍuhulu        Meeussen's Rule

H        L  L
|\\\\\\\\ |
V##mu-ḍuhulu        High Tone Spread

H        L  L
|\\\\\\\\ |
V##mu-ḍuhulu        Pre-penult Simplification

inapplicable        Final Simplification
```

The contrast between mu-tukaná (post-low) and mú-túkaná (post-high) is readily accounted for by the proposed analysis, as (33) demonstrates.

(33)

```
H   L  L L H
|   |  | | |
V##mu-tukana

H       L L H
|       | | |
V##mu-tukana        L-deletion

inapplicable        Meeussen's Rule

H       L L H
|\\\\\\\ | |
V##mu-tukana        High Tone Spread

H       L L H
|\\\\\\\ | |
V##mu-tukana        Pre-penult Simplification

inapplicable        Final Simplification
```

At first glance, the alternation between tshi-vhávhâlá (post-low) and tshí-vhávhalá (post-high) looks quite mysterious. Why should the falling tone on the penult vowel in the post-low environment be replaced by a level low tone in the post-high environment given that the preceding vowel is high-toned in both cases? It is certainly a virtue of the analysis we have presented that it explains this mysterious alternation. The falling

tone on the penult vowel in the post-low form has already been explained as arising simply from the application of High Tone Spread (the stem has the underlying tone shape HLH, and the first H spreads onto the next vowel, which is associated underlyingly with the L). The derivation of the post-high form is shown in (34).

(34)

```
H     L   H  L H
V##tshi-vhavhala

H         H  L H
V##tshi-vhavhala      L-deletion

H         L  L H
V##tshi-vhavhala      Meeussen's Rule

H         L  L H
V##tshi-vhavhala      High Tone Spread

H         L  L H
V##tshi-vhavhala      Pre-penult Simplification

inapplicable          Final Simplification
```

The first stem vowel here has a H associated with it underlyingly, but this H is subject to Meeussen's Rule in the post-high environment and is thus converted to L. Since the first stem vowel is associated with a L, the preceding H cannot spread past it onto the second stem vowel. Ultimately, Pre-penult Simplification will disassociate the L from the first stem vowel, leaving that L stranded in the tonal tier.

The account of the alternation between ma-díŋgwâne (post-low) and má-díŋgwane (post-high) will be entirely parallel, except that this word has a L associated with the final stem vowel whereas the preceding example had a H associated with the final vowel.

(35)

```
H   L  H   L L
V##ma-diŋgwane

H      H   L L
V##ma-diŋgwane      L-deletion

H      L   L L
V##ma-diŋgwane      Meeussen's Rule

H      L   L L
V##ma-diŋgwane      High Tone Spread
```

H L L L

V##ma-diŋgwane Pre-penult Simplification

inapplicable Final Simplification

We have now explained all but two of the post-high pronunciations cited in (28). The alternations that remain to be accounted for are mu-lambóni (post-low) vs. mú-lámb!óni (post-high) and mu-ṭaŋ̧ŋ̧gá (post-low) vs. mú-ṭá!ŋ̧ŋ̧gá (post-high). In fact, our analysis will account for these data without any additions whatsoever, but before we can see that this is so, we must comment on two concepts--downdrift and downstep--which are used widely in the literature on African languages.

Downdrift is a phenomenon found in many languages of Africa whereby one or more successive high-toned elements are pronounced at a somewhat lower pitch level than a preceding high-toned element if one or more low-toned elements intervene. Schematically, given a sequence like that in (36),

(36) H_1^n L_1^n H_1^n L_1^n H_1^n

(a) (b) (c)

where H_1^n = one or more high tones and L_1^n = one or more low tones, the high tone(s) labelled (b) will be pronounced at a somewhat lower pitch level than the high tone(s) labelled (a), and the high tone(s) labelled (c) will be pronounced at a somewhat lower pitch level than the high tone(s) labelled (b). In all cases, the high tone(s) will be pronounced at a higher level than the immediately adjacent low tone(s).

Venda displays this phenomenon of downdrift. For example, in the post-high pronunciation mú-túkaná, the high tone on the last vowel is in fact pronounced at a somewhat lower pitch level than the high tone on the first stem vowel. Similarly, in the post-high pronunciation tshí-vhávhalá, the high tone on the last vowel is somewhat lower in pitch than the first stem vowel. Even in the post-low pronunciation tshi-vhávhâlá, downdrift is operative. The final high is somewhat lower in pitch than the high part of the falling tone on the penult vowel (as well as being somewhat lower than the first stem vowel).

Many languages that exhibit the phenomenon of downdrift also exhibit the phenomenon of downstep. Downstep refers to a situation where one or more elements that can, on independent grounds, be identified as high-toned are pronounced at a somewhat lower pitch level than an immediately preceding high-toned element. Schematically, given a sequence such as that in (37),

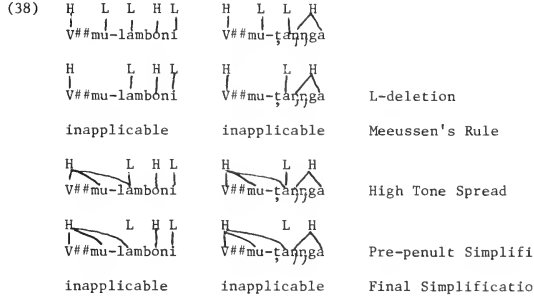
(37) H_1^n ! H_1^n ! H_1^n

(a) (b) (c)

where the exclamation mark indicates the point in the tonal sequence at which the downstep occurs, the high tone(s) in (b) will be pronounced at a somewhat lower pitch level than the high tone(s) in (a), and the high tone(s) in (c) will be pronounced at a somewhat lower pitch level than the high tone(s) in (b). It is as though a low tone is present at the point

where the downstep occurs, but that low tone is unpronounced. Within an autosegmental theory of phonology, one possible treatment of downstep (at least in a language that also has downdrift) is to claim that there is indeed a low tone present in the tonal tier at the point where a downstep occurs, but that this low tone is not associated with any tone-bearing unit. Venda provides excellent support for such a treatment of downstep.

The post-high pronunciations mú-lámb!óni and mú-ṭá!ṋṋgá both illustrate that downstep occurs in Venda as well as downdrift. In (38) we illustrate the derivation that our analysis predicts for these items.



Notice that in both of these examples, the first stem vowel is associated with one H and the next tone-bearing unit is associated with another H, but that between these two H's there is an unassociated L (as a consequence of Pre-penult Simplification). If we assume that in Venda the principle of Downdrift operates in terms of a tonal representation such as that given at the bottom of (38), then that principle will automatically specify the second H as being lower in pitch than the first H since there is a L intervening between these two H's. That L is unassociated with any tone-bearing unit, but it will be responsible for the occurrence of the downstep at the juncture between the first stem vowel and the following tone-bearing unit.

The ability of the proposed analysis to account in an elegant fashion for the occurrence of downstep in the post-high pronunciation of 'at the river' and 'young man' both lends support to that analysis and also lends support to the proposal that (in some cases at least) downstep is best represented in terms of an unassociated L occurring in the tonal tier at the point where the downstep occurs. The rule of Pre-penult Simplification was motivated quite independently of the phenomenon of downstep. But it can adequately explain the occurrence of downstep if we accept a formulation of Pre-penult Simplification whereby the low part of a HL sequence on a pre-penult tone-bearing unit simply disassociates from that vowel rather than deleting.[10]

We have now constructed an analysis of Venda tonology which will account for both the post-low and post-high pronunciations of monosyllabic, disyllabic, and trisyllabic noun stems when these stems are preceded by a prefix. There are, however, a large number of nouns which lack a prefix in front of the stem. We turn now to an examination of the tonal behavior of such nouns. The following items illustrate the four tonal possibilities for disyllabic prefixless nouns.

(39)	bofu	'blind person'
	ṭhṓlí	'spy'
	thukú	'scoundrel'
	ndḗmwa	'neglected, naughty child'

On the basis of the above post-low pronunciations, the most natural account of these items (given our analysis of disyllabic stems in prefixed nouns) would be to assign these words the following tonal shapes:

(40)	L L	H	L H	H L
	bofu	ṭholi	thuku	ndemwa

Consider now the pronunciation of these words in the post-high environment:

(41) bṓfu ṭhôli thúku ndḗmwa

The alternations exhibited by 'spy' and 'neglected, naughty child' present no problems. The derivation of their post-high pronunciation is shown in (42).[11]

(42)	H H	H H L	
	V##ṭholi	V##ndemwa	
	inapplicable	inapplicable	L-deletion
	H L	H L L	
	V##ṭholi	V##ndemwa	Meeussen's Rule
	H L	H L L	
	V##ṭholi	V##ndemwa	High Tone Spread
	inapplicable	inapplicable	Pre-penult Simplification
	inapplicable	inapplicable	Final Simplification

The alternations <u>bofu</u> (post-low) vs. <u>bṓfu</u> (post-high) and <u>thukú</u> (post-low) vs. <u>thúku</u> (post-high) offer interesting evidence with respect to the proposed rule of L-deletion. Suppose that we were to assume that such a rule did not exist in the grammar of Venda. Then we would obtain

the following (incorrect) derivations for the post-high pronunciation of 'blind person' and 'scoundrel':

(43)

H L L V##bofu	H L H V##thuku	
inapplicable	inapplicable	Meeussen's Rule
H L L V##bofu	H L H V##thuku	High Tone Spread
inapplicable	inapplicable	Pre-penult Simplification
inapplicable	inapplicable	Final Simplification

That is, we would incorrectly predict a falling tone on the first stem vowel of these items, and we would also incorrectly have the final vowel of 'scoundrel' associated with a H.

In order to achieve the correct phonetic representation for 'blind person' and 'scoundrel' in the post-high environment, it is necessary that the first vowel of these words become toneless. Furthermore, it is necessary that the low tone that was originally associated with this vowel delete from the tonal tier (since if it remained in the tonal tier it would incorrectly block Meeussen's Rule from applying in the case of 'scoundrel'). The derivations in (44) demonstrate that the correct post-high pronunciations will be obtained provided we delete the initial low from the noun--a deletion that is obviously the result of the rule proposed earlier: L-deletion.

(44)

H L L V##bofu	H L H V##thuku	
H L V##bofu	H H V##thuku	L-deletion
inapplicable	H L V##thuku	Meeussen's Rule
H L V##bofu	H L V##thuku	High Tone Spread
inapplicable	inapplicable	Pre-penult Simplification
H L V##bofu	H L V##thuku	Final Simplification

Clearly, the parallelism between prefixless nouns that begin with a low tone in their post-low pronunciation and prefixed nouns (whose prefixes are regularly low-toned in the post-low environment) needs a systematic explanation. Both types of items behave as though their first vowel is toneless in the post-high environment. In the case of the prefixed nouns, we might have argued that the prefix is underlyingly toneless. Such a move would require finding some way to specify the prefix as low-toned in the post-low environment (which, recall, includes the case where the noun is pronounced in isolation and thus there is no preceding tone-bearing unit from which the prefix could acquire its surface tone). While there would be no independently motivated way to get the prefix to be low-toned in the post-low context (particularly, in the isolation case), doubtless one could by brute force get a low tone associated with the prefix in this environment. However, such an approach is not viable for the case of the prefixless nouns.

Suppose that we were to say that the first vowel of bofu and thukú is underlyingly toneless. This would mean that in the case of prefixless noun stems, the first vowel is either associated with a H (as in the case of ṭhōlí and ndémwa) or it is toneless (as in the case of bofu and thukú). It would never be associated with a low tone. But why should this be the case? It would be easy enough to assume that the noun class prefixes are inherently toneless, but why--in the case of prefixless nouns--should there be only just high-toned and toneless first vowels and no low-toned first vowels? Furthermore, no vowels other than the first stem vowel would ever be toneless. Why should that be the case? And the first stem vowel could be toneless just in the event there is no prefix in front of it--that is, there are no prefixed nouns whose first stem vowel behaves as if it is toneless. A most peculiar state of affairs! But there is even a worse problem with an analysis that would assume that the first vowel of bofu and thukú is underlyingly toneless. Namely, noun stems that occur prefixless do so with a singular meaning; their plural is formed by adding a prefix. When these stems appear with a prefix in front of them, their first vowel will either be high-toned (if it is an item like ṭhōlí or ndémwa) or low-toned (if it is an item like bofu or thukú) but never toneless. In other words, the first vowel of words like bofu and thukú are toneless only when they are the first vowel in the word. They must be low-toned when a prefix precedes them in the word.

If we postulate that prefixes are underlyingly low-toned, and that the first vowel of prefixless words like bofu and thukú is also low-toned, then the parallelism exhibited by prefixed nouns and the above prefixless nouns can be explained in terms of the operation of a single rule: L-deletion. L-deletion would simply delete a L from the first tone-bearing unit in a noun when that noun occurs in the post-high environment. In the case of prefixed nouns, the L in question would be the L associated with the prefix; in the case of prefixless nouns like bofu and thukú, the L in question would be the L associated with the first stem vowel. Of course, the initial L of bofu and thukú would not be subject to L-deletion when these stems occur after a prefix, since it would be the prefixal L that would meet the structural description of L-deletion.

The rule of L-deletion has some implications with respect to the tonal representation of successive low-toned vowels. Recall that we have claimed that when a stem has successive high-toned elements, there is just a single H in the tonal tier associated with each of the elements that are realized on a high pitch. We noted earlier that one might consider claiming that successive low-toned elements in a stem are also associated with a single L in the tonal tier. However, in the case of bofu, for example, such a representation would produce a complication. If both of the vowels of bofu are associated with a single L, then we would expect the following incorrect derivation when bofu is post-high:

(45)

```
H    L
|    /\
V##bofu

H
|
V##bofu          L-deletion

inapplicable     Meeussen's Rule

H
|\
V##bofu          High Tone Spread

inapplicable     Pre-penult Simplification
inapplicable     Final Simplification
```

*bófú is not the correct post-high pronunciation of bofu; we must derive bófu. To achieve the correct surface form, we must keep the second stem vowel associated with a L (so that when a preceding H spreads onto this vowel to form a falling tone, the rule of Final Simplification will be able to apply to disassociate this vowel from the H and leave the vowel associated just with a L). Consequently, we have some evidence that there is a separate L associated with each of the vowels of bofu and only the first L is deleted in the post-high environment by L-deletion.

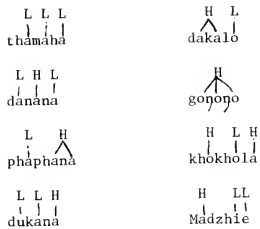
So far we have examined just disyllabic prefixless nouns. We also find trisyllabic prefixless nouns. The various tonal patterns possible in the post-low environment are illustrated in (46).

(46)

thamaha	'male beast with certain markings'
danána	'fool'
phaphánā	'type of calabash'
dukanā	'monstrous boy'
dākālo	'joy'
gōŋóŋó	'bumble-bee'
khókhôlā	'ankle-bone'
Mādzhîe	(name of a person)

These pronunciations suggest the following underlying representations:

(47)



The post-low pronunciation of these nouns is not problematic. In the case of 'fool', the H on the second vowel will spread onto the last vowel, but this association line will subsequently be eliminated by Final Simplification. The noun 'joy' will behave in parallel fashion. In the case of 'ankle-bone' and the personal name Mâdzhîe, the H associated with the first vowel will spread over onto the following vowel, which has a L associated with it underlyingly, thus producing a falling tone on that vowel. In the remaining cases, no rules are applicable.

But now consider the post-high pronunciation of the items in (46).

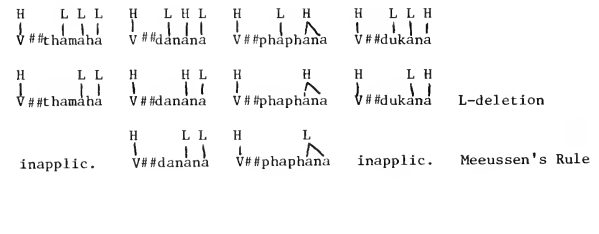
(48)

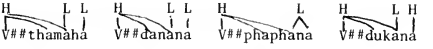
thámâha	pháphâna
dânâna	khókholâ
dâkalo	dúkânâ
gónono	

(We have omitted the post-high pronunciation of Mâdzhîe since this is a personal name and there seems to be a sepcial phenomenon associated with personal names in the post-high environment.)

We will examine first those nouns that have an initial L in the underlying representations suggested above in (47). In these cases, the H of the first word associates both with the first vowel of the noun and also the second vowel--cf. thámâha, dânâna, pháphâna, dúkânâ. We thus have clear evidence that the L of the first vowel of these words undergoes L-deletion in the post-high environment. The derivation of these items is very straightforward, as shown in (49).

(49)





				High Tone Spread
inapplic.	inapplic.	inapplic.	inapplic.	Pre-penult Simplification
inapplic.	inapplic.	inapplic.	inapplic.	Final Simplification

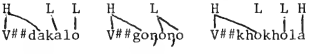
Consider next the case of prefixless nouns whose first vowel is associated with a high tone in the underlying representations suggested in (47). These items will not undergo L-deletion since that rule affects only nouns that have a L associated with their first tone-bearing unit. They will, however, all be subject to Meeussen's Rule. We will obtain the following derivations.

(50)

inapplic.	inapplic.	inapplic.	L-deletion

Meeussen's Rule

High Tone Spread



Pre-penult Simplification

inapplic.	inapplic.	inapplic.	Final Simplification

The alternations that trisyllabic prefixless nouns exhibit--thamaha vs. thā́mâha, danā́na vs. dā́nâna, phaphā́ná vs. phā́phâna, dukaná vs. dū́kâná, dā́kálo vs. dā́kalo, góŋóŋó vs. góŋoŋo, khókhôlá vs. khókholá--are varied and (at first glance) quite baffling. It is certainly a virtue of the analysis that we have developed that no additional rules or assumptions are required in order to be able to account for these complex alternations.

There are some prefixless nouns that are even longer than three syllables in length. Some examples are cited in (51).

(51)

dabaḍaba	'fool'
bubuséla	'woolen blanket'
bwerepwéré	'coward'
bólóŋgóndó	'heavy, thick pole'
bélétshédzo	'reparation'
pfúmélelo	'intercession'
súdzúŋgw!áné	'sp. shrub'
bókól!íko	'sp. bird'
dziŋgándêvhé	'deaf person'
buvhikhomú	'sp. spider'

The analysis of these post-low pronunciations is in part straightforward. Setting aside 'intercession', 'sp. shrub', and 'sp. bird', the underlying representations and derivations of the other items are shown in (52).

(52) (a) L L L L
dabadaba (no rules applicable)

(b) L L H
bwerepwere (no rules applicable)

(c) H
bolongondo (no rules applicable)

(d) L L L H
buvhikhomu (no rules applicable)

(e) L L H L
bubusela

(f) H L
beletshedzo

(g) L H L H
dzingandevhe

inapplic.	inapplic.	inapplic.	L-deletion, Meeussen's Rule
bubusela	beletshedzo	dzingandevhe	High Tone Spread
inapplic.	inapplic.	inapplic.	Pre-penult Simplification
bubusela	beletshedzo	inapplic.	Final Simplification

The derivations of the post-low pronunciations of the other three nouns in (51) require a little discussion. Consider pfúmélelo first. At first blush it might seem that this noun should have the underlying representation:

(53) H L L
pfumelelo

But this is incorrect. For if (51) were the underlying representation, then High Tone Spread would assign an association line between the H and the penult vowel, a vowel that already as a L associated with it. The result would be a falling tone on the penult vowel, a falling tone that would not be subject to any simplification rule (only pre-penult and final vowels are simplified). We would thus predict the incorrect surface form *pfúmélēlo.

We suggest that the underlying representation of this item is (54):

(54) H L L L
pfúmélélo

Given such a representation, the H associated with the first vowel will spread over onto the second vowel, creating a HL sequence on that vowel (since the second vowel is underlyingly associated with a L). However, this falling tone will be subject to the rule of Pre-penult Simplification and the L will be disassociated from the second vowel. We will thus generate the correct surface form: pfúmélelo.

Consider finally súdzúŋgw!áné and bókól!íko. The striking fact about these nouns is that they exhibit downstep in their post-low pronunciation. Given the analysis that we have developed for the instances of downstep encountered earlier in post-high pronunciations like mú-lámb!óni and mú-ţá!ńŋgá, we know how the downstep in the above prefixless nouns must come about. Namely, a low tone must be present in underlying structure in front of the H that exhibits downstep. This L must be stranded in the tonal tier, having become disassociated as a consequence of Pre-penult Simplification. All of this suggests that the underlying representations and derivations of 'sp. shrub' and 'sp. bird' are as in (55).

(55)

H L H súdzúŋgwáne	H L H L bókoliko	
inapplic.	inapplic.	L-deletion
inapplic.	inapplic.	Meeussen's Rule
H L H súdzúŋgwáne	H L H L bókoliko	High Tone Spread
H L H súdzúŋgwáne	H L H L bókoliko	Pre-penult Simplification
inapplic.	H L H L bókoliko	Final Simplification

We have now shown that the post-low pronunciations of all of the trisyllabic prefixless nouns listed in (51) are readily explicable in terms of the analysis that we have developed. The post-high pronunciations of these nouns are shown in (56).

(56)

ḍábáḍaba	pfúmelelo
búbús!éla	súdzuŋgwáné
bwérépw!éré	bókolíko
bólonŋgondo	dzíŋgándevhé
béletshedzo	búvhíkhomú

All of these pronunciations follow automatically from our analysis. Consider first those nouns with an initial L.

(57)

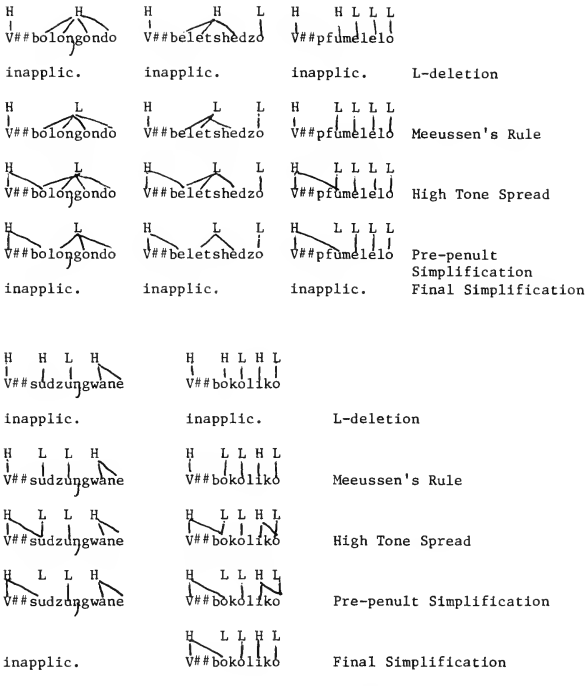
H L L L L	H L L H L	H L L H	
V##ḍabaḍaba	V##bubusela	V##bwerepwere	
H L L L	H L H L	H L H	
V##ḍabaḍaba	V##bubusela	V##bwerepwere	L-deletion
inapplic.	inapplic.	inapplic.	Meeussen's Rule
H L L L	H L H L	H L H	
V##ḍabaḍaba	V##bubusela	V##bwerepwere	High Tone Spread
H L L L	H L H L	H L H	
V##ḍabaḍaba	V##bubusela	V##bwerepwere	Pre-penult Simplification
inapplic.	H L H L V##bubusela	inapplic.	Final Simplification

H L L L H	H L H L H	
V##buvhikhomu	V##dzingandevhe	
H L L H	H H L H	
V##buvhikhomu	V##dzingandevhe	L-deletion
inapplic.	H L L H V##dzingandevhe	Meeussen's Rule
H L L H	H L L H	
V##buvhikhomu	V##dzingandevhe	High Tone Spread
H L L H	H L L H	
V##buvhikhomu	V##dzingandevhe	Pre-penult Simplification
inapplic.	inapplic.	Final Simplification

These derivations are entirely unproblematic. They simply illustrate the complete generality with which the rules we have postulated operate in Venda nominal tonology.

Next, consider the nouns which have an initial H in their underlying structure:

(58)



Again, these derivations establish the great elegance with which the rules we have postulated--L-deletion, Meeussen's Rule, High Tone Spread, Pre-penult Simplification, and Final Simplification--can account for a wide range of superficially quite disparate facts.

We have now concluded our account of the post-low and post-high pronunciations of both prefixed and prefixless nouns in Venda. We have shown that a very complex pattern of tonal alternation is explained by the assumption that each vowel in a Venda noun is underlyingly linked to either a low or a high tone (but that successive high-toned vowels in a stem are linked to one H rather than separate H's) and that a small set

of rules operate to (a) delete tones--cf. L-deletion, (b) change one tone into another--cf. Meeussen's Rule, (c) add association lines between tones and tone-bearing units--cf. High Tone Spread, and (d) delete association lines between tone-bearing units and tones--cf. Pre-penult Simplification and Final Simplification. Furthermore, we have demonstrated that an insightful account of downstep in Venda is obtained by assuming that an unassociated low tone occurs in the tonal tier at the point where downstep occurs. This account of downstep requires that we allow phonological representations to be well-formed even though there is a tonal autosegment unlinked to any tone-bearing unit. Such a representation will obviously have repercussions for the nature of the Well-formedness Conditions governing autosegmental representations (for instance, Goldsmith (1976) proposes that in order for a representation to be well-formed, all tones in the tonal tier must be linked to at least one tone-bearing unit).

It seems to us that Venda nominal tonology presents ample justification for the autosegmental approach to tonology even though there is no evidence whatsoever that the underlying tones of Venda nouns are unlinked. That is to say, there is no evidence in Venda that there are tonal "melodies" associated with nouns, where the melodies are independent of the (number of) tone-bearing units making up the noun. Rather, it seems that each vowel in a Venda noun may be either high or low, and there are no (underlying) constraints on the sequencing of these high and low elements inside the nominal stem. Thus it appears that each vowel must be assumed to be specified for a tone independently of the other vowels (except for the constraint that successive high-toned elements must be gathered together under a single H). Many of the arguments in the literature in favor of the autosegmental approach have been based on languages where a tonal melody is associated with an item and the tones in this melody are unlinked (underlyingly) to the vowels of the item. Venda shows that the autosegmental approach still provides considerable insight into tonal structure even in cases where the tones appear to be underlyingly linked to particular vowels.

Venda also provides abundant evidence that rule interaction is a vital ingredient to generating phonetic representations even in a theory of phonology where phonological representations have been greatly enriched (as in the autosegmental approach). Notice that it is crucial that the rule of L-deletion precede Meeussen's Rule (since the presence of a L on the first vowel of a noun would incorrectly prevent Meeussen's Rule from affecting the H on the next vowel). It is also crucial that L-deletion precede High Tone Spread--otherwise, a H at the end of one word could not spread as far as the second vowel of L-initial nouns. High Tone Spread obviously creates the context for the application of Pre-penult Simplification and Final Simplification.

Finally, Venda provides evidence that phonology is non-transparent: that is, phonological rules may exist in a language even though the surface forms of the language may appear to contradict these rules. For example, we have provided evidence that there is a process operative in Venda that changes a HH sequence to HL (we have called this Meeussen's Rule). Of course,

on the surface in Venda there are many cases where there are successive high-toned elements. We have explained this contradiction by saying that where there are phonetically successive high-toned elements, all of these high-toned elements are in fact linked to one H on the tonal tier. They just appear to violate Meeussen's Rule--they do not, in fact, present a contradiction at all, since Meeussen's Rule refers to successive H's in the tonal tier. Another case of non-transparency in Venda involves the rule of High Tone Spread. This rule says that a H spreads onto any following tone-bearing unit (until blocked from spreading by the presence of an association line). There are, however, cases where a H seems not to have spread onto a following vowel--cf. pfúmélelo, where there seems to be a high on the second vowel that has not spread onto the third vowel, and ndémwa, where there is a high on the first vowel that appears not to have spread onto the last vowel. But in each case there is in fact no contradiction of the rule of High Tone Spread. In the case of pfúmélelo, the H is actually associated with the first vowel underlyingly, and this H did spread onto the second vowel, but was blocked from spreading further by virtue of the fact that the second vowel is underlyingly associated with a L. Subsequently, Pre-penult Simplification disassociates the second vowel from its underlying L, leaving that L unassociated but still in the tonal tier. (We have, of course, given evidence for this unassociated L by demonstrating that it explains downstep in Venda.) The reason that ndémwa appears to violate High Tone Spread is simply that the rule of Final Simplification undoes the effects of the former rule.

We have attempted to show in this paper that the autosegmental approach to phonology makes possible an elegant treatment of the complex tonal alternations found in Venda nominal tonology. Our analysis has drawn primarily on the following features of autosegmental phonology:

(a) a single tone may be associated with more than one tone-bearing unit (cf. our representation of words like mu-sádzí and bólóngóndó, where successive high-toned vowels are linked to a single H on the tonal tier; cf. also our treatment of High Tone Spread);

(b) a single tone-bearing unit may be associated with more than one tone (cf. our analysis of a word like dzíngándévhé, where the falling tone on the penult vowel is accounted for in terms of that vowel being linked underlyingly to a L but also coming to be associated with a preceding high-toned vowel as a consequence of High Tone Spread);

(c) a tone-bearing unit may (at some point in the derivation) be unassociated with any tone (cf. our postulation of the rule of L-deletion, which eliminates an initial L from a noun in the post-high environment and thus leaves the first vowel of the noun toneless);

(d) a tone may be (at some point in the derivation) unassociated with any vowel (cf. our treatment of downstep as arising from the disassociation of a L tone from a HL sequence on a pre-penult vowel);

(e) a tone rule may add association lines (cf. High Tone Spread);

(f) a tone rule may delete association lines (cf. Pre-penult Simplification and Final Simplification);

(g) a tone rule may change a tonal specification (cf. Meeussen's Rule);

(h) a tone rule may delete a tonal specification (cf. L-deletion).

The one aspect of autosegmental phonology that has not been needed in our account of Venda is the notion of Well-formedness Conditions (except for the principle that association lines may not cross--a principle that we have used to block High Tone Spread).[12] This is somewhat surprising--given that the Well-formedness Conditions have been crucial in other attempts to justify the autosegmental approach, but it in no way detracts from the fact that Venda provides much support for the usefulness of the autosegmental approach to tone.

NOTES

[1]The data on which this paper is based are drawn entirely from Westphal (1962).

[2]When we say that the tone of a noun is modified when the preceding word ends in a H, we must qualify this statement by noting that it is only a word that ends in a H in its isolation form that causes these modifications. There are words that end in a low in their isolation form but end in a high in phrase-medial position (as a consequence of processes that we will be examining in part in this paper); such words do not cause the modification in a following noun that we are discussing here.

[3]We have corrected what is clearly a typographical error in Westphal (1962) where the form ndivhõna mũtũka is given.

[4]In Venda, vowels and (some) nasals are tone-bearing units. For the sake of convenience we will sometimes refer to vowels rather than the more cumbersome "tone-bearing units", even though the term "vowels" is somewhat inaccurate since nasals may also be tone-bearing.

[5]This rule is named after the linguist A.E. Meeussen, whose work on Bantu tonology did so much to stimulate interest in this field.

[6]It is possible that one could explain why both of the stem vowels in the case of mu-sádzí become low-toned in the post-high environment by claiming that there is a separate H associated with each of these vowels and that Meeussen's Rule changes one or more successive H's to L when a H precedes. (Of course, one would then have to explain why Meeussen's Rule does not apply to mu-sádzí in the post-low environment, since the stem would have two successive H's and the second does not undergo lowering as a consequence of Meeussen's Rule.) We cannot, however, properly evaluate the feasibility of such a revision of Meeussen's Rule until we find instances of three or more successive H's in different morphemes so that we can determine whether in such cases we find HHH==> HLL or HHH==> HLH. If the

latter change is in fact what happens, then we would not be able to explain the lowering of both stem vowels in the case of mu-sádzí by claiming that Meeussen's Rule lowers all but the first in a series of high tones.

[7]Actually, Final Simplification conceivably could be a more general process than indicated in (13). (13) says that given a HL sequence on a word-final vowel, disassociate the vowel from the H. It could be that the rule should say that given two different tones on a word-final vowel, disassociate that vowel from the first tone. Such a formulation of the rule would predict that a LH (i.e. rising tone) on a word-final vowel would simplify to a level high. At the present time, we have no relevant data that would decide whether this more general formulation of Final Simplification is warranted or not.

[8]In this paper we have attempted to limit our examples to cases where the noun prefix mu- appears. Other noun prefixes are (for the most part) tonally parallel to mu- (i.e. they are low-toned). In order to illustrate all possible tonal patterns in the case of trisyllabic noun stems in (25), we have found it necessary to use examples involving other noun prefixes--namely, tshi- and ma-. Furthermore, the example with ma- actually is a word that is a personal name--but nevertheless the ma- at the beginning of this name acts like a prefix.

[9]As was true of the rule of Final Simplification, the rule of Pre-penult Simplification might be given a more general formulation than that in (30). In particular, we might say that if two successive unlike tones are associated with a pre-penult vowel, the second tone will become disassociated from that vowel. Such a reformulation would predict that a LH sequence on a pre-penult vowel would simplify to L, with the H remaining in the tonal tier, unassociated. We have no relevant data that would indicate whether such a generalization of the rule is motivated.

[10]Recall that earlier in the paper we claimed that a word-initial L must delete rather than simply disassociating from the first vowel of a noun in the post-high environment. The argument that we gave was that Meeussen's Rule operates on a HH sequence to change it to HL. If the word-initial L is not deleted, but rather remains on the tonal tier unassociated, then the environment for Meeussen's Rule would not be met. To get Meeussen's Rule to apply, it would be necessary to say that it applies not just to a HH sequence but also to a sequence consisting of a H followed by an unassociated L followed by another H. But now we can see that such a reformulation of Meeussen's Rule would make incorrect predictions. The sequence H-unassociated L-H does occur in Venda, producing the sequence H!H and not HL. In other words, Meeussen's Rule must not apply in the environment H-unassociated L-H. Thus we have clear evidence that a word-initial L is deleted rather than simply being disassociated from the first vowel of the noun in the post-high environment.

[11]Notice that these examples show clearly that Meeussen's Rule applies to successive H's. That is, up until this point all the examples of Meeussen's Rule had involved cases of a HLH sequence where the L was deleted by L-deletion, thus creating a HH sequence to which Meeussen's Rule could apply. The present examples show the rule applying to an underlying sequence of H's.

[12]Actually, we could have invoked the clause in the Well-formedness Conditions that says that every tone-bearing unit must link to some tone to explain why, when the initial vowel of a noun becomes toneless as a consequence of L-deletion, the H to the left spreads onto that vowel. However, the Well-formedness Conditions cannot explain why a H spreads onto a vowel that already has a tone. Thus we must postulate a language-particular rule of Venda that spreads a high tone to the right. And if we postulate such a rule, it can also explain why a toneless vowel resulting from L-deletion becomes high.

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ENHANCED MINIATURE ARTIFICIAL LANGUAGES

John A. Haller

This paper presents a brief introduction to Miniature Artificial Languages and their use as a tool in the study of language acquisition. Although used frequently in experimental research, no satisfactory formalism for describing these language constructs exists. Such a formalism is developed here and discussed in some detail. Also discussed is the possibility of improving the methodology by implementing a MAL on computer. An example of a computer implemented, formalized MAL (an Enhanced MAL),called Voorish, is presented.

A Miniature Artificial Language (MAL) is a language construct developed to facilitate study of the processes of language acquisition. The motivating force behind the use of MALs is to provide language researchers with an experimental learning situation, over which extensive control can be obtained. Unlike natural languages, MALs offer great experimental flexibility. The structure of the entire MAL is known, since it is constructed to the researchers' specifications. Precise records of language input and output can be kept, since learning and use of the MAL are restricted to the experimental setting. Aspects of linguistic structure, which are inextricably confounded in natural alnguages, can be studied in isolation or in various combinations as the experimenter desires.

Such control has been gained, in MALs used up to now, by eliminating parts of or entire components from the grammer. This approach to the construction of MALs has left proponents of this method open to attack. By simplifying the MAL structure so drastically, many claim the resultant construct to be so unlike language as to make generalization to real language learning impossible. In addition, the technology of MAL presentation limits research to the gross characteristics of the language learning processes. Details of learning are lost due to the superficial nature of data collection. The methodology is salvageable, however, by paying closer attention to and improving the composition of the MAL structure and improving the methods of presentation and data collection. I will present a framework outlining the basic structure to which a MAL should conform and discuss how techniques of computer animation and data analysis can provide a rich instantiation of the MAL research paradigm, an Enhanced MAL.

As a basic framework, I will discuss the structure of a MAL as consisting of the following components; a syntactic component, a lexicon, a reference field (RF) and a semantic component. Briefly, the syntax describes the permissible combinations of linguistic categories. The lexicon specifies the words of the language and their categorical membership. The RF specifies the elements (visual objects) and their possible characteristics. Lastly, the semantic component specifies the relationship between the RF and the lexicon, the meaning of the words, and the relationship between the syntax and the RF, the meaning of sentences. The term 'semantically empty'

is used to refer to MALs which employ a syntactic component and lexicon only. The term 'semantically full' has been used to refer to MALs which employ a RF and semantic component as well as a syntax and lexicon.

The syntax of a MAL is typically formalized as a brief set of phrase structure rules or an equivalent finite state grammar. A typical example is the syntax describing the MAL used by Braine (1963) (see appendix A). A grammatical sentence consists of an A phrase and a B phrase. An A phrase contains one A word and a B phrase contains one B word. The syntax is as simple as that.

Appendix A also lists the language's lexicon (nonsense syllables) and indicates the syntactic class to which each word belongs. Although these syllables are nonsensical, they do conform to the phonetic rules of English. Care is generally taken to insure not only that the words have little associative vlaue to prospective subjects, but also that they seem like possible words (at least for some language). Examples of grammatical sentences are; KIV BEW, JUF MUB and KIV YAG. Braine's words have no meaning. This is then, an example of a semantically empty MAL. The syntax which describes the MAL used by Moeser and Bregman (1972) is a good deal more complex. (see appendix B). In this case, a grammatical sentence consists of an A phrase, a B phrase and an optional C phrase. A phrases have an A class word and optionally, a D class word, etc. Appendix B also lists the MAL's lexicon, indicating category membership for each word. Examples of grammatical sentences in this language are; GAV SIV BIF LIM and FET YOW ZOR NAK.

Adding meaning to a MAL requires the incorporation of a RF and a semantic component. The RF is simply a specification of the visual objects which will serve as elements of the artificial world. The RF must also specify the characteristics of the elements, ie. whether particular elements can stand alone or must occur as a modification of some other RF element. It is also necessary to specify what physical relationships between freestanding elements consitute valid states of the RF.

The work of Moeser and Bregman (1972, 1973) and Morgan and Newport (1981) are the best examples of MALs which employ meaning. Presented in appendix C is the RF used by Moeser and Bregman (1972). There are four types of elements in this RF; colored rectangles, blank rectangles, non-rectangular figures and vertical lines. In this case, the RF specifies that all RF elements are free standing.

By virtue of associating each word in the lexicon with some aspect or element of the RF, one part of the semantic component is specified. The words of this MAL now have meaning. To determine 'sentence meaning' it is nece-sary to specify the relationship between the syntax and the RF. Which configurations of RF elements constitue valid RF states is partially determined by the RF specifications. But to know how to represent a particular valid RF in the form of a grammatical sentence (or visa versa), the part of the semantic component which specifies how aspects of the RF are to be represented by aspects of the syntax must be explicitly formalized. Varying this part of the semantic component while holding all other aspects of the MAL constant will yield two different MALs.

An example of how MALs with identical syntaxes, lexicons and RFs, but

different semantic components, can yield different overall MALs is seen in Morgan and Newport (1981). Although in each case, the syntax, vocabulary and RF elements remain the same, the semantic component determines that different configurations of RF elements constitute the valid RF state for the given sentence. In figure 1, each element occurs equally spaced in a linear order identical to that of the oder of words in the sentence. In, effect, the semantic component specifies that the RF elements must appear in the smae left to right order as the words in the sentence, with the additional restriction, that the elements be equally spaced apart.

This need not be the case. The semantics could have specified that the RF elements must appear equally spaced apart, but in reverse left to right order as the words in the sentence. Or as Morgan and Newport elect in an alternative condition, the semantics could specify that identical order of words and RF elements is crucial and that the elements should be spacially grouped to reflect the constituent structure of the sentence (see figure 2). I claim that there are, in effect, two different languages being used in each of these cases. The sentences have identical word order and syntax. Word meaning is the same, but sentence meaning is different. In each case, ths sentence refers to a different configuration of the RF elements and, therefore, different states of the world.

Now that the structure and organization of the MAL components have been discussed, I will cover some of the ways that this research paradigm has been applied to questions of language acquisition. It should be noted, that to this point, researchers employing MALs claim to have been studying the nature of first language acquisition. This claim has not gone uncontested. The opposition makes the point that subjects learning the MAL, unlike infants learning their first language, already command a language and are at a cognitive level far exceeding that of first language learners. The MAL paradigm, they claim, models more closely the case of the second language learner. That this is so seems completely straightforward to me and in any event will not be discussed here (but see McLaughlin 1980 for further details).

To an extent, the types of MALs used and the questions addressed in this line of research are linked to theoretical linguistics. Early applications of the MAL paradigm stressed investigating the ability to induce syntactic rules on the basis of purely structural, semantically empty sentential input. Bare sentences, colocations of meaningless lexical items, served as language input in such experiments. This work was motivated by the Chomskian linguistic model, detailed in Syntactic structures (Chomsky 1957).

Researchers had a good deal of success in utilizing this type of MAL. Braine (1966) was able to show that subjects could, on the basis of purely structural input, induce the linear co-occurence restrictions imposed by the grammar. Green (1979) gained evidence that such co-occurence restrictions may hold between lexical items, or between a lexical item and phrasal types. That is, a single lexical item could be learned as a signal for a following lexical item or phrase. Reber and Lewis (1977) were able to effect the quality of learning in such experiments by varying the conditions under which language learning took place. All of these findings were in full support of the assumption, that linguistic form could be learned in the absence of

meaning. As there was a shift in linguistics towards the realization that a full account of language could not omit the aspect of meaning (Chomsky 1965), so too was there a shift in the composition of MAL structure and the nature of the questions they were used to address.

Moeser and Bregman (1972) wished to demonstrate the need for a meaning component in the induction of certain more complex aspects of syntax. While lexical class membership and positional restrictions of these classes in forming grammatical sentences have been induced even with semantically empty MALs, Moeser and Bregman contend that clausal composition and so-occurence restrictions holding between phrases will be induced only when a sensible, structured meaning component is a part of the overall MAL.

In their experiment, degree of learning was shown to vary with the nature of the MAL employed. Each subject learned the same syntax and lexicon under one of four conditions. The relevant conditions are shown in figures 3 and 4. Condition three used the MAL described previously (see appendix B). The semantic component assigned word meaning and sentence meaning in the same way as was described for figure 1 (Morgan and Newport). RF elements are equally spaced and in the same order ad the corresponding words in the accompanying sentence. Condition four employs a semantics which incorporates syntactic information in the structure of the RF. Words which form a syntactic constituent are depicted in the RF by combining their referents into a single complex figure. For instance, the syntactic constituent FET YOW, which is represented in figure 3 as two adjacent figures is represented as a complex figure composed of two RF elements in figure 4. They determined that only under the fourth condition did subjects learn the clausal syntactic restrictions. The overall claim then, is that in order for full induction of the MAL to take place, mere example sentences are not enough. These sentences must be meaningful and the structure of teh RF must incorporate the relevent aspects of the syntax. With semantically empty MALs, the more complex aspects of syntax will not be learned.

It is not just a lack of meaning that makes the MAL research paradigm less useful for the study of language learning processes. The nature of the technology used to expose subjects to the MAL and collect data concerning the subject's responses to the MAL can also limit the paradigm's effectiveness. All of the experiments discussed so far have employed the same techniques for exposing subjects to the MAL. Although this technique is sufficient for studying end effects of exposure to a MAL, much of the detail of intermittent stages of learning is lost.

Exposure to the MAL in the above experiments consists of exeplar presentation to passively receptive subjects. That is, the subject's task in these experiments is to simply view a series of example sentences from the entire set of sentences generated by the MAL. After viewing a number of sentences, subjects are then presented with a new subset of sentences from the MAL, intermixed with ungrammatical strings. For each of these new sentences, the subject must make a judgement of grammaticality. Learning is evaluated in terms of how accurately subjects can discriminate grammatical from ungrammatical sentences. In the case of semantically full languages, correct responses might also have to include judgements as to the semantic appropriateness of the sentence given a particular RF configuration. Because

sentences are only viewed passively and evaluation is based on end results of learning, little of none of the data collected reflects the dynamics of the learning process. Ome way to get at this information would be to have subjects attempt actively producing sentences as well as passively viewing examples from the MAL. In this way, one might gain insight into the subject's developing internal representation of the MAL linguistic system.

Computer implementation of a MAL can enrich the paradigm greatly, both in terms of an improved MAL structure and improved methods of presentation. Techniques of computer animation can turn the RF into a world of dynamic events, rather than a limited set of static displays. The semantics is enriched and the lexicon is brought more into line with that of a natural language. The availability of immediate data collection and analysis broadens the scope of the methodology as well. Complete records of subject's attempted sentences can be kept and immediately analysed for correctness. This is a task which becomes rather difficult in a paper and pencil experiment.

By implementing a MAL on a computer, it is possible to define events as a part of the RF. An event is defined as a series of contiguous RF states in which objects move in relation to one another or simply on their own. For instance, one object may circle around a stationary second object at a fast or slow speed. This change in the RF will be reflected in the semantics.

Consider again the two functions of the semantic component; the determination of word meaning and sentence meaning. The relationship between the RF and lexicon in a computerized MAL includes pairings between words and sets of valid RF states, not just single states as in previous MALs. That is, some words will now refer to dynamic events (be verb-like). Since the manner in which these events take place can vary, ie. speed, there will also be words which are associated with comparisons of relative aspects which hold between RF events. This is a more abstract relationship than just pairing one work to one element or static configuration of elements, as in previous MALs. This clearly brings the MAL closer to the nature of a natural language.

The data collection and analysis copabilities of the computer can also be put to good use towards the improvement of the MAL research paradigm. Previous experiments employing MALs have used sentence presentation and passive reception as the main experimental method. This is partly due to the nature of the questions asked, partly due to the difficulties that would be involoved in collecting and analysing more extensive data in a paper and pencil experiment. The computer makes extensive data collection and immediate analysis possible. Subjects are not confined to only being passive receivers of example sentences. They may also become active learners, trying their hand a producing sentences during the learning process. Since the computer can immediately interpret the attempted input, any desired feedback regarding the subject's progress cam be given.

It was not clear at first, how subjects would react to this form of language presentation. It differs substantially from previous MALs. It was decided to start off as simply as possible and incorporate more complex aspects after some pilot experimentation. Consider first the structure of the MAL employed, which has been named Voorish. The syntax for Voorish is given in appendix D. Since we are dealing with something much more language like than previous MALs, it is possible to speak of the typology

of this language as SOV. Constituent structure is tightly fixed. NPs contain a noun followed by an adjective and VPs contain a NP and a verb, optionally followed by an adverb. These labels actually apply here, since the nouns do refer to objects, adjectives to their qualities, verbs to things the objects can do and adverbs to the manner in which things are done. The lexicon in appendix E includes that portion of the semantic component which specifies word meaning, giving RF reprsentations and English translations.

The RF consists of five visually distinct objects, two squares, two triangles and a cross. All of these objects are free standing and may interact with a replica of itself, or any other of the four remaining objects. There are two sanctioned motions which can be undertaken by any of the objects. In motion 1, one object is initially positioned directly to the left of a second object. The left-most object moves to the right, contacts the second object, which rebounds to the right. In motion 2, one object, initially positioned directly below the second, circles the stationary second object counterclockwise. Relative size of objects and speed of motion are the defined characteristics of the RF. Just what role these relational terms play is further specified in the discussion of the semantic component.

The semantic component is restricted or partially determined by the nature of the RF. There is, however, still a degree of flexibility in relating the RF to the lexicon and the syntax. The defined word meanings in Voorish, the assignment of RF elements to words in the lexicon, are as shown in appendix D. Note that two RF elements are assigned to the words LON and WORB and that a common relationship holds between the two LONs and WORBs. In each case, one of the pair is smaller than the other. Thus, the word LON by itself is ambiguous, or not fully specific. Which LON is being refered to must be specified by indicating which end of the size scale the particular LON comes from. Since size has been specified as an aspect of the RF and assigned to words in the lexicon, BIF means small and SUD means big, it will be possible to refer unambiguously to the two square RF elements.

So far only word meanings have been specified. This does not guarantee that sentence meaning will be determinalbe, however. The relationship between the RF and the syntax must be further specified. For instance, there are some incongurities in the semantic component which will eliminate otherwise grammatical sentences form the set of permissible sentnece of Voorish. Although the square and triangle can be large or small, the cross appears in only one size, arbitrarily determined to be big. Thus, although the syntax allows for the combination of any noun and any adjective, the semantics restricts possible interpretations. The word for small may follow the noun for cross according to the syntax, but the semantics has been set up so that there will be no RF configuration which corresponds to that sentence. This sorresponds to selectional restrictions as discussed in Chomsky (1965). A further incongruity between the syntax and semantic component is the use of adverbs in Voorish. If the action is slow, no adverb appears in the sentence. If the action is fast, then the adverb must be present. Such aspects of sentence meaning must be explicitly formalized in addition to just giving word menaing. This is an aspect of structure not clearly dealt with in other MALs.

Computer implementation of Voorish allows for the enrichment of the RF and semantic component as described above. It also makes possible new methods of presentation and data analysis. In the Voorish implementaion, the following procedure for exposing subjects to the MAL is provided. After being introduced to the experimental setting, subjects begin a series of cycles in which they can first view a RF event, then have the opportunity to attempt producing the Voorish sentence which desribes that event. Lastly, the subjects see the correct Voorish sentence. Subjects continues through this cycle untill they are capable of correctly producing the required sentence.

During the entire experimental session, complete records of sentences presented to and produced by the subject are kept. The sentences produced by the subjects are analysed immediately to determine if the correctly describe the presented RF event. This task is easily accomplished by matching the subject's response to the one correct sentence which describes the given event. These model sentences are entered into the computer for this purpose before the experiment is run. If the subject's sentence is correct, a 'yes' is given in response. If the sentence is incorrect, a 'no' is given as feedback. The subject, in either case, is then shown the model sentence. This completes one RF event, subject attempt, model presentation cycle. All of this information is stored for post-experimental analysis.

Subjects have responded well to this manner of MAL presentation, on pilot studies using Voorish. All subjects were able to produce grammatically correct and semantically appropriate sentenced for a given RF event, by the end of the experiment. They also acquired the ability to accurately judge grammatical and ungrammatical sentences.

Future enhancements of Voorish will include enriching the syntax by including more structural optionality, a recursive syntax and by giving the semantic component greater depth by allowing for paraphrase. These types of changes will require new techniques of evaluating subjects' responses as correct or not. Previously, only one sentence correctly described any given RF event. By making words optional, including recursion in the syntax and allowing for paraphrase, many sentences will correctly describe any one RF event. Where previously, the computer could simply match the subject's response to the correct model sentence, it will now be necessary for the computer to parse the response sentence and check for syntactic correctness and semantic appropriateness. The complexity of the experimental method is increased, but the quality of the Enhanced MAL is greatly improved. With the improvements already added to Voorish and the future additions planned, generalization from the learning of an Enhanced MAL to natural language should be completely defensible.

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APPENDIX A
MAL form Braine 1963

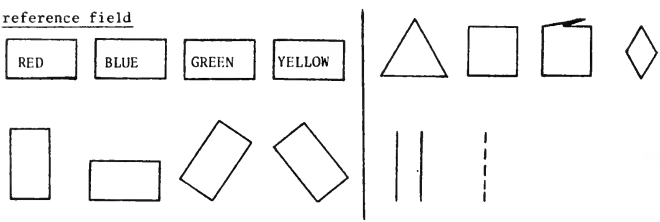
syntax	lexicon
S-> AP BP	a: KIV, JUF, FOJ
AP-> a	
BP-> b	b: BEW, MUB, YAG

APPENDIX B
Syntax and lexicon from Moeser and Bregman 1972

syntax	lexicon
S-> AP BP (CP)	A: GAV, DED, FET, KUS
AP-> A (D)	B: BIF, ZOR, PAX, MUL
BP-> B (CP)	C: LIM, NAK, COZ, RUD
CP-> C	D: SIV, YOW

APPENDIX C
Reference field from Moeser and Bregman 1972

reference field



APPENDIX D

Example of an Enhanced Miniature Artificial Language (Voorish)

syntax	lexicon
S-> NP VP	N: LON, KILN, WORB
NP-> N ADJ	V: FUMMEL, KOR
VP-> NP V (ADV)	ADJ: BIF, SUD
	ADV: TARNS

reference field	semantics: word meaning	
	Voorish	English
	WORB	TRIANGLE
	LON	BOX
	KILN	CROSS
'RELATIVE SIZE'	BIF---SUD	SMALL---BIG
'RELATIVE SPEED'	TARNS	SLOW
X-->Y-->	FUMMEL	PUSH
	KOR	CIRCLE

semantic component: word meaning

1. Size classification of object must agree with relative size word.
2. Speed classification of motion must agree with relative speed word.

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RELATIVIZATION AND PRONOUN DELETION IN HEBREW

Shlomo Lederman

Chomsky (1977) argues for two processes of relativization in Hebrew: one involving a movement transformation, another where no movement occurs. Gaps in the relative clause indicate movement of an NP to COMP and its free deletion there. Only movement relatives observe Subjacency, the Propositional Island Constraint and the Specified Subject Constraint, while no-movement relatives freely violate them.

In this paper I will show Hebrew relative clauses which are presumably derived by movement, yet they violate Subjacency and the other constraints. Since the Subjacency violations cccur only in subject pronoun relativization, it will be argued that in these cases no movement has occurred, the gap being created by a later rule of Subject Pronoun Deletion, a rule only partly attested in other structures.*

Chomsky (1977:80) cites facts from relativization in Hebrew as following naturally from his proposed wh- movement transformation, the Subjacency Condition, and two constraints on rule applicability, the Propositional Island Constraint (PIC) and the Specified Subject Constraint (SSC), constraints which also hold for rules of construal.[1] Only movement rules are susceptible to PIC and SSC. Chomsky argues that there are two processes of relativization in Hebrew, one involving a movemnet rule, the other involving interpretation of a base-generated pronoun in the relative clause. Chomsky's theory predicts that only relatives derived by a movement transformation will obey Subjacency and the constraints on rule applicability (PIC and SSC), while those derived with no movement freely violate them. Chomsky claims that this prediction holds in Hebrew, and thus he claims further support for his theory.

In this paper I will present a number of Hebrew relatives that according to Chomsky's analysis are derived by movement, yet they violate the Subjacency principle, and the constraints on the rules of construal. It will be shown that the apparent Subjacency violations occur only in relatives clauses where the subject is relativized, and it will be argued that these subject relatives in Hebrew are cases of no-movement relativization, the subject pronoun being deleted by an independent rule of Subject Pronoun Deletion, a rule partly attested in other structures.

Chomsky (1977:80) states: "In Hebrew, for example, there are two processes of relativization, one involving a movement rule (with optional deletion of the moved pronoun if it is a direct object, and, I assume, obligatory deletion if it is the subject), and the other involving just interpretation of a base-generated pronoun in the relative clause. The movement rule observes the usual constraints; the interpretive rule

violates them fairly freely."

Thus we have the contrast between (1) (Chomsky's 23i) (movement relativization) and (2) (Chomsky's 23ii) (base-generated relativization):

(1) ze ha-iš$_i$ [$_{\bar{S}}$ še (oto) [$_S$ ra'iti t$_i$ etmol]]
this the-man that him I-saw yesterday
'This is the man that I saw yesterday.'

(2) ra'iti et ha-iš$_i$ [$_{\bar{S}}$ še [$_S$ natata li [$_{NP}$ et ha-sefer$_j$ [$_{\bar{S}}$ še [$_S$ hu$_i$ katav oto$_j$]]]]]
I-saw OM[2] the-man$_i$ that you-gave me OM the-book$_j$ that he$_i$ wrote it$_j$
'I saw the man [that you gave me the book [that he wrote it]]'

(1) is derived from the structure underlying (3) by moving oto 'him' into COMP, where it optionally deletes (free deletion in COMP):

(3) ze ha-iš$_i$ [$_{\bar{S}}$ COMP [$_S$ ra'iti oto$_i$ etmol]]

Sentence (2), on the other hand, is quoted by Chomsky as a case of no-movement relativization. Both hu 'he' and oto 'him' in the second embedded clause are base-generated pronouns, no movement occured and hence the constraints may be violated (since they hold only in movement transformations), as we notice by the grammaticality of the sentence. hu 'he' is interpreted as anaphoric to ha-iš 'the man', and oto 'him, it' as anaphoric to ha-sefer 'the book'. Notice that the pronouns hu and oto cannot be interpreted in (2) by rules of construal since rules of construal are subject to PIC and SSC. Thus, it would appear that interpretation of oto should be blocked twice, once for SSC (there is a lexical subject in the relative clause) and a second time for PIC (the clause is tensed). But, nevertheless, the sentence makes sense and is readily interpreted. The violations are only apparent since the interpretation of base-generated pronouns is done not by rules of construal, but by a different rule of interpretation - 'a rule of predication' - not subject to the constraints and needed anyway in the grammar for ordinary pronominalization.

Notice that in sentence (2) oto can be moved into COMP and than optionally deleted, since this movement doesn't violate the Subjacency condition. This will give us (4):

(4) ra'iti et ha-iš šenatata li et hasefer [$_{\bar{S}}$[$_{COMP}$ še (oto$_i$)][$_S$ hu katav t$_i$]]
I-saw the-man that-you-gave me the-book that (it) he wrote
'I saw the man that you gave me the book that he wrote.'

Subjacency isn't violated since by moving oto to COMP only one bounding node (S) is crossed. However, hu in (2) cannot be moved and optionally deleted since this would violate Subjacency as illustrated in (5):[3]

(5) *ra'iti et ha-iš$_i$ [$_{\bar{S}}$ še hu$_i$ [$_S$ natata li [$_{NP}$ et ha-sefer [$_{\bar{S}}$ še t$_i$ [$_S$ t$_i$ katav oto]]]]]

In (5) hu 'he' crosses more than one bounding node (it crosses two S nodes and one NP node) thus violating Subjacency, and this accounts for the ungrammaticality of the sentence.

Thus it seems that the Subjacency condition and the constraints on rule applicability predict the behavior of sentences (1), (2), (4) and (5). It seems to me, though, that this prediction is only apparent. The ungrammaticality or unacceptability of (5) seems to arise from a semantic conflict. When hu 'he' is moved and then obligatorily deleted hasefer 'the book', being masculine singular, is understood as the subject of še-katav oto 'that wrote (m.sg.) him', while ha-iš 'the man' is understood as co-referring to oto 'him'. That is, the relative clause is understood as the semantically anomalous 'the book wrote the man' (ha-sefer šekatav oto). It seems thus that the identical gender and number of ha-iš 'the man' and ha-sefer 'the book' is the source of the problem. To check whether this is indeed the source of the unacceptability of (5), we can for example replace ha-sefer 'the book' with a feminine noun. In this case no ambiguity and anomaly results and the sentence is acceptable and grammatical, as in (6):

(6) ra'iti et ha-iš$_i$ [še hu$_i$[natata li [et ha-tmuna [še t$_i$ [t$_i$ ciyer (ota)]]]]]

I-saw OM the-man that he you-gave me OM the-painting(f.sg.) that painted (he

'I saw the man that you gave me the painting that he painted (it)'

Sentence (6) has exactly the same structure as (5), it violates Subjacency in exactly the same manner, yet it is a grammatical sentence.

Returning to sentence (2), what is striking about it is that both hu 'he' and oto 'him, it' in the deepest relative clause can be deleted, as in (7):

(7) ra'iti et ha-iš$_i$ [$_{\bar{S}}$ še [$_S$ natata li [$_{NP}$ et ha-sefer$_j$ [$_{\bar{S}}$ še [$_S$ t$_i$ katav t$_j$]]]

I-saw OM the-man that you-gave me OM the-book that wrote

'I saw the man that you gave me the book that he wrote'

Since hu 'he', referring to ha-is 'the man', is deleted in the last embedded relative clause in (2) it can only be derived by movement (relative pronouns being optionally or obligatorily deleted only after being moved to COMP), but Subjacency predicts that the movement must be blocked in (2) and (7), which shows the effects of movement and deletion. Subjacency should thus block (7) from being generated, yet the sentence is acceptable and grammatical in violation of Subjacency. Note also that (7) violates another constraint, that against a doubly-filled COMP: both hu 'he' and oto 'him, it' have been moved to COMP, doubly-filling it.

Exactly parallel to (7) we also find sentence (8):

(8) ra'iti et ha-iš še her'eta li et ha-iša še ahav

I-saw the-man that you-showed me the woman that loved(3rd.,m.)

'I saw the man that you showed me the woman that he loved'

According to Chomsky's analysis sentence (8) is derived from sentence (9) by twice applying movement. Sentence (9) is itself a grammatical sentence.

(9) ra'iti et ha-iš$_i$ [$_{\bar{S}}$ še [$_S$ her'eta li [$_{NP}$ et ha-iša$_j$ [$_{\bar{S}}$ še [$_S$ hu$_i$ ahav ota$_j$]]]]]
I-saw the-man that you-showed me the-woman that he loved her
'I saw the man that you showed me the woman that he loved.'

According to Chomsky's analysis, since the pronouns in (8) have been deleted, (8) is derived by movement, hence Subjacency and PIC and SSC hold, and since at least one of them is violated the sentence should be ungrammatical, yet it is not.

Consider now sentence (10):

(10) ha-iš [$_{\bar{S}}$ še [$_S$ ha-iša [$_{\bar{S}}$ še [$_S$ ahav]] barxa]] hit'abed
the-man that the-woman that loved(3rd.,m.sg.) ran-away committed-suicide
'The man that the woman that he loved ran away committed suicide.'

According to Chomsky's analysis (10) should be derived from (11):

(11) ha-iš [$_{\bar{S}_2}$ še [$_S$[$_{NP}$ ha-iša][$_{\bar{S}_1}$ še [$_{S_1}$ hu ahav ota]] barxa]] hit'abed
he loved her

To produce (10) from (11) both hu 'he' and ota 'her' in S_1 will have to be moved into the COMP of $\bar{S}_1$ creating a doubly-filled COMP. Also, hu 'he', coreferring to ha-iš 'the man', cannot be moved to the COMP of $\bar{S}_2$ (where it is subsequently obligatorily deleted) because of Subjacency. However, (10) is a grammatical sentence. There is another sentence that can be produced from (11) by movement and deletion of hu 'he' and mere movement of ota into COMP (with optional deletion of the complementizer še 'that') as in (12):

(12) ha-iš še ha-iša (še) ota ahav barxa hit'abed
that her loved

Going back to sentence (7), parallel to it we also find (13) and (14), where both pronouns are deleted and Subjacency is violated:

(13) ra'iti et ha-iš [še natata li et haciyur [še Ø ciyer Ø]]
I-saw the-man that you-gave me the painting that painted
'I saw the man that you gave me the painting that he painted.'

(14) ra'iti et ha-iš [še šamata et ha-sipur [še Ø siper Ø]]
I-saw the-man that you-heard the-story that told
'I saw the man that you heard the story that he told.'

Up to this point we have been assuming that where there is a gap in the relative clause the relativized pronoun has been first moved into COMP and then deleted, optionally in the case of a direct object pronoun, obligatorily in the case of a subject pronoun. Notice that all apparent violations of Subjacency quoted involve a relativized subject pronoun (cf. sentences 6, 7, 8, 10, 12, 13, 14). As shown in sentence (15) below Subjacency blocks in the predicted manner the relativization of a direct object pronoun (the structure of sentence 15 is identical to that of sentence 8):

(15) *ra'iti et ha-iša$_i$ [$_{\bar{S}}$ še [$_S$ her'eta li et ha-iš$_j$ [$_{\bar{S}}$ še [$_S$ t$_j$ ahav t$_i$]]]]
I-saw OM the-woman that you-showed me OM the-man that loved
'I saw the woman that you showed me the man that loved her.'

Sentence (15) would be derived from (16):[4]

(16) ra'iti et ha-iša$_i$ [$_{\bar{S}}$ še [$_S$ her'eta li et ha-iš$_j$ [$_{\bar{S}}$ še [$_S$ hu$_j$ ahav ota$_j$]]]]
he loved her

As we see in (15) the movement and subsequent deletion of ota 'her' is blocked by Subjacency. How then do we explain the apparent violations of Subjacency when the subject pronoun is relativized? A possible solution would be to claim that in these apparent Subjacency violations the subject pronoun hasn't moved at all, rather it is deleted by an independent rule of optional Subject Pronoun Deletion. Such a rule would be supported if it could be shown to exist in structures other than relatives. And indeed there is a rule of Subject Pronoun Deletion, where the pronoun agreeing with a verb in the past and future tense may always be deleted, in any structure (except when stressed). Thus for example ani ra'iti 'I saw (1st., sg.)' becomes ra'iti 'I-saw' and ata natata 'you (m.sg.) gave (2nd., m.sg.)' becomes natata 'you(m.sg.)-gave'. However, a third person pronoun cannot be deleted, e.g., hu ahav 'he loved (3rd., m.sg.)' cannot become ahav 'he-loved', whereas all the cases of Subjacency violations involve a third person pronoun that cannot be deleted in any environment other than in the relative clauses quoted, the only exception being highly literary style and conjoined VPs and sentences, such as hu ba ve-yašav ve-axal 'He came, and sat, and ate.' Third person subject pronoun deletion is also blocked in complement clauses, after the complementizer še 'that', as in (17):

(17) * david xošev še avar et ha-bxina
David thinks that passed OM the-test
'David thinks that he passed the test.'

To make (17) grammatical we must have the pronoun hu 'he' before the verb avar 'passed (3rd., m.sg.)'.

On the other hand we find support for the Pronoun Deletion analysis when a relativized subject pronoun precedes a verb in the present tense, where Subject Pronoun Deletion is blocked throughout. Thus consider (18) which is identical to sentence (8) except for the verb ohev 'loves (m.sg.)' replacing ahav 'loved (3rd., m.sg.):

(18) *ra'iti et ha-iš̌ še her'eta li et ha-iš̌a še ohev

I-saw OM the-man that you-showed me OM the-woman that loves(m.sg.)

'I saw the man that you showed me the woman that he loves.'

Since in (18) the pronoun hu 'he' before ohev cannot be deleted by Subject Pronoun Deletion (the rule applies only in the past and future tenses) the gap can be created only by movement and subsequent deletion, but this movement is blocked by Subjacency as shown by the ungrammaticality of (18). This would lead us to conclude that in the structurally identical sentence (8) we don't have a violation of Subjacency, rather the pronoun hu 'he' is deleted there by the Past and Future Tense Subject Pronoun Deletion which in this case has been relaxed to include also third person pronouns, in addition to the usual first and second person pronouns.

Thus, although the rule of Third Person Subject Pronoun Deletion is not strongly motivated, it is the only solution to dissolving the Subjacency violations discussed here. If we reject the Subject Pronoun Deletion analysis we will have to explain the asymmetry between subject and direct object relativization in Hebrew (the former violating Subjacency, the latter observing it).

NOTES

*I would like to thank Peter Cole for his comments on this paper.

[1]PIC is the predecessor of the Nominative Island Condition of Chomsky (1982).

[2]OM - Object Marker, obligatorily precedes a definite direct object.

[3]A subject pronoun is obligatorily deleted once it is moved into COMP. Thus in (19), pronounced with normal intonation, hu 'he' cannot refer to the head NP ha-iš̌ 'the man'; for the sentence to mean 'The man that saw him went home' hu must be deleted.

(19) ha-iš̌ še hu ra'a oto halax habayta

the-man that he saw him went home

'The man that he saw went home.'

[4]Sentence (16) is grammatical, after the obligatory deletion of hu 'he' coreferring to ha-iš̌ 'the man'.

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THE INDICATOR PARTICLE baa IN SOMALI

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Focus is a predominant phenomenon in Somali. One constituent in every main declarative clause must be marked for focus by an indicator particle. The most common indicator particle, baa, assumes various forms; it may occur in its unconjugated form baa or may be conjugated with a subject pronoun clitic. The same clitics occur in relative, adverbial and complement clauses. This paper demonstrates that the distribution of the various forms of the indicator particle, as well as the distribution of subject clitic in subordinate clauses can be accounted for in a unified fashion if every main clause in Somali is analyzed as a cleft construction, i.e. one NP is extracted out of its clause and marked by baa. I argue against an alternative analysis - Antinucci and Puglielli's proposal to analyze subordinate clauses as containing underlying indicator particles, and discuss the imlications of the proposed analysis as well as apparent exceptions and problems.

1. INTRODUCTION

This paper is part of a larger work, the research for which is still in progress, which aims at describing and analyzing focus constructions and related phenomena in Somali.

In this paper I concentrate on the description and analysis of structures containing the indicator particle baa although reference is made occasionally to other indicator particles.[1]

The importance of the particle baa has been recognized by everyone who has seriously attempted to describe the Somali language. In 1951, in his pioneering work, "The Principles of Somali" Abraham wrote: "The word ba' is the most important word in Somali and it is no exaggeration to say that if its usage is not understood, most Somali sentences cannot be explained." (p.72)

I fully agree with Abraham. The particle baa, with its special syntactic and semantic characteristics, plays a central role in Somali, and understanding it is essential to any adequate analysis of the language.

In this paper I mainly examine the syntactic role of baa although some discussion is devoted to its semantic function.

Previous works on indicator particles, including baa have, in my view, not been able to come up with an adequate analysis of its role in the syntax of Somali. Most of these works merely describe the distribution of the particle, the different positions in the sentence where it can occur, and the various phonological shapes it assumes, but do not analyze these forms, nor explain their distribution (see for example Abraham, Bell, Andzrejewski, Hetzron).

The only work done on this topic within the framework of generative grammar is, to the best of my knowledge, Antinucci and Puglielli (1980) and Antinucci (1980). Antinucci and Puglielli's work is a major breakthrough in the study of Somali syntax. This important and interesting study is a first attempt to provide a generative-transformational analysis of the indicator particle baa. The authors propose a highly abstract transformational analysis of different types of clauses in Somali, based on the role of the indicator particle baa in their derivation. Antinucci and Puglielli's work stimulated and directed much of the research which resulted in this paper, and although I disagree with their conclusions, I am greatly indebted to them. In section 3. I argue against Antinucci and Puglielli's analysis and show a) why it is incorrect as an analysis of Somali sentences and b) why it does not explain adequately the facts concerning the particle baa.

I will suggest an alternative analysis to account for the distributuion of the particle baa and its central role in the syntax of Somali, and argue that the proposed analysis (though in need of refinement in certain areas) is more general and offers a better explanation for the perplexing phenomenon of the particle baa.

The organization of the paper is as follows: In Section 2. I describe the basic structure of Somali sentences, including the distribution of indicator particles. In Section 3. I point out basic deficiencies of previous treatments, particularly that of Antinucci and Puglielli. In Section 4. I propose an alternative analysis for the particle baa, and related phenomena. In Section 5. I discuss some problems with the proposed analysis. Section 6. is a summary and conclusion.

2. THE STRUCTURE OF SOMALI SENTENCES

In this section I present the basic facts of simple and complex sentences in Somali. Only those aspects of the language which are relevant to the main thesis of this paper are discussed.

Somali is a free word order languege, though the preferred, unmarked order is probably SOV. Various syntactic and semantic factors constrain word order, and the order of constituents is often semantically and pragmatically significant.

The sentences in (1), which all mean roughly 'The man saw the woman.', examplify the grammaticality of each possible word order in a simple sentence.[2]

(1)	a.	ninkii	baa	arkay	naagtii	SVO
	b.	ninkii	baa	naagtii	arkay	SOV
	c.	naagtii	buu	ninkii	arkay	OSV
	d.	naagtii	buu	arkay	ninkii	OVS
	e.	wuu	arkay	ninkii	naagtii	VSO
	f.	wuu	arkay	naagtii	ninkii	VOS
		F	saw	woman-the	man-the	

'The man saw the woman.'

I now turn to a description of the basic structure of main clauses, relative clauses, and complement clauses. These three types of clauses share some important features; the most relevant to the present paper is subject pronoun clitics.

2.1. Main Clauses

Every indicative, affirmative sentence in Somali must contain one and only one indicator particle. Indicator particles occur only in main clauses. Sentences (2) through (10) are grammatical while (11) and (12) are not because they lack an indicator particle.

(2) Axmed baa hilib cunay
Axmed F meat ate
'Axmed ate meat.'

(3) Axmed hilib buu cunay
Axmed meat F ate
'Axmed ate meat.'

(4) naagtii bay gooshii dishay
woman-the F lioness-the killed
'The lioness killed the woman.'

(5) ninkii wuu cararay
man-the F ran
'The man ran.'

(6) ninkii baa xaday sacii
man-the F stole cow-the
'The man stole the cow.'

(7) ninkii ayaa koray geedka
man-the F climbed tree-the
'The man climbed the tree.'

(8) naagta waan la xadlay
woman-the F with talked
'I talked to the woman.'

(9) naagtii warqad bay u qoray ninkii
woman-the letter F to wrote man-the
'The woman wrote a letter to the man'

(10) Cali mindi buu ku dilay libaaxii
Ali knife F with killed lion-the
'Ali killed the lion with a knife'

(11) *naagtii aragtay ninkii
woman-the saw man-the

(12) *Cali arkay Caasha
Ali saw Asha

In this paper I examine only indicative affirmative sentences although negative and interrogative sentences may also contain indicator particles.

2.1.1. The Semantic Function of Indicator Particles

The indicator particle marks one constituent in the sentence as the focus, the new information, the rheme. The particle baa may focus on any preverbal NP in the sentence, regardless of its grammatical function. baa immediately follows the NP which it marks as the focus. The indicator particle may occur in its unconjugated form baa or in one of sevaral conjugated forms baan, baad, buu, etc. The choice of the right form of the particle are discussed below.

The following sentences (13) through (16) all have the same truth-conditional meaning: 'Yesterday Ali gave a present to Maryan.', but in each sentence the focus is on a different constituent. The use of the cleft construction in the English gloss brings to light the differences among the sentences.

(13) Cali baa shalay Maryan hadyad siiyey
Ali F yesterday Maryan present gave
'It was Ali who gave Maryan a present yesterday.'

(14) Maryan buu Cali shalay hadyad siiyey
Maryan F Ali yesterday present gave
'It was to Maryan that Ali gave a present yesterday.'

(15) hadyad buu Cali Maryan siiyey shalay
present F Ali Maryan gave yesterday
'It was a present that Cali gave Maryan yesterday.'

(16) shalay buu Cali hadyad siiyey Maryan
yesterday F Ali present gave Maryan
'It was yesterday that Ali gave Maryan a present.'

The particle baa may focus on a complex NP as well as on a simple one.

(17) ninkii [dameerka dilay] baa u soo qoray
man-the donkey-the hit F to towards wrote
naagta warqada
woman-the letter-the
'It was the man who hit the donkey who wrote a letter to the woman.'

(18) inankii [ay Caashi u sheekeysay] baa qoslay
boy-the 3.f.sg. Asha to story-told F laughed
'It was the boy to whom Asha told the story who laughed.'

An indefinite NP can be focused as well as a definite one.

(19) nin baa Caasha u sheekeyey
man F Asha to story-told
'A man told a story to Asha.

(20) nin baa guriga gudiihisa ku jira
man F house-the inside-of in is
'There is a man inside the house.'

Apart from baa there are several other indicator particles in Somali. Ayaa (and its conjugated variants ayaan, ayaad, ayuu, etc.) also focuses on the NP which it follows. The particle waa (and its conjugated forms waan, waad, wuu, etc.) focuses on the verb. The particle waa immediately precedes the verb which it marks as the focus of the sentence. The particle waxaa (and its conjugated forms waxaan, waxaad, wuxuu, etc.) requires further analysis which is beyond the scope of this paper. In sentences where waxaa occurs the focused NP is not adjacent to it. In this paper I have little to say about indicator particles other than baa, the most common one.

The conversational function of the different indicator particles can be exemplified when we look at information questions (WH questions), and the sentences which can be appropriate answers to them. For example, although (22) and (23) have the same truth-conditional meaning, only the former can be an approriate answer to the question in (21). Here and elsewhere below the element which is underlined in the English gloss is the focused element.

(21) yaa qoslay
who laughed
'Who laughed?'

(22) Cali baa qoslay
Ali F laughed
'Ali laughed.'

(23) Cali wuu qoslay
Ali F laughed
'Ali laughed.'

In the same way (25) but not (26) nor (27) is an appropriate answer to (24).

(24) yuu arkay Cali
whom saw Ali
'Who did Ali see?'

(25) Maryan buu Cali arkay
Maryan F Ali saw
'Ali saw Maryan.'

(26) Cali baa arkay Maryan
Ali F saw Maryan
'Ali saw Maryan.'

(27) Cali wuu arkay Maryan
Ali F saw Maryan
'Ali saw Maryan.'

Similarly, (29) but not (30) is an appropriate answer to (28), and (32) but not (33) is an appropriate answer to (31). The answer to (34) can be (35) but not (36) nor (37).

(28) muxuu Cali sameyey
What Ali did
'What did Ali do?'

(29) Cali wuu qoslay
Ali F laughed
'Ali laughed.'

(30) Cali baa qoslay
Ali F laughed
'Ali laughed.'

(31) xagee buu saaray ninkii buugga
place-which F put man-the book-the
'Where did the man put the book?'

(32) miis buu saaray ninkii buugga
table F put man-the book-the
'The man put the book on a table.'

(33) ninkii baa buugga miis saaray
man-the F book-the table put
'The man put the book on a table.'

(34) goormuu Cali cararay
when Ali ran-away
'When did Ali run away?'

(35) shalay buu cararay Cali
yesterday F ran-away Ali
'Ali ran away yesterday.'

(36) Cali baa cararay shalay
Ali F ran-away yesterday
'Ali ran away yesterday.'

(37) shalay Cali baa cararay
yesterday Ali F ran-away
'Ali ran away yesterday.'

Contrastive sentences exemplify the same point in a different way. In (38) through (43) the contrasted element is marked as the focus by the indicator particle.

(38) Mustafa ma dilin Casha e Cali baa dilay
Mustafa not hit-not Asha but Ali F hit
'Mustafa didn't hit Asha, Ali did.'

(39) Cali buugga Casha muu siinin e Maryan buu siiyey
Ali book-the Asha not gave-not but Maryan F gave
'Ali didn't give the book to Asha, he gave it to Maryan.'

(40) Cali manta ma iman e shalay buu yimi
Ali today not came-not but yesterday F came
'Ali didn't come today, he came yesterday.'

(41) Cali buug ma akhriyin e warqad buu akhriyey
Ali book not read-not but letter F read
'Ali didn't read a book, he read a letter.'

(42) Cali ma dhisan guri e wuu iibsaday
Ali not build-not house but F bought
'Ali didn't build a house, he bought one.'

(43) Cali ma qoslin e wuu heesay
Ali not laughe-not but F sang
Ali didn't laugh he sang.'

Another function of indicator particles is to signify the completeness of a sentence. For example in (44) the baa tells us that it is a sentence, while the absence of the indicator particle in (45) means that it is an NP and not a complete sentence.

(44) ninkii baa arkay naagta
man-the F saw woman-the
'The man saw the woman.'

(45) ninkii arkay naagta
man-the saw woman-the
'the man who saw the woman'

2.1.2. The Distribution of the Various Forms of baa

The indicator particle baa may mark any preverbal noun in a main clause. The focused NP is usually (but need not be) preposed to sentence initial position. Cases where the focused NP does not occur sentence initially are discussed in Section 5. The particle may either occur in its unconjugated form baa, or in one of its conjugated forms, baan, baad, etc. It has been recognized by several linguists in the past that these forms result from the conjugation of baa with the short form of subject pronouns (henceforth subject clitics). Besides a set of full subject pronouns there is a corresponding set of short forms of these pronouns. These forms play an important role in the analysis proposed in this paper.

The following is a list of the full subject pronouns, the corresponding clitics, and the forms of baa conjugated with these clitics.

(46)

	Full form	Clitics	baa + Clitic
1 sg.	aniga	aan	baan
2 sg.	adiga	aad	baad
3 sg.m.	isaga	uu	buu
3 sg.f.	iyada	ay	bay
1 pl.inc.	innaga	aynu	baynu
1 pl.exc.	annaga	aanu	baanu
2 pl.	idinka	aydu (aad)	baydu (baad)
3 pl.	iyaga	ay	bay

The distribution of the indicator particle in its conjugated vs. unconjugated form is quite complex. These distributional patterns constitute the main problem that this paper addresses, and thus need to be kept in mind throughout the exposition.

Several factors determine whether the indicator particle appears in its unconjugated form baa or in one of its conjugated forms. One factor is whether the indicator particle marks the subject of the sentence or a noun other than the subject. If the latter, it is irrelevant whether this non-subject is a direct object, a locative, an instrumental, etc. Another factor is whether the subject of the sentence precedes or follows the verb, regardless of the relative order of other constituents in the sentence. A third factor has to do with whether the subject of the sentence is itself a pronoun. A fourth factor is whether the focused NP occurs before or after the subject. These factors will be taken up one by one to show how they effect the choice of the right form of the indicator particle. When the indicator particle occurs in its conjugated form, it (or rather the clitic in it) always agrees with the subject of the sentence. In my exposition of the facts below I divide the discussion into five parts (a, b, c, d, and e), corresponding to the different conditions under which the various shapes of the indicator particle occur.

a. When the indicator particle baa marks a subject in a sentence, it always occurs in its unconjugated form baa.

(47) ninkii/Cali {baa / *buu} arkay naagtii
man-the/Ali F saw (3 m.sg.) woman-the
'The man/Ali saw the woman.'

(48) naagtii {baa / *bay} aragtay ninkii
woman-the F saw (3 f.sg.) man-the
'The woman saw the man.'

The subject in such sentences may be a pronoun.[3]

(49) adigaa muuska cunay
you-F banana-the ate (3 m.sg.)
'You ate the banana.'

b. When baa marks a non-subject, and the subject of the sentence is itself a (full) pronoun, the indicator particle occurs in its conjugated

form, agreeing with the subject.[4] This is true even if the full form of the subject pronoun does not occur on the surface (see (51), (53), (55)).

(50) ninkii {baan / *baa} anigu arkay
man-the F I saw
'I saw the man.'

(51) ninkii {baan / *baa} arkay
man-the F saw
'I saw the man.'

(52) muuskii {bay / *baa} iyagu cuneen
banana-the F they ate
'They ate the banana.'

(53) muuskii {bay / *baa} cuneen
banana-the F ate
'They ate the banana.'

(54) ninkii {buu / *baa} isagu arkay
man-the F he saw
'He saw the man.'

(55) ninkii {buu / *baa} arkay
man-the F saw
'He saw the man.'

c. When the indicator particle marks a NP in sentence initial position, other than the subject, and the (nominal) subject of the sentence precedes the verb, the indicator particle may occur either in its conjugated or in its unconjugated form.

(56) fuudkii {baa / bay} nimankii cabbeen
soup-the F men-the drank
'The men drank the soup.'

(57) naagtii {baa / bay} nimankii arkeen
woman-the F men-the saw
'The men saw the woman.'

(58) muuskii {baa / bay} Cali cunay
banana-the F Ali ate
'Ali ate the banana.'

d. When the indicator particle marks a non-subject, and the subject follows the verb, the conjugated form of baa is obligatory.

(59) fuudkii {buu / *baa} cabeen nimankii
soup-the F drank man-the
'The men drank the soup.'

(60) naagtii {bay / *baa} arkeen nimankii
woman-the F saw man-the
'The men saw the woman.'

(61) muuskii {buu / *baa} cunay Cali
banana F ate Ali
'Ali ate the banana.'

e. When the indicator particle marks a non-subject, and the subject precedes this NP, the conjugated form of baa is obligatory.

(62) Cali warqad {buu / *baa} naagtii u qoray
Ali letter F woman-the to wrote
'Ali wrote a letter to the woman.'

(63) Axmed hilibkii {buu / *baa} cunay
Axmed meat-the F ate
'Axmed ate the meat.'

Notice that the conjugated form of baa is obligatory only when the subject precedes the focused NP. If the focused NP is preceded by a NP other than the subject, the unconjugated form of baa can occur. This is shown in (64).

(64) naagta warqad {buu / baa} Cali u qoray
woman-the letter F Ali to wrote
'Ali wrote a letter to the woman.'

In (65) below the distribution of the conjugated vs. unconjugated form of the indicator particle baa is shown schematically. S stands for the subject, where S[-pron] is a nominal subject and S[+pron] is a pronominal subject. N stands for any non-subject noun phrase. buu stands for any one of the conjugated forms of baa.

(65) The Distribution of baa vs. Its Conjugated Forms

a.	S	{baa / *buu}	N	V	The subject is marked as the focus--the unconjugated form baa is obligatory.
b.	N	{*baa / buu}	S [+pron]	V	A non-subject is marked as the focus and the subject is a pronoun--the conjugated form of baa is obligatory.
c.	N	{baa / buu}	S [-pron]	V	A non-subject is marked as focus and the subject precedes the verb--both conjugated and unconjugated form are possible.
d.	N	{*baa / buu}	V	S	A non-subject is marked as the focus, and the subject follows the verb--the conjugated form is obligatory.
e.	S	N {*baa / buu}		V	A non-subject is marked as focus, and the subject precedes the focused NP--the conjugated form is obligatory.

2.2. Relative Clauses

Relative clauses, like all other subordinate clauses in Somali do not contain indicator particles. Relative clauses are not marked by complementizers and there are no relative pronouns. Word order inside the RC is free and does not distinguish RCs from main clauses. Relative clauses immediately follow their head NP. A complex NP which consists of a head and a RC may be marked for focus like any other NP (see (66), (67)).

(66) ninkii [aan arkay] baa cararay
man-the 1 sg. saw F run-away
'The man I saw ran away.'

(67) naagtii [qososhay] baa cuntada karisay
woman-the laughed F food-the cooked
'The woman who laughed cooked the food.'

(68) naagtii [ninku arkay] way qososhay
woman-the man-the saw(3 m.sg.) F laughed
'The woman whom the man saw, laughed.'

(69) magaalada [uu ku nolyahay Cali] way weyntahay
city-the 3 m.sg. in lives Ali F big
'The city where Ali lives is big.'

The facts about RCs which are most relevant to the main topic of this paper have to do with subject clitics. A subject clitic may occur inside the RC in any preverbal position, although the most common position is clause initially. When a subject clitic occurs, it agrees with the subject of the RC. The conditions which determine the distribution of subject clitics in RCs are very similar to those which determine the distribution of clitics in the conjugated forms of baa in main clauses.

2.2.1. The Distribution of Subject Clitics in RCs

a. A subject clitic may never occur in a subject relative clause (i.e., a RC which lacks a surface subject). The ungrammaticality of (71) and (72) exemplifies this.

(70) ninkii [dameerka dilay] wuu heesay
man-the donkey-the hit F sang

(71) *ninkii [dameerka uu dilay] wuu heesay

(72) *ninkii [uu dameerka dilay] wuu heesay

'The man who hit the donkey, sang.'

b. In non-subject RCs[5] if the subject of the RC is itself a (full) pronoun, a subject clitic, which agrees with the subject, is obligatory.[6]

(73) naagta [{aad / *Ø} adigu aragtay] Maryan bay ahayd
Woman-the 2 sg. you saw Maryan F is
'The woman you saw is Maryan'

(74) ninka [{uu / *Ø} isagu arko] waa Cali
man-the 3 m.sg. he sees is Ali
'The man he sees is Ali.'

The clitic is obligatory whether the full form of the pronominal subject occurs on the surface or not. (75) and (76) are examples where the (full) subject pronoun does not show up but a subject clitic is still obligatory.

(75) naagta [{aad / *Ø} aragtay] Maryan bay ahayd
woman-the 2 sg. saw Maryan F is
'The woman you saw is Maryan.'

(76) ninka [{uu / *Ø} arko] waa Cali
man-the 3 m.sg. sees is Ali
'The man he sees is Ali.'

c. In a non-subject RC if the (nominal) subject precedes the verb a subject clitic is optional.

(77) miiska [$\{^{uu}_{\emptyset}\}$ Cali saray buugga] wuu weynyahay

table-the 3 m.sg. Ali put book-the F big
'The table on which Ali put the book is big.'

(78) dameerkii [$\{^{uu}_{\emptyset}\}$ ninku xaday] wuu cararay

donkey-the 3 m.sg. man-the stole F ran-away
'The donkey which the man stole, ran away.'

(79) buuggii [$\{^{uu}_{\emptyset}\}$ ninkii siiyey inanka] wuu lumay

book-the 3 m.sg. man-the gave boy-the F lost
'The book which the man gave to the boy was lost.'

(80) buuggii [$\{^{uu}_{\emptyset}\}$ inanka ninku siiyey] wuu lumay

book-the 3 m.sg. boy-the man-the gave F lost
same meaning

d. In a non-subject RC if the subject follows the verb a subject clitic is obligatory

(81) buuggii [$\{^{uu}_{*\emptyset}\}$ siiyey inanka ninkii] wuu lumay

book-the 3 m.sg. gave boy-the man-the F lost
same meaning

(82) buuggii [$\{^{uu}_{*\emptyset}\}$ siiyey ninku inanka] wuu lumay

book-the 3 m.sg. gave man-the boy-the F lost
same meaning

(83) dameerkii [$\{^{uu}_{*\emptyset}\}$ xaday ninku] wuu cararay

donkey-the 3 m.sg. stole man-the F ran-away
'The donkey which the man stole, ran away.'

It should be emphasized that it is the relative order of the subject and the verb which determines the distribution of subject clitics, regardless of the order of other constituents in the clause (see (79), (80) and (81), (82)).

The distribution of subject clitics in RCs in Somali is summarized schematically in (84). Here NP stands for the head of the RCs. S stands for the subject where S[+pron] is a pronominal subject and S[-pron] a nominal subject. N stands for a non-subject NP, and # represents the deletion site.

(84) The Distribution of Subject Clitics in RCs

a.	NP [{Ø, *uu} # N V]		Subject RC--no subject clitic.
b.	NP [{*Ø, uu} S [+pron] # V]		Non-subject RC, the subject of the clause is a pronoun--subject clitic is obligatory.
c.	NP [{Ø, uu} S [-pron] # V]		Non-subject RC, the nominal subject precedes the verb--the clitic is optional.
d.	NP [{*Ø, uu} # V S]		Non-subject RC, the subject follows the verb--the clitic is obligatory.

2.3. Complement Clauses

In this paper I discuss one type of non-relative subordinate clauses. These clauses are introduced in Somali by the complementizer in meaning 'that'. Like all other subordinate clauses, in clauses can never contain indicator particles. Word order inside in clauses is free. The complementizer in is obligatory and cannot be deleted.

(85) Cali baa rumaysaan [{in, *Ø} nimankii tageen]
Ali F believed that men-the left
'Ali believed (that) the men left.'

In clauses may contain subject clitics. These clitics can occur at any preverbal position, but usually they occur clause initially and contract with the complementizer in. When a subject clitic occurs in an in clause it agrees with the subject of the clause.

(86) Cali wuxuu rumaysaanyahay [inuu ninku
Ali F believed that-3 m.sg. man-the
ku nolyahay Berbera]
in live Berbera
'Ali believed that the man lived in Berbera.'

(87) Cali wuxuu rumaysaanyahay [inay Caashi
Ali F believed that-3 f.sg. Asha
waanka mindi ku qashay]
lamb-the knife with slaughtered
'Ali believed that Asha slaughtered the lamb with a knife.'

(88) Cali baa qaba [inay naagta qoray warqada
Ali F thinks that-3 f.sg. woman-the wrote letter-the
'Ali thinks that the woman wrote the letter.'

(89) Cali wuu ogyahay [in nimanku ay qateen lacagta]
Ali F knows that men-the 3 pl. took money-the
'Ali knows that the men took the money.'

The conditions which determine the distribution of subject clitics in <u>in</u> clauses are very similar to those which determine their distribution in RCs and in the conjugated form of the indicator particle in main clauses, but there is a major difference which is discussed below.

2.3.1. <u>The Distribution of Subject Clitics in in Clauses</u>

a. When an <u>in</u> clause lacks a surface subject (this situation may arise when the subject of the clause has been relativized or preposed) a subject clitic is obligatory. The clitic agrees with the original subject of the clause. This is the case where <u>in</u> clauses differ from relative clauses, since in the latter there is no clitic when there is no surface subject. This difference and its implications are the main topic of Section 5. and I will not discuss it further at this point.

(90) naagta [uu Cali qabo [{inay / *∅} ninka
woman-the 3 m.sg. Ali thinks that-3 f.sg. man-the
buugga siiyey]] waa Amina
book-the gave F Amina
'The woman that Ali thinks gave the book to the man, is Amina.'

(91) ninkii buu rumaystay [{inuu / *∅} tagay]
man-the F believe (1 sg.) that-3 m.sg. left
'I believe that <u>the man</u> left.'

b. When the subject of an <u>in</u> clause is itself a pronoun, a subject clitic is obligatory. This clitic agrees with the subject of the clause, whether the full pronoun actually occurs or not.

(92) Cali wuu ogyahay [{inaan / *in} libaaxa dilay]
Ali F knows that-1 sg. lion-the killed
'Ali knows that I killed the lion.'

(93) Cali wuu ogyahay [{inaan / *in} anigu libaaxa dilay]
Ali F knows that-1 sg. I lion-the killed
same meaning

(94) Cali wuu ogyahay [{inay / *in} libaaxa dishay]

Ali F knows that-3 f.sg. lion-the killed
'Ali knows that she killed the lion.'

(95) Cali wuu ogyahay [{inay / *in} iyadu libaaxa dishay]

Ali F knows that-3 f.sg. she lion-the killed
same meaning

c. When the subject of an <u>in</u> clause is nominal and it precedes the verb, a subject clitic is optional.

(96) Cali baa qaba {inay / in} naagtu warqada qortay

Ali F thinks that-3 f.sg. woman-the letter-the wrote
'Ali thinks that the woman wrote the letter.'

(97) Cali baa qaba {inay / in} naagtu qortay warqada

Ali F thinks that-3 f.sg. woman-the wrote letter-the
same meaning

d. When the subject of the clause follows the verb, a subject clitic is obligatory.

(98) Cali baa qaba [{inay / *in} warqada qortay naagtu]

Ali F thinks that-3 f.sg. letter-the wrote woman-the
same meaning

(99) Cali baa qaba [{inay / *in} qortay naagtu warqada]

Ali F thinks that-3 f.sg. wrote woman-the letter-the
same meaning

(100) Cali baa qaba [{inay / *in} qortay warqada naagtu]

Ali F thiks that-3 f.sg. wrote letter-the woman-the
same meaning

The only difference then between the behavior of <u>in</u> clauses and RCs as far as the distribution of the subject clitics, is in cases where the clause does not contain a surface subject (case 'a' above). Otherwise the distribution of subject clitics in RC and <u>in</u> clauses is completely parallel.

In this section I have described the basic structure of main clauses, relative clauses and complement clauses. The main emphasis was on the distribution of subject clitics. I have shown that the three types of clauses demonstrate significant similarities in this respect. The question which this paper addresses has to do primarilly with the distribution of the different forms of the indicator particle <u>baa</u> in main clauses, i.e., why is it that subjects are focus-marked with <u>baa</u> while non-subjects are usually

marked with the conjugated form of the particle, agreeing with their subject. The facts concerning subordinate and relative clauses are brought to help solve this problem and provide evidence for the analysis proposed below.

In the next section I discuss previous attempts to explain these facts and show why they are inadequate as an analsis of Somali sentences and particularly focus constructions.

3. PREVIOUS TREATMENTS OF THE INDICATOR PARTICLE baa

3.1. Traditional Work

Ignoring details, the main phenomenon, and the most interesting one concerning the indicator particle baa described in the previous section (particularly in Subsection 2.1.) is the fact that when the particle marks a subject it occurs in its unconjugated form baa, while when it marks a non-subject, it usually occurs in its conjugated form. This is a peculiar state of affairs since it may look as if an object (or another non-subject NP) may exhibit agreement with the subject of the sentence by means of a particle which is attached to it. This is an unusual situation in the world's languages, and one which deserves to be accounted for.

It has been recognized (see Bell (1953), Abraham (1951), Hetzron (1965), Andrzejewsky (1975)) that the conjugated form of the indicator particle is the result of the combination of baa and a subject clitic. None of the previous researchers has been able, to the best of my knowledge, to explain why the conjugated form is used in some cases while the unconjugated form in others. The distribution of the conjugated versus the unconjugated form of indicator particles in Somali, although a central and predominant phenomenon in the syntax of Somali, has been left unaccounted for. This problem is the one which this work is primarily concerned with.

3.2. Antinucci and Puglielli's Analysis

Recently there has been an attempt (Antinucci and Puglielli (1980)), the first within the framework of Generative-Transformational Grammar, to account for various constructions in Somali by referring to the central role of indicators in the syntax of Somali.

Below I briefly summarize Antinucci and Puglielli's analysis (henceforth A&P) and show why it does not provide an adequate account of the phenomenon.

3.2.1. A&P's Analysis of RCs

Antinucci and Puglielli claim that most types of sentences in Somali are derived from a basic kernel containing only main declarative sentences. In particular, all Somali RCs are derived from main declarative clauses in which (a) one of the NPs is identical to the head-noun; (b) this NP is

always marked with the indicator particle baa; (c) this NP is deleted together with baa.

Antinucci and Puglielli observe that a RC can never contain an indicator particle and that a subject clitic can never occur by itself in a main clause; in those clauses the subject clitic always combines with the indicator particle. They account for the presence and distribution of subject clitics inside RCs by deriving RCs from main clauses with indicator particles. The subject clitic (if it occurs) is what is left after the NP which is correferential to the head NP has been deleted together with baa. For example (101) (A&P's (11)) is derived from (102) (A&P's (18)) by deletion of the NP which is marked with baa inside the RC, together with baa (but without the subject clitic which is attached to it).

(101) warqadda [Cali uu qoray] maanta bay tegi doontaa
letter-the Ali 3 m. wrote now P-3 f. go will
'The letter which Ali wrote will leave now.'

(102) $[\text{warqadda}_i\ [\text{Cali warqadda}_i\ \text{buu qoray}\ ]_S]_{NP}$
maanta bay tegi doontaa

I repeat here the relevant part of the derivation as sketched in A&P. The slashes mark the portion which is deleted.

(103) [Cali ~~warqadda baa~~ + uu qoray] ==> [Cali uu qoray]

When the main clause underlying the RC contains the unconjugated form baa the derivation would result in a RC without a subject clitic. Thus (104) (A&P's I, p.3) is derived from (105).

(104) wiilka [kuu soo qoray] waa walaalkay
boy-the you-to hither wrote F brother-my
'The boy who wrote to you is my brother.'

(105) $[[\text{wiilka}_i\ [\text{wiilka}_i\ \text{baa kuu soo qoray}]_S]_{NP}\ \text{waa walaalkay}]_S$

3.2.2. Problems with A&P's Analysis

The analysis presented by Antinucci and Puglielli shares the same drawbacks with previous descriptions which I have mentioned above: It offers no explanation as to why some NPs are marked with the unconjugated form baa while others with the conjugated forms buu, bay, etc.

The sole motivation for postulating the indicator particle in the underlying structure of RCs is to account for the distribution of subject clitics in RCs. If the distribution of subject clitics in RCs can be explained independently (and I hope to show later it can) the motivation disappears for postulating baa in clauses where it never occurs on the surface.

A&P give two arguments for their proposed derivation of RCs. One has to do with the presence and distribution of subject clitics in RCs, the

other with subject-verb agreement. In Section 4. I show that both are consistent with, and can be accounted for, by an alternative analysis which does not share the problems of A&P's analysis.

If A&P's analysis is adopted, a deep structure constraint would be needed in the grammar to ensure that the indicator particle marks the correct NP, i.e., the one which is identical to the head.

A&P's analysis is based on purely syntactic arguments. They do not provide any semantic justification for postulating a focus marker (i.e., an indicator particle) in the underlying structure of RCs. In the concluding paragraph of their paper A&P acknowledge the problematicity of their analysis which seems to suggest that Somali is an exception to a universal tendency. In particular, Kuno (1976) observes that operations like pronominalization and deletion are strongly dependent on the thematic relation of the NP involved, and that they tend to affect a thematic or topical NP and not a rhematic or focused NP. A&P admit that the Somali case runs completely opposite to this apparently universal trend. The NP deleted in the derivaton of RCs accoring to A&P's analysis has to be the focus of the clause. A&P offer no solution to this problem.

So far I have outlined some general and theoretical inadequacies of the analysis proposed by A&P. Their analysis runs into more serious problems, however, when one tries to apply it to more complicated cases than those the authors examined. A case in point is relativization out of subordinate clauses.

3.2.2.1. Relativization out of Complement Clauses

It is possible in Somali to relativize an NP which is in an in subordinate clause. Sentences (106) through (110) are examples of sush relative clauses.

(106) mindida [uu Cali rumaysaanyahay [inay
knife-the 3 m.sg. Ali believed that-3 f.sg.
Caashi wanka ku qashay]] way xiiraysa
Asha lamb-the with slaughtered F sharp
'The knife that Ali believed that Asha slaughered
the lamb with is sharp.'

(107) magaalada [ay Caashi rumaysaantahay
city-the 3.f.sg. Asha believed
[inuu ninku ku noolyahay]] waa Berbera
that-3 m.sg. man-the in live F Berbera
'The city that Asha believed that the man lived
in is Berbera.'

(108) warqaddii [uu Cali rumaysnaa [inay
letter-the 3 m.sg. Ali believes that-3 f.sg.
naagtu qortay]] way luntay
woman-the wrote F lost
'The letter that Ali believes that the woman wrote to the man was lost.'

(109) naagta [uu Cali qabo [inay
woman-the 3 m.sg. Ali thinks that-s f.sg.
ninka buugga siisay]] waa Amina
man-the book-the gave F Amina
'The woman that Ali thinks gave the book to the man is Amina.'

(110) naagaha [uu Cali qabay [inay
women-the 3 m.sg. Ali thought that-3 pl.
inanka dileen]] waa walalahay
child-the hit F sisters-my
'The women that Ali thought hit the child are my sisters.'

Examples such as those present a problem for A&P's analysis. Let us examine how these examples can be accounted for within A&P's analysis.

Notice that in each of these examples a subject clitic agreeing with the subject of the higher clause of the RC occurs in the higher clause. For example, in (106) a subject clitic uu (3p m.sg.) agreeing with Cali occurs in the upper clause. According to the analysis of A&P, the only source for this subject clitic is the conjugated form buu of the indicator particle. The problem is that the subject pronoun clitic shows up in the upper clause, while the relative NP (and its alleged indicator particle buu) originates in the lower clause. Furthermore, the relativized NP in some sentences (e.g., (109), (110)) is originally a subject, and subjects can only be marked by baa and not by any of its conjugated forms.

The analysis of A&P, as it is, makes the wrong prediction with regards to the presence and distribution of subject clitics in cases of relativization out of subordinate clauses.

Although A&P have not examined in their paper cases of relativization out of subordinate clauses, one might try to change slightly some of their assumptions as an attempt to save the basic idea in their analysis. Let us assume then that in (109) the relativized NP (i.e., naagta) had been raised or fronted to the higher clause together with baa prior to relativization. Let us assume further that after this NP had assumed its new grammatical relation (direct object) the indicator particle acquired the subject clitic and was changed to buu. In a later stage, the NP, which is identical to the head NP, is deleted together with baa, leaving behind the subject clitic uu.

The modified version of A&P's analysis which I have sketched above (and which, it should be emphasized is not proposed by A&P) does seem to account for cases like (106) through (110) as far as the distribution of the subject clitic is concerned. It is , however, very different from the original

analysis proposed in A&P's paper. The presence and distribution of the subject clitic in RCs is no longer determined by the form of the indicator particle in the underlying structure but rather in some intermediate structure, subsequent to Raising to Object or a similar transformation. The modified version suffers from the same problems as the original one; the form of the indicator particle is left unexplained

Another problem with this proposal is that since every main clause has an indicator particle, and since according to the modified version of the proposed analysis, the relativized NP is raised with baa prior to relativization, the upper clause should contain two indicator particles. Some grammatical device would have to be postulated to insure that both indicator particles are deleted, since neither shows up on the surface.

Even a stronger argument against the modified version of A&P's analysis would be offered by cases where extraction of an NP out of a subordinate clause (I leave open the question whether this is Raising or not) is not possible, but relativization of the same NP is. Such examples would serve as evidence that the subject clitic in the upper clause could not have originated from the conjugated form of baa. Such evidence is not available to me at the moment.

3.2.2.2. Relativization out of Impersonal Clauses

A similar argument can be raised against A&P's analysis with regards to Impersonal clauses. Somali does not have passive in the sense English does. Sentences such as (111) are traditionally called impersonal and the pronoun la is the impersonal pronoun.

(111) Cali baa la dilay
Ali F Imp killed
'Ali was killed.' or 'Someone killed Ali.'

Subject clitics never occur in impersonal sentences. Hence, only the unconjugated form of indicator particles may occur in this type of sentence.

(112) a. dameerkii baa la xaday
b. *dameerkii buu la xaday
c. dameerkii waa la xaday
d. *dameerkii wuu la xaday
donkey-the F Imp stole
'The donkey was stolen.'

The problem for A&P's analysis is that when an NP is relativized out of an embedded impersonal clause, a subject clitic shows up in the upper clause as in (113).

(113) nimanka [uu Cali ogyahay [in la tumay]] waa tuug
men-the Ali knows that Imp beat F thieves
'The men that Ali knows that were beaten are thieves.'

The subject clitic uu in (113) could not have originated in the conjugated form buu in the lower clause, since only baa and not the

conjugated form is possible in impersonal clauses. The only possible source of the subject clitic (within the modified version of A&P,s analysis) is an intermediate stage where the NP to be relativized is raised and marked with buu. (114) might be such a source.

(114) niman buu Cali ogyahay [in la tumay]
men F Ali knows that Imp beat
'Ali knows that some men were beaten.'

It is clear then, that cases of relativization out of subordinate clauses present problems for A&P's analysis. The modifiction which I have suggested above overcomes some of these difficulties. It does however share some major problems with the original analysis of A&P.

3.2.3. Antinucci and Puglelli's Analysis of Non-Relative Subordinate Clauses

Antinucci and Puglielli claim that in Somali all subordinate clauses are syntactically constructed relative clauses. I repeat below A&P's examples (119), (124), and (127) of complement and adverbial subordinate clauses:

(115) in Cali yimmado baan doonayaa
that Ali comes P-I want
'I want Ali to come.'

(116) goorta ay qorraxdu dhacdo imow
when sun-the sets come
'Come when the sun sets.'

(117) sida Axmed uu doonaya u qor ereyga
as Axmed wants at write word-the
'Write the word as Axmed wants it!'

A&P give three arguments for their claim that comlement and adverbial clauses are syntactically relative clauses in Somali. First they point out that these clauses are introduced by an element which is a real noun (in means 'part', goor means 'time', and si means 'manner'). Their claim is that this noun acts as the head-noun of a RC. Secondly, they show that these clauses may contain a subject clitic (the short form of subject pronoun) and that its distribution is the same as in RCs. Finally, they examine subject-verb agreement inside subordinate clauses and point out that it is parallel to the situation in RCs.

In view of these arguments, A&P claim that sentences such as (115) through (117) (A&P's (119), (124), and (127) respectively) are to be derived in a completely parallel fashion to RCs, from underlying structures like the following (A&P's (132) through (134)).

(118) $[\text{in}_i\ [\text{in}_i\ \text{baa Cali yimaado}]_S\ ]_{NP}$ baan doonayaa

(119) [goorta$_i$ [goorta$_i$ bay gorraxdu dhacdo]$_S$]$_{NP}$ imow

(120) [sida$_i$ [Axmed sida$_i$ buu doonaya]$_S$]$_{NP}$ u qor ereyga

In these structures the NPs in, goorta, and sida are the head nouns of a RC construction. NPs identical to them are contained in the RC and are always marked by baa. In the process of relativization, these NPs are deleted together with baa by the same deletion rule operating in the derivation of RCs.

3.2.4. Arguments Against A&P's Analysis[7]

I argue below that A&P's analysis of subordinate clauses as RCs is unjustified and unnecessary. Furthermore, it makes the wrong predictions.

According to A&P's analysis the element in is the head-noun of a RC. An NP which is identical to it and which is marked by baa is deleted in the derivation. Since only one NP in a clause can be marked by baa and since, according to A&P only an NP which is marked by baa can be relativized, their analysis predicts that no other NP can be relativized out of a complement clause. Examples such as (106) through (110) above show that this prediction is wrong. Contrary to the prediction made by A&P's analysis of subordinate clauses, relativization out of complement clauses is possible in Somali.

Furthermore, A&P's claim that subordinate clauses are in fact relative clauses makes the prediction that the two types of clauses would behave in a completely parallel fashion. However, complement in clauses behave differently from RCs in some cases. These cases are discussed at length in Secton 5.

A&P's first argument is based on the fact that in (and certain adverbs which introduce adverbial clauses) is a noun since it means 'part' and can be modified by the definite article, giving inta. But the fact that the particle in may be historically or morphologically related to a noun is irrelevant to a synchronic analysis of Somali syntax. Furthermore, if in were indeed the head-noun of RCs as A&P claim, it would be definite more often than not when followed by (what A&P analyze as) a restrictive RC. But in fact the definite noun inta never occurs in these cases. Therefore, synchronically, in should be viewed as a complementizer of a certain type of subordinate clauses.

The other two arguments that A&P bring for the parallelism betwen RCs and subordinate caluses are inconclusive. As I show in the next section, this parallelism between the two types of clauses automatically follows from a unified principle, relevant to all types of clauses in Somali, including main clauses.

All this shows that the claim that all subordinate clauses in Somali are syntactically RCs is incorrect.

4. AN ALTERNATIVE ANALYSIS OF THE INDICATOR PARTICLE baa

in this section I propose an alternative analysis to that of Antinucci and Puglielli. This analysis accounts for the structure of main clauses, relative clauses and subordinate clauses in Somali. I will try to show that my analysis overcomes the difficulties encountered by previous accounts including that of A&P, that it is more general, offers a better explanation for crucial phenomena in Somali syntax and accounts for a wider range of data.

The distribution of the indicator particle in its basic form (i.e., baa) versus its conjugated form (i.e., baan, buu, bay, etc.), and the distribution of subject clitics in RCs and subordinate clauses, can be accounted for in a unified fashion if Somali main clauses are analyzed as cleft constructions.[8] I will argue that:

1. The indicator particle baa is an exclusively main clause phenomenon;

2. At a certain relevant stage in the derivation the NP which is the focus of assertion is always marked with the invariable (unconjugated) form baa;

3. The NP which is the focus of assertion is extracted out of its clause and moved to sentence initial position where it is marked by baa;

4. A general principle, which I call the Subject Clitic Rule determines the distribution of subject clitics inside all types of clauses;

5. The indicator particle baa contracts with the subject clitic (if there is one) inside the clause to its right, to yield the conjugated form baan, buu, etc.

4.1. The Subject Clitic Rule

The Subject Clitic Rule determines the presence and distribution of subject clitics inside all Somali clauses. The domain of this rule is the clause (S in an $\bar{X}$ theory framework). The Subject Clitic Rule applies after such processes as Relativizaton and Cleft (or Focus Extraction). The Subject Clitic Rule states that:

1. In a clause without a subject, no subject clitic may occur. (This is true only of RCs and main clauses. I discuss the special case of subordinate in clauses in Section 5.);

2. When the subject of a clause is itself a pronoun a subject clitic which agrees with it is obligatory. There is a rule of subject (full) pronoun deletion which optionally applies after the Subject Clitic Rule;

3. When the subject of the clause is nominal and it precedes the verb, a subject clitic agreeing with the subject is optional;

4. When the subject of the clause follows the verb, a subject clitic agreeing with the subject is obligatory.

(121) illustrates the presence and distribution of subject clitics. uu stands for any subject clitic, and Ø its absence.

(121) The Subject Clitic Rule

a.	$_S$[	Ø		V]^9	Subjectless clauses--no subject clitic
b.	$_S$[	uu	S [+pron]	V]	Pronominal subject--subject clitic obligatory
c.	$_S$[	{uu, Ø}	S	V]	Nominal subject, precedes the verb--subject clitic optional
d.	$_S$[	uu	V	S]	Subject follows the verb--subject clitic obligatory.

4.2. The Derivation of Main Clauses

In every indicative sentence one NP must be marked as the focus of assertion. Hence, in the derivation of main clauses, one NP is extracted out of its clause and moved to sentence initial position where it is marked with baa. This is true regardless of the grammatical relation of the focused NP. Thus the derivation of every main clause results in a structure in which an NP is followed by baa and a clause which (in simple cases) is the clause from which this NP has been extracted. This clause is the domain of the Subject Clitic Rule. If this clause contains a subject clitic, the subject clitic phonologically contracts with baa to form the conjugated form. This contraction operates over a clause boundary. If the focused NP is the subject, the derivation results in a structure which contains a subjectless clause. In the latter case there would be no subject clitic in the clause (according to the Subject Clitic Rule) and the indicator particle remains in its unconjugated form baa.

The following diagram illustrates the derivation of the sentence ninkii baa naagta arkay, 'The man saw the woman.' (or rather: 'It was the man who saw the woman.').

(122) The Derivation of Sentences with baa

1.	Underlying Str	[	S	O	V]$_S$
2.	Focus	S-baa	[	O	V]$_S$
3.	Subject Clitic Rule	S-baa	[Ø	O	V]$_S$
4.	Contraction				
5.	Surface Str	S-baa		O	V
		ninkii	baa	naagta	arkay
		man-the	F	woman-the	saw

'The man saw the woman.'

Since after the subject has been extracted out of its clause, the remaining clause does not contain a subject, the Subject Clitic Rule (part 1) predicts that no subject clitic may occur. And, indeed only baa and not its conjugated form is possible.

The diagram in (123) illustrates the derivation of the sentence 'The man ate the food' (or rather: 'It was the food which the man ate') where an object NP is focused.

(123) The Derivation of Sentences with baa+Clitic

1.	Underlying Str	[	S	O	V]$_S$
2.	Focus	O-baa	[	S	V]$_S$
3.	Subject Clitic Rule	O-baa	[uu	S	V]$_S$
4.	Contraction	O-baa+uu		S	V
5.	Surface Str	O-buu		S	V
		cuntadii	buu	ninku	cunay
		food-the	F	man-the	ate

'The man ate the food.'

In this example, since after Focus Extraction, the remaining clause contains a nominal subject which precedes the verb, the subject clitic is optional (part 3 of the Subject Clitic Rule) and thus both baa and buu are possible.

I leave open the question of the exact formulation of the focus extraction rule and will only sketch three possible analyses:

1. The indicator particle baa may be inserted transformationally after the extraction of the NP out of its clause.

2. A second possibility is to have a place-hoder, a "hole" in the upmost node of every indicative sentence, followed by an indicator particle. This place holder must be filled by an NP for the sentence to be grammatical. It should be noted that this place-holder may be filled by a complex NP as well as by a simple one. E.g.:

(124) inankii [ay Caashi u sheekeysay] baa qoslay
boy-the 3 f.sg. Asha to story-told F laughed
'The boy to whom Asha told a story, laughed.'

(125) ninkii [dammerka dilay] buu arkay Cali
man-the donkey-the hit F saw Ali
'Ali saw the man who hit the donkey.'

3. Within a framework of $\bar{X}$ theory, baa may be an obligatory node (Comp in $\bar{S}$ or alternatively Focus in $\bar{\bar{S}}$). An obligatory movement rule moves one NP from S to either Comp in $\bar{S}$ or Focus in $\bar{\bar{S}}$ (depending on whether the two categories may be collapsed). The Subject Clitic Rule then applies to S. For a more detailed discussion of this proposal see Livnat (1980b).

The choice of the right formulation of the rule of Focus Extraction should depend inter alia on considerations which have to do with the nature of the focus phenomenon. Is the indicator particle the trigger or the reflecton of focus? What is the relation between the process of fronting the NP and marking it with baa? Such questions may prove useful in further research of focus constructions.

The analysis proposed here accounts in a simple way for the distribution of indicator particles with and without subject clitics. Rules generating the general pattern of the distribution of subject clitics (i.e., the Subject Clitic Rule) are needed anyway for RC and subordinate clauses.

4.3. The Derivation of Relative Clauses

The diagrams in (126) and (127) illustrate the derivation of subject RC and non-subject RCs respectively. For the sake of the clarity of exposition these diagrams represent underlying headless RCs and a movement analysis of relativization. This however is not essential for the proposes analysis. Regardless of whether a movement or a deletion analysis is adopted for RCs, the Subject Clitic Rule applies after relativization, i.e., after the relative NP is no longer within the RC. ay stands for a subject clitic and Ø stands for its absence.

(126) Subject RC

1. Underlying Str		[	S	O	V]$_S$
2. Relativization	S	[		O	V]$_S$
3. Subject Clitic Rule	S	[Ø		O	V]$_S$
4. Surface Str	S	[		O	V]$_S$
	ninkii			naagta	arkay
	man-the			woman-the	saw

'the man who saw the woman'

(127) Non-Subject RC

1. Underlying Str		[	S	O	V]$_S$
2. Relativization	O	[	S		V]$_S$
3. Subject Clitic Rule	O	[ay	S		V]$_S$
4. Surface Str	O	[ay	S		V]$_S$
	ninkii	ay	naagtii		aragtay
	man-the	3 f.sg.	woman-the		saw

'the man whom the woman saw'

In the latter derivation since the subject of the relative clause is nominal and precedes the verb, the subject clitic is optional.

4.4. Complement Clauses

Aside form one interesting exception which I discuss in Section 5., complement clauses behave like main clauses and relative clauses with regards to the presence and distribution of subject clitics, i.e., they all abide by the Subject Clitic Rule. In complement clauses, subject clitics are usually attached to the complementizer in although this is not obligatory and they can occur in any preverbal position. Examples (128) through (130) exemplify the distribution of subject clitics in subordinate clauses.

(128) Cali wuu ogyahay [{inay / in} nimanku qateen lacagta]

Ali F knows that men-the took money-the

'Ali knows that the men took the money.'

(129) Cali wuu ogyahay [{inay / *in} qateen nimanku lacagta]

Ali F knows that took men-the money

same meaning

(130) Cali wuu i oghyahay $\{^{\text{inaan}}_{*\text{in}}\}$ libaaxa dilay
Ali F I knows that-I lion-the killed
'Ali knows that I killed the lion.'

The presence and distribution of subject clitics inside complement clauses is as predicted by the Subjct Clitic Rule. In (128) the subject of the complement clause precedes the verb, and thus the subject clitic is optional. In (129) the verb precedes the subject and thus the clitic is obligatory. In (130) the subject of the complement clause is itself a pronoun (in this case it does not occur on the surface, probably due to a late rule of subjct pronoun deletion) and therefore the subject clitic is obligatory.

The same is true for cases of relativizaton out of subordinate clauses. According to the analysis proposed in this paper, there is no need to raise or front the relativized NP prior to relativization (as is the case with A&P's analysis). The important thing is that after the relativized NP has been extracted out of its clause, all clauses in the sentence abide by the Subject Clitic Rule. Thus, if a clause has a nominal subject, a subject clitic is obligatory in a VS order and optional an an SV order. Sentences (132) and (133) exemplify these facts. (131) might be the source for these RCs.

(131) Cali wuu qaba [$\{^{\text{inay}}_{\text{in}}\}$ Caashi ninka buugga siisay]
Ali F thinks that Asha man-the book-the gave
'Ali thinks that Asha gave the book the the man.'

(132) buugga [$\{^{\text{uu}}_{\emptyset}\}$ Cali qabo [$\{^{\text{inay}}_{\text{in}}\}$ Caashi ninka
book-the Ali thinks that Ashi man-the
siisay]] wuu lumay
gave F lost
'The book which Ali thought that Asha gave to the man was lost.'

(133) buugga [$\{^{\text{uu}}_{*\emptyset}\}$ qabo Cali [$\{^{\text{inay}}_{*\text{in}}\}$ siisay Caashi
book-the thinks Ali that gave Asha
ninka]] wuu lumay
man-the F lost
same neaning

Notice that the upper clause as well as the lower clause abide by the Subject Clitic Rule. Thus in the above examples, if the verb <u>qabo</u> ('thinks') precedes the subject <u>Cali</u> the pronoun is obligatory as in (133) while if the subject precedes the verb, it is optional, as in (132).

4.5. Somali Main Clauses as Cleft Constructions

The new analysis of the indicator particle baa receives ample support from the structure of RCs and complement clauses. The Subject Clitic Rule which states the distribution of subject clitics in RCs and complement clauses, automatically accounts for the distribution of baa versus its conjugated forms, if every main clause is analyzed as a case of extraction of one NP out of its clause. I have referred to the structure of main clauses as 'Cleft Constructions'. This may not be the best term for the Somali phenomenon under consideration, but it is suggestive of its structure, as well as semantically appropriate. There are, however, important differences between Somali main clauses and, for example, English cleft constructions. The former is a predominant phenomenon in Somali while cleft constructions in English are highly marked and infrequent. Unlike English where cleft constractions contain a higher verb (be) there is no such higher verb in Somali to serve as the predicate of the focus NP.

I now turn to discuss some additional evidence for my analysis.

4.6. Evidence from Subject-Verb Agreement

An examination of the facts of subject-verb agreement in different types of sentences shows that they are consistent with my analysis.[10] Verbs in Somali may be conjugated in two paradigms which are traditionally termed 'extensive' and 'restrictive'.[11]

In main clauses, when the subject is marked with baa, the verb follows the restrictive paradigm. Otherwise the extensive paradigm is used. This is exemplified in (134) through (137).

(134) a. dumarkii baa cuntadii kariyey (restrictive)
women-the F food-the cooked

b. cuntadii bay dumarku kariyeen (extensive)
food-the F women-the cooked
'The women cooked the food.'

(135) a. dumarkii baa kariyey cuntadii (restrictive)
woman-the F cooked food-the

b. dumarkii way kariyeen cuntadii (extensive)
woman-the F cooked food-the
'The women cooked the food.'

(136) a. nagihii baa dilay inankii (restrictive)
woman-the F hit boy-the

b. naagihii way dileen inankii (extensive)
woman-the F hit boy-the
'The women hit the boy.'

(137) a. naagihii baa arkay Cali (restrictive)
women-the F saw Ali

b. naagihii way arkeen Cali (extensive)
women-the F saw Ali
'The women saw Ali.'

The restrictive paradigm is also used in subject relative clauses, whereas in non-subject RCs the extensive paradigm is used. Notice the difference in the lower verb between (138) and (140) on the one hand versus (139) and (141) on the other.

(138) naagihii [cuntada kariyey] way qosleen (restrictive)
women-the food-the cooked F laughed
'The women who cooked the food laughed.'

(139) cuntadii [ay naaguhu kariyeen] (extensive)
food-the 3 f.pl. women-the cookd
way wanaagsanayd
F good
'The food which the women cooked was good.'

(140) naagihii [Cali jacala] waa walalahay (restrictive)
women-the Ali loved F sisters-my
'The women who loved Ali are my sisters.'

(141) ninka [ay naaguhu jacalayeen] (extensive)
man-the 3 f.pl. women-the loved
waa Cali
F Ali
'The man whom the women loved is Ali.'

These differences in verb agreement are accounted for by the generalzation that the restrictive paradigm is used only in subjectless clauses. Since according to the analysis proposed here a sentence in which the subject is marked with baa is in fact a construction consisting of an NP followed by a subjectless clause (which has the same structure as a subject RC) the verb in this clause follows the restrictive paradigm. The restrictive paradigm is also used in subject RCs since they are subjectless. The extensive paradigm on the other hand is used in all clauses which contain a subject, whether nominal or pronominal, including subject clitics. Hence it is used in main clauses where a non-subject RCs is marked with baa. The extensive paradigm is also used in non-subjct RCs and in subordinate in clauses. The latter always follow the extensive paradigm since they must contain a subject (see Section 5.).

Subject-verb agreement in Somli provides additional support for my analysis. The distribution of extensive versus restrictive forms of verbs is explained by a simple and general principle.

Although subject-verb agreement facts are consistent with both A&P's analysis and the analysis proposed here (see Note 10), the two analyses have different consequences with regards to subject-verb agreement. According to

A&P's analysis the paradigm of subject-verb agreement is determined in an underlying structure, prior to the application of transformational rules of movement and deletion. This is so because what determines which verb paradigm is used is whether the subject or another NP is marked by baa in the underlying structure. According to the analysis proposed here, on the other hand, subject-verb agreement is sensitive to surface structure, subsequent to the application of rules such as Focus (Cleft) and Relativization.

The analysis proposed here offers a simple explanation for the distribution of the extensive versus the restrictive verb paradigms. The restrictive paradigm exhibits limited agreement with the subject and hence verbs of this paradigm occur in clauses which lack a subject. The extensive paradigm, on the other hand, which exhibits full agreement with the subject is used in clauses which contain a subject.

4.7. Evidence from Impersonal Sentences

Another case which is automatically accounted for by the analysis proposed here is that of impersonal ('passive') sentences.

Remember that only the unconjugated form baa may occur in impersonal sentences. The impersonal pronoun la does not count as a subject for the Subject Clitic Rule. Thus after an NP is extracted from the clause and focused, the remaining clause is subjectless and the subject clitic may not occur in it. This explains why only baa and not any of its conjugated forms is possible.

(142) Cali {baa / *buu} la dilay
Ali F Imp hit
'Ali was hit.'

For the same reason, when an NP is relativezed out of an impersonal clause, the remaining clause does not contain a subject and thus the subject clitic may not occur. Compare (143) with the ungrammatical (144).

(143) ninkii [la tumay] wuu orday
man-the Imp beat F ran
'The man who was beaten, ran.'

(144) *ninkii [uu la tumay] wuu orday

As expected, only the restrictive form of verbs can occur in impersonal clauses.

4.8. Evidence from Case Marking[12]

The suffixes which serve as markers of definitness in Somali seem to have several other functions: They mark a noun as close or remote in time and space and they also function as demonstratives. The same suffixes are

also relevant to the grammatical function of the noun they mark. The three suffixes which will be discussed here are -kii, -ka, and -ku. (These have corresponding feminine variants -tii, -ta, and -tu.) Generally, -ku is associated with the subject, -ka is assiciated with a non-subject, and -kii may be associated with either.

(145) naagtu way aragtay ninka
{ naagtii } { ninkii }
*naagta *ninku
woman-the F saw (f) man-the
'The woman saw the man.'

This generalization does not hold in the following cases: When the subject of the sentence is marked with baa or when it is modified by an adjective or a RC, the subject can be suffixed with -ka or -kii but not with the subject Case marker -ku.

(146) naagta baa qortay warqada[13]
{ naagtii }
*naagtu
woman-the F wrote letter-the
'The woman wrote the letter.'

(147) naagta [aan arkay] waa Caasha
{ naagtii }
*naagtu
woman-the 1 sg. saw F Asha
'The woman I saw was Asha.'

(148) a. naagta wanaagsaan way qortay warqada
b. naagtii wanaagsanayd
c. *naagtu {wanaagsaan / wanaagsanayd}
woman-the good F wrote letter-the
'The good woman wrote the letter.'[14]

These facts can be accouted for within the analysis proposed here. If the suffix -ku (or -tu) is associated with subjecthood, my analysis explains why NPs which are marked with baa cannot be suffixed with -ku. According to this analysis the NP which is marked with baa is extracted out of its clause and thereby ceases to be the subject of the clause.

The case of nouns which are modified by a RC or an adjective is a little more complicated than that. A possible explanation for why such nouns cannot be marked with the subject Case -ku is that only subjects of clauses can receive the subject Case. A noun which is modified by a RC or an adjective is not by itself the subject of the clause but rather only part of the subject, the subject being the whole NP (either NP [RC] or NP + Adj).[15]

However, the point to be emphasized here is that the proposed analysis provides a reasonable explanation for the exceptional behavior of subjects

which are marked with baa. This explanation provides additional support for the analysis proposed here.

5. SUBJECTLESS COMPLEMENT CLAUSES AND RELATED PROBLEMS

In this section I discuss some problems with the analysis proposed in this paper, and outline a general approach towards a solution to these problems.

5.1. The Nature of the Subject Clitic Rule

We saw that the Subject Clitic Rule determines the presence and distribution of subject clitics in Somali clauses. An examination of this rule raises several questions: First, it is not clear what kind of rule the Subject Clitic Rule is nor where in the grammar it applies. There are at least three possibilities: a) It might be a surface filter. In this case subject clitics would be freely generated and the filter would rule out ungrammatical sentences. However, it is impossible to formalize all four parts of the rule as either a negative or a positive filter (see Livnat (1980b) for a discusstion of this problem). b) It might be a rule which inserts subject clitics in the appropriate places. In this case, subject clitics would not be base generated at all. c) Subject clitics might be base generated in every clause, and the Subject Clitic Rule might be a deletion rule which deletes the clitics in the appropriate places. Further research is needed before this question can be answered.

A second question is: is it really one rule or several different rules which were (mistakenly) grouped together? The rule covers four different environments. In some cases a subject clitic is obligatory, in some cases it is optional, and yet in other cases it is obligatorily absent.

If subject clitics are viewed as agreement phenomenon, it is reasonable that they would not occur in subjectless clauses because they have nothing to agree with. But why should the relative order of the subject and the verb, or the fact that the subject is a pronoun, affect the obligatoriness of subject clitics?

An examination of apparent exceptions to the rule raises more questions about it.

5.2. The Problem with Subjectless Complement Clauses

There is one class of cases where subordinate clauses which are introduced by the complementizer in differ from other clauses. When such clauses contain no subject as a result of either movement or deletion, a subject clitic is obligatory. Remember that a subject clitic may not occur in a main or relative clause which contains no subject. The following sentences are examples of subordinate in clauses which have no subject as a result of Relativization (149)-(150), Focus Extraction (151)-(152), and Equi (or Pronominalization) (153)-(154). The subject of the complement clause in

(155) has been moved across the complementizer. I leave open the question whether it is still within the lower clause (as is suggested by the suffix -ku) or has been raised to the upper clause.

(149) naagta [{uu / Ø} Cali qabo [{inay / *in} ninka
woman-the 3 m.sg. Ali thinks that-3 f.sg. man-the
buugga siisay]] waa Amina
book-the gave F Amina
'The woman that Ali thinks that gave the book to the man is Amina.'

(150) nimankii [{uu / Ø} Cali rumaysnaa [{inay / *in} tageen]]
men-the 3 m.sg. Ali beleves that-3 pl. left
wali way joogaan
here F are
'The men that Ali believes left are still here.'

(151) ninkii baan rumaystay [{inuu / *in} tegey]
man-the F believe that-3 m.sg. left
'I believe that the man left.'

(152) nimankii buu Cali rumaysaanyahay [{inay / *in} tageen]
men-the F Ali believed that-3 pl. left
'Ali believed that the men left.'

(153) Cali baa rabay [{inuu / *in} cuno]
Ali F wanted that-3 m.sg. eat
'Ali wanted to eat.'

(154) nimankii baa raba [{inay / *in} tageen]
men-the F want that-3 pl. go
'The men want to go.'

(155) Cali wuu rumaysaanyahay nimanku {inay / *in} tageen
Ali F thought men-the that-3 pl. left
'Ali thought that the men left.'

But, example (156) shows that the subject clitic may not occur in subordinate in clause which is inherently subjectless such as an impersonal clause.

(156) Amina qirtay [{in / *inay} la dilay nimanka]
Amina verified that (3 pl) Imp kill men-the
'Amina verified that the men were killed.'

This difference between the behavior of subordinat in clauses and other clauses with regards to the presence of subject clitics has to be somehow accounted for. It should be noted that this is also evidence against A&P's claim that all subordinate clauses in Somali are in fact RCs. This claim makes the incorrect prediction that the two types of clauses would behave in a completely parallel fashion.

If the Subject Clitic Rule is indeed a rule, it has to apply after such rules as Relativization and Focus Extraction because it is the output of these rules which is the domain of the Subject Clitic Rule. However, in cases of subjectless in clauses if this is the order of application, the original subject of the complement clause is no longer available when the Subjct Clitic Rule applies and thus this rule cannot account for the obligatory clitic which agrees with the original subject. Hence we are faced with a rule ordering clash.

One way to account for the lack of parallelism in Somali between complement clauses on the one hand and RC and main clauses on the other is to postulate a constraint which states that no subject may be deleted or moved out of a subordinat in clause unless a subject clitic agreeing with the subjct, occurs in the clause. This is a constraint on the Subject Clitic Rule.

Similar phenomena can be found in other languages. For example, in English, a subject cannot be relativized out of a complemment clause which is introduced by the complementizer that.

(157) *This is the man that John said that saw Mary.

Notice that the sentence becomes grammatical if that is not present.

(158) This is the man that John said Ø saw Mary.

The option of deleting the complementizer is not available in Somali, thus (159) is ungrammatical.

(159) *Cali wuxuu rumaysaanyahay [{ay / Ø} nimankii tageen]
Ali F thought (3 pl) men-the left
'Ali thought the men left.'

Just like in Somali, an object can be freely relativized out of a clause with the complementizer that.

(160) This is the man that John said that Mary saw.

(161) buugga [uu Cali qabo [{inay / in} Caashi
book-the 3 m.sg. Ali thinks that(3 f.sg.) Asha
siisay ninka]] wuu lumay
gave man-the F lost
'The book that Ali thinks Asha gave the man was lost.'

This phenomenon has been referred to in English as "that trace" (Chomsky and Lasnik (1977)). A filter rules out the sequence that and trace: *[that [NP e]]. This filter rules out ungrammatical sentences like (157).

Since subjectless in clauses are only one of several cases where a subject clitic is obligatory, one might look for a more general solution than an ad hoc constraint for this particular case. In the next subsection I discuss one additional case where a subject clitic is obligatory.

5.3. Non-Initial Focus

It is possible in Somali to focus on an NP by marking it with baa even if this NP is not in sentence initial position.

(162) muuskii Cali baa cunaya
banana Ali F eating
'Ali is eating the banana.'

(163) Cali muus buu cunay
Ali banana F ate
'Ali ate a banana.'

The fact that sentences such as (162), (163) are possible presents a problem for the analysis proposed here. Since the focused NP is not linearly out of its clause, the question arises as to what the domain of the Subject Clitic Rule is in these cases. Furthermore, if a non-subject NP is focused and occurs after the subject, the conjugated form of the indicator particle is obligatory as in (164) and (165), while it is optional if the focused NP occurs sentence initially (as in (166)).

(164) nimankii naagtii {bay / *baa} arkeen
men-the woman-the F saw
'The men saw the woman.'

(165) naagtii nimankii {bay / *baa} aragtay
woman-the men-the F saw
'The woman saw the men.'

(166) fuudkii {baa / bay} nimankii cabeen
soup-the F men-the drank
'The men drank the soup.'

The difference is schematically illustrated in (167) below.

(167) The Difference between Initial and Non-Initial Focus

O	{baa / buu}	S	V
S	O	{buu / *baa}	V

One possibility to accout for sentences like (164), (165) is to claim that Focus Extraction always involves fronting the NP to sentence initial position (in addition to marking it with baa). At a later stage a scrambling rule changes the order of constituents in the sentence, resulting in the situation in (164) and (165). The problem is that this scrambling rule has the effect of changing the distribution of subject clitics. Hence, an additional condition has to be added to the Subject Clitic Rule, stating that if the subject is moved over an NP marked with baa, a subject clitic is obligatory.

5.4. VS Order and the Subject Clitic Rule

I mentioned in the beginning ot this section that the part of the Subject Clitic Rule which refers to the relative order of the subject and the verb is sonewhat suspecious. It is not obvious why a subject clitic is optional in a SV order but obligatory in a VS order. Since the basic unmarked word order in Somali is probably SOV, it is conceivable that in cases where the object is focused, VS order is the result of a late movement rule which moves the subject rightward across the verb. It might be possible that the fact that a subject clitic is obligatory in a VS order should not be accounted for by the Subject Clitic Rule but rather be a part of a general condition on moving the subject across certain elements in the sentence.

If we look at the two "exceptions" to the Subject Clitic Rule we see that they both involve movement of the subject. In one case a subject clitic must be left behind if the subject moves over a complementizer, in the other a subject clitic must be left if the subject moves over a focused NP. If the basic word order in Somali is indeed SOV, it seems that movement of the subject over the verb has the same effect. It seems then that movement of the subject in Somali is subject to a special constraint. If the subject is moved over certain elements in the sentence, a subject clitic which agrees with it must be left behind. These elements are: the verb, the complementizer in and the indicator baa. These elements do not seem to form a natural group. At the moment I have no explanation as to why they group together in the way they do.

If this approach is adopted, the Suject Clitic Rule would only have three parts. It would state that: a) the subject clitic may not occur in a subjectless clause; b) it must occur if the subject is a pronoun; c) it is optional otherwise. Subsequent movement of the subject over a complementizer, baa, or a verb, results in leaving behind an obligatory subject clitic. One consequence of such an approach is that the subject

clitic is both an agreement feature and a resumptive pronoun or a subject "trace".

In this section I have only outlined some of the problems which arise in connection with the Subject Clitic Rule, and some possible directions towards a solution.

6. CONCLUSION

In this paper I have proposed an analysis of sentences containing the indicator particle baa. Such sentences are an instance of the central and predominant phenomenon of Focus in the syntax of Somali. Although I have claimed that focus in Somali is a main clause phenomenon, my proposal is crucially dependent on a unified analysis of other types of sentences, specifically relative and complement clauses.

I have proposed that every main clause should be analysed as a case of extraction of one NP out of its clause and marking it with the indicator particle baa which is a focus marker. I have shown that if such an analysis is adopted, the presence and distribution of subject clitics in main clauses is parallel to their distribution in RCs and complement clauses. I have proposed that this distribution is determined by a general rule--the Subject Clitic Rule.

I have brought evidence for the proposed analysis based on the examination of RCs, complement clauses, impersonal clauses, subject-verb agreement, and Case marking, and argued against the analysis proposed by Antinucci and Puglielli.

The major advantages of this analysis over previously suggested proposals are the following:

a. The indicator particle has (prior to phonological rules) one invariable form regardless of the grammatical function of the NP which it focuses.

b. The different forms of the indicator particle are analyzed and their distribution accounted for.

c. The presence and distribution of subject clitics in relative and complement clauses are accounted for.

d. The distribution of suffixes which function as Case markers is accouted for.

e. The use of the two verb paradigms, extensive vs. restrictive, is explained.

There are, however, some yet unsolved problems. These have mainly to do with apparent exceptions to the Subject Clitic Rule discussed in Section 5., and with the exact formulation of the Subject Clitic Rule.

In this paper I have restricted the discussion to sentences with the indicator particle baa which focuses the NP it follows. However, other focus markers such as waa and ayaa, and structures with waxaa are also very common in Somali. Future research will hopefully be able to determine whether these can be incorporated in the analysis proposed here. The discussion was also restricted to affirmative indicative sentences. Much insight into the phenomenon of Focus can be gained form the examination of other types of sentences such as negative, conditional, and interrogative. The investigaton of these and other phenonmena is left for future research.

NOTES

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[1]I adopt here the term "indicator particle" which is traditionally used in the literature on Somali. As was pointed out by Antinucci (1980), note 1) other terms, such as "focus markers" might be more appropriate.

[2]In the English gloss F stands for the indicator particle. At this point, the reader may ignore the various phonological shapes of the particle. The transcription basically follows the official orthography of Somalia. A long vowel is represented by two consecutive vowels. Notice that c stands for the voiced pharyngeal fricative [ʕ], x stands for the voiceless pharyngeal fricative [ħ], sh stands for the palatal fricative [ʃ], j stands for the voiceless palatal affricate [ʧ], kh stands for the voiceless velar fricative [x], and dh stands for the emphatic alveolar stop [ɖ].

[3]When the indicator particle baa (or one of its conjugated forms) follows a word ending in a short non-high vowel, a contracted form is used in which the b disapears as well as the short vowel, e.g.:

ninka baa ==> ninkaa
biyo buu ==> biyuu

but:

Peru buu
ninkii baa

Thus in (49) adigaa is a combination of adiga ('you') and the indicator particle baa. This phonological rule equally affects proper names, i.e.:

Caasha baa ==> Caashaa

For the sake of clarity, I avoid the use of such cases in this paper as much as possible.

[4]In their paper Antinucci and Puglielle incorrectly make a distinction between third person subjects on the one hand and first and second person subjects on the other. They claim that when the subject is first or second person, the clitic (in their terminology: the short form of the subject pronoun) must accompany baa, but not when the subject is third person. Sentence (i) shows that this is incorrect.

(i) muuskii {buu / *baa} isagu cunay
banana-the F he ate
'He ate the banana.'

The correct distinction is between nominal subjects on the one hand and pronominal subjects (regardless of the person) on the other. The conjugated form of baa is obligatory if the subject is a pronoun and where it is not the focus. The source of Antinucci and Puglielli's mistake is probably their failure to examine sentences with pronominal third person subjects. Antinucci makes the same mistake in his subsequent paper (Antinucci, 1980).

[5]It is possible in Somali to relativize NPs of all the categories in the Keenan and Comrie hierarchy:

(i) ninkii [naagta arkay] wuu qoslay
man-the woman-the saw F laughed
'The man who saw the woman laughed.'

(ii) cuntadii [ay naagtu u karisay ninka] way kulalayd
food-the 3 f.sg. woman-the for cooked man-thei F hot
'The food which the woman cooked for the man was hot.'

(iii) inankii [uu ninku buugga siiyey] wuu qoslay
boy-the 3 m.sg. man-the book-the gave F laughed
'The boy to whom the man gave the book, laughed.'

(iv) ninkii [ay naagtu u karisay cuntada] wuu qoslay
man-the 3 f.sg. woman-the for cooked food F laughed
'The man for whom the woman cooked the food.'

(v) magaalada [uu ku nolyahay Cali] way weyntahay
town-the 3 m.sg. in live Ali F big
'The town where Ali lives is big.'

(vi) miiska [uu Cali saaray buugga] wuu weynyahay
table-the 3 m.sg. Ali put book-the F big
'The table on which Ali put the book is big.'

(vii) mindida [uu Cali libaaxa ku dilay] way xiraysa
knife-the 3 m.sg. Ali lion-the with killed P sharp
'The knife with which Ali killed the lion was sharp.'

(viii) waxaan aqaan ninka [ay inantiisu qososhay]
P-I know man-the 3 f.sg. girl-his laughed
'I know the man whose daughter laughed.'

(ix) ninkii [dameerkiisa la xaday] waa Cali
man-the donkey-his Imp stole F Ali
'The man whose donkey was stolen, was Ali.'

(x) inanka [ay Caashi ka dertahay] wuu qosleya
boy-the 3 f.sg. Asha from taller F laughed
'The boy that Asha is taller than (him) is laughing.'

[6]Here again Antinucci and Puglielli make the same mistake as the one mentioned in note 4. They claim that the subject clitic (pronoun) is obligatory if the subject of the RC is first or second person but not if it is third person. Apparently they did not examine cases of RCs with a pronominal third person subject. The correct distinction is between nominal vs. pronominal subjects, when in the former case the subject clitic is optional (in an SV order) while in the latter it is obligatory, i.e.:

(i) buugga [{uu / Ø} {Cali / ninkii} naagta siiyey] wuu weynyahay
book-the Ali/man-the woman-the gave F big
'The book which Ali/the man gave the woman is big.'

(ii) buugga [{uu / *Ø} {isagu / Ø} naagta siiyey] wuu weynyahay
book-the he/Ø woman-the gave F big
'The book which he gave the woman is big.'

[7]In this paper I only argue against the analysis of complement clauses which are introduced by the complenentizer <u>in</u>, as relative clauses. A&P's analysis of adverbial clauses as relative clauses may be correct, and indeed in sentences such as (116) and (117) <u>goor</u> and <u>si</u> occur in their definite form <u>goorta</u> and <u>sida</u> respectively.

[8]Hetzron (1965) makes virtually the same suggestion with regards to sentences where the subject is marked by <u>baa</u>. He suggests that baa-phrases should be analysed as cleft sentences. However Hetzron claims that this analysis cannot be applied to buu-phrases, i.e. sentences where an NP other than the subject is marked for focus. Therefore Hetzron's analysis cannot acount in a unified way for both Somali sentences with the indicator particle <u>baa</u> and its various conjugated forms.

[9]The first part of the Subject Clitic Rule is true only of main clauses and RCs. The special case of complement clauses will be discussed in Section 5.

[10]Antinucci and Puglielli bring evidence to their analysis from subject-verb agreement. As I show below, these facts are also consistent with the analysis proposed here. Subject-verb agreement facts are then consistent with both analyses and cannot be said to confirm either one of them. However, I believe that the analysis proposed here offers a better,

less arbitrary explanation for the distribution of the different forms of verbs in Somali.

[11]The extensive paradigm shows a full pattern of agreement with the subject, while the restrictive paradigm shows a limited pattern of agreement. For a discusstion of the two verb paradigms see Andrzejewski (1956) and Hetzron (1965).

[12]The role and function of the suffixes discussed here are not well understood and more research has to be done before any definite conclusions can be drawn. Therefore, the following discussion should be regarded as tentative. I am indebted to Elizabeth Pearce for many observations and much of the data in this subsection.

[13]Since in (146) naagta ends with a short non-high vowel, it contracts with baa (see note 3.) and the sentence in the first option of (146) will be:

(i) naagtaa qortay warqada

[14]The adjective assumes a different inflection according to the suffix on the noun. This difference is beyond the scope of this paper.

[15]A similar proposal was made by Elizabeth Pearce.

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EMPTY CATEGORIES AND FOCUS IN BASQUE*

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In this paper, I provide an analysis of some pro-drop characteristics of Basque in terms of a structure where INFL, where present, governs both subject and object NP's. The same relationship that allows determination of subject Pro in pro-drop languages is extended to all arguments with which Basque verbs agree: ergative, absolutive and dative nominals. This analysis is made possible by considering Basque a non-configurational language, where there is no maximal projection of V including object NP's. The Focus parameter, for which some evidence is presented, entails the existence of a single bar projection of V incorporating V and the Focus position . The existence of $\bar{V}$ leaves subject and object arguments ungoverned, and makes possible the appearence of PRO in some tenseless clauses not only for subjects, as in English or Italian, but also for object NP's, without binding theory principles being violated. Leaving object NP's ungoverned created some problems with θ-role and Case assignment, which are assumed to occur under government from V. Some alternative mechanisms are considered.

0. INTRODUCTION

This paper examines in some detail some problems concerning the distribution of empty categories and the effects of Move-α in the grammar of Basque, a language which I claim can be characterized as having fixed in a rather particular combination some of the parameters of UG: the pro-drop parameter (Chomsky (1981), Chomsky (1982)), the non-configurationality parameter (originally proposed, in a different framework, in Hale (1980) and incorporated into the GB framework in Chomsky (1981)), and the Focus parameter (Horvath (1981)). The last two, in particular, affect the set of base-generated structures and, consequently, government relations in the syntactic tree. Non-configurationality entails a structure without the asymmetry of government (NP subject governed by INFL; NP object governed by V) that is usually assumed to characterize grammatical relations in configurational languages. I will claim that at D-structure both subject and object NP's are governed by INFL, where present. The Focus parameter, on the other hand, assumes the existence of a projection of V incorporating V and the Focus position. In this structure, the verb will be able to properly govern only traces appearing in Focus position, therefore potentially excluding Move-α to non-focused positions as ECP violations.

The paper concentrates on the identification of different occurrences of empty categories in this system, and the predictions that the presence or absence of (proper) governors (INFL for Pro, V for traces and none for PRO) make about their distribution. It is organized as follows: Section 1 examines the pro-drop properties of Basque and the distribution of Pro's in tensed clauses. In Section 2, I present some evidence for the existence of the Focus structural position. It will be claimed that wh-movement and

focus-movement take constituents to that position, allowing traces left by consequent applications of Move-α to be properly governed. Section 3 deals with tenseless structures, where subject and object NP's are not governed by INFL, in connection with the presence or absence of PRO's and Case-assignment. Section 4 explores some of the predictions of the system developed in previous sections. I will claim that some factually wrong predictions can be eliminated if it is assumed that Basque, and presumably all languages, do present a configurational structure NP-INFL-VP at LF. Finally, the LF representation of Focus is considered in Section 5.

1. PRO-DROP PARAMETER AND MISSING ARGUMENTS

Basque exhibits some of the properties that characterize pro-drop languages: missing subject, 'free inversion' and what is claimed to be a function of the latter property, namely, apparent violations of ECP that were treated in previous versions of EST as * [that t] violations. However, in the case of Basque, these characteristics represent only as aspect of more general phenomena. As for 'missing subjects', the relation between overt verb inflection and missing arguments that, in an intuitive way, makes possible the existence of empty subjects in pro-drop languages, extends in Basque to direct and indirect objects. Basque verbs agree with ergative, absolutive and dative arguments (E,A,D) in their clauses. Such agreement is obligatory, whether the argument is 'missing' or phonetically realized. Thus, the following paradigm is found:

(1) Ni-k nesk-ei aldizkari-ak eman d-izk-ie-t
I-E girl-D pl magazine-A pl give 3A-A pl-3D pl-1E sg
'I have given the magazines to the girls'

a.i	Ø	neskei	aldizkariak	eman dizkiet
ii	nik	Ø	aldizkariak	eman dizkiet
iii	nik	neskei	Ø	eman dizkiet
b.i	Ø	Ø	aldizkariak	eman dizkiet
ii	nik	Ø	Ø	eman dizkiet
iii	Ø	neskei	Ø	eman dizkiet
c.	Ø	Ø	Ø	eman dizkiet

Pronouns may appear in any of the NP position involved, usually under emphasis, triggering agreement on the verb like the arguments in (1).

As for 'free inversion', the property is not relevant in Basque, where we find free permutation of maximal projections of lexical categories. Virtually all possible permutations of the arguments in (1) produce well-formed sentences in Basque, with some restrictions examined in Section 2 concerning the placement of focused elements. In terms of frequency, SOV is the most common order[1], and embedded clauses are usually verb final. Also, Basque shows many of the typological characteristics of SOV languages: pre-head relative clauses, postpositions, possessor-possessed order, etc. However, the fact remains that main clauses and some embedded clauses need not be verb final. Whatever the status of verb restrictions, it should be noticed that there are no restrictions on relative order of subjects and objects, even in embedded clauses.

As pointed out in Hale (1980), free word order phenomena are often associated with the non-configurational character of the grammars of some languages. I will assume that Basque is only partially configurational (there is a strict ordering of constituents within the X^{max} levels, but not at the S level). Thus, at least up to S-structure, there will be no VP node in the structure of Basque, but, rather, a 'flat' structure without direct configurational basis for the grammatical functions 'subject' and 'object'. Following the proposal [2] in Azkarate et al. (1981), I will assume the following base rule for Basque:

(2) S : X^{n*} INFL $\overline{V}$

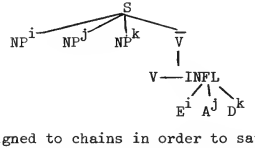
S is expanded as a set of unordered maximal projections of lexical categories, including $\overline{V}$ (which will be motivated later) and INFL. (2) generates initial structures of the following form:

(3)

In this section, I will give an analysis of pro-drop characteristics in Basque on the basis of two formulations of that parameter described in the literature: Chomsky (1981) and Chomsky (1982). In the first formulation, the application of rule R in the syntax of a language like Italian would lower INFL to a position within VP, leaving the subject ungoverned, hence allowing a PRO subject in a tensed structure. Thus, missing arguments would actually be phonologically unrealized anaphoric pronominals (PRO's). In (1), however, it is not only the subject that may be PRO, but also direct and indirect objects. This can be analyzed as a direct result of the structures on which rule R applies. Thus, in a configurational language, object NP's would always be governed by V and PRO would never be possible. On the other hand, the same relation that holds between subject NP and INFL at D-structure in configurational languages, holds between INFL and subject and object NP's in (3). Application of R in (3) would leave the three arguments ungoverned, making PRO available for all three.

One initial problem for this analysis is that, as shown in (1), it is not the case that either all three arguments are phonologically realized or PRO's, but, rather, any combination is possible. Thus, we must make sure that the NP's, although ungoverned (to allow for PRO's) can receive Case (to allow for lexical NP's). This follows automatically if we assume that at D-structure AGR (E,A,D) is co-superscripted with any of the NP's it governs. Each NP will be coindexed with one of the available inflectional elements in AGR. Then, after application of R we would have a configuration like (4):

(4)



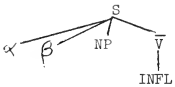
Case can be assigned to chains in order to satisfy the Case-filter and allow NP's with phonological matrix. AGR assigns Case to co-superscripted

NP's belonging to a chain. The relevant NP and its corresponding AGR feature form a chain since: a) the head is an NP; b) the NP locally A-BINDS the agreement features in INFL (co-superscripting under government has taken place at D-structure), and c) the agreement features are A-free: they are not co-subscripted with anything. Thus, a chain is formed where lexical NP's can get Case. Let us examine the status of empty categories in a case like (1 bi), repeated here:

(1 b i) Aldizkariak eman dizkiet
(I) have given the magazines (to them)

Here, the dative and ergative agreement features are not coindexed with any lexical NP and only the absolutive NP is phonetically realized. After R applies, its structure would be like (5):

(5)

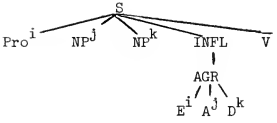


α and β are not variables, since they are not $\bar{A}$-bound: co-superscripting is not the relevant indexing for the binding theory, and since there is no element c-commanding them, they are X-free. Thus, they are PRO. Notice that in this system PRO can be Case-marked but still be ungoverned. Crucially, α and β are not variables; furthermore, pending a discussion on LF, the positions are not properly governed (not even governed), and ECP might be violated, were they any type of trace.

Apart from Case-marking, a second problem of this formulation of the pro-drop parameter phenomena in Basque is its inherent redundancy. Notice that there are two possible derivations for sentences in which no argument is PRO, but all are phonetically realized NP's, as in (1c). If R has not applied in the syntax, (1c) is the only possibility, since any PRO argument would be governed by V_i violating binding theory provisions. But the same sentence can be generated if R has applied in the syntax, leaving all positions ungoverned. Since Case can be assigned to chains, the three lexical NP's can be assigned Case, as they can in (1 a,b).

A third problem is related to the status of PRO as a representation for missing arguments. As noticed in Chomsky (1982), the empty category that appears in the relevant positions, although a pronoun, does not have the lack of referential independence that is a feature of anaphors. It is just an empty pronominal. Thus, if a fourth empty category, non-anaphoric pronominals, is accepted (Pro), a different account for the previous facts could be outlined. Pro would appear in positions governed at D-structure by INFL. Since it can be governed, unlike PRO, we don't need the R rule to allow empty pronominals in Basque. Pro's have to be 'locally determined' by AGR; the inflectional system of Basque would then be 'rich enough' to determine the content of Pro's in a tensed clause. Thus, instead of (3) and (4), we would have the following D-structure:

(6)



Case assignment for NP's would work as in non pro-drop languages, under government by INFL. Missing arguments are then interpreted as instances of Pro.

In Chomsky(1981), it is claimed that the set of data previously characterized as * [that t] violations in pro-drop languages could be analized as a function of the possibility of inversion. Pro-drop languages would allow subject NP's to be moved to a position within VP, as in Spanish:

(7) [e] INFL [$_{VP}$ [$_{VP}$ viene] Juan]

Since the empty category [e] in (7) is co-superscripted with INFL, it would not be an instance of trace, but rather Pro, and, hence, not subject to ECP. The inverted subject Juan is now in a governed position, and, if wh-moved, its trace would be properly governed by V. ECP would not be violated, accounting for apparent cases of * [that t] violations. In the structure we are positing for Basque, on the other hand, there is no VP within which the subject can be moved (remember that $\bar{V}$ contains the verb and the focus position). Since the base rule (2) accounts for most of the word order possibilities in Basque, a rule of inversion moving an NP to a place other than COMP would not be easy to motivate. Furthermore, if the LF representation is similar to (6), long wh-movement will produce ECP violations for any of the NP's co-superscripted with AGR, since INFL is not a proper governor. However, * [that t] violation phenomena are fully grammatical in Basque, as shown in the following sentences:

(8) i Nor esan duzu etorri-ko de-la bihar?
who-A say AUX come-fut AUX-that tomorrow
'Who have you said that will come tomorrow?'

ii Nor-k esan zizuten ekarri-ko zue-la auto-a?
who-E say AUX bring-fut AUX-that car-A
'Who did they tell you that would bring the car?'

(9) Nor esan du hil zute-la?
who-A say AUX kill AUX-that
'Who has he said that they killed?'

(10) Nor-i uste duzu eman-go diote-la sari-a?
who-D think AUX give-fut AUX-that prize-A
'To whom do you think that they will give the prize?'

(9) and (10) would not constitute ECP violations in configurational languages (or in Basque, if VP exists at LF, as will be assumed later), but they would if the structure were at LF as in (6). The sentences in (8), one with wh-moved absolutive subject (8i), and the other with ergative subject (8ii), would be ECP violations in both systems. In order to allow

for the same possibilities of long wh-movement that the rule of inversion makes possible in pro-drop languages, the only position in (6) where the trace of wh-movement would be properly governed would be the Focus position within $\bar{V}$. In the next section, I will try to show that in fact wh-movement in Basque is to this Focus position and that the wh-words in (8-10) have been moved from this Focus position, rather than from their D-structure one. Thus, wh-movement would have the same effect for empty categories in Basque as inversion to VP in Romance languages, accounting for the grammaticality of sentences (8-10).

2. MOVE-α AND THE FOCUS STRUCTURAL POSITION

In both English and Romance languages, the structural position COMP functions as the node under which complementizers are inserted and as the landing site for wh-phrases. Both are independent in Basque. Complementizers (like -la in the previous sentences) are attached to the inflection bearing element, usually the auxiliary. As for wh-movement, since relativization in Basque does not involve relative particles, the only clue is provided by wh-questions. The landing site for wh-words is the pre-verbal position, inmediately preceding the verb, as in (8)(9) and (10).[3] Notice, however, that such position is not sentence or clause initial, but, rather, only pre-verbal, as shown in the following examples:

(11) i Nor-k eman dizkie aldizkari-ak nesk-ei?
who-E give AUX magazine-A pl girl-D pl
'Who has given the magazines to the girls?'

ii Aldizkariak neskei nork eman dizkie?
iii Aldizkariak nork eman dizkie neskei?
iv Neskei nork eman dizkie aldizkariak?
v Neskei aldizkariak nork eman dizkie?

Movement of a wh-phrase to a non pre-verbal position will result in ungrammaticality, as seen in (12):

(12) i*Nork aldizkariak eman dizkie neskei?
ii*Nork neskei aldizkariak eman dizkie?
iii*Aldizkariak nork neskei eman dizkie?
iv ...

The same restriction is found in subordinate indirect questions: the wh-word must occur in pre-verbal position. Verb-final word order is preferred, so that any remaining argument will occur before the wh-word/verb unit in such cases:

(13) Bihar nor etorri-ko den galdetu dit
tomorrow who-A come-fut AUX ask AUX
'He has asked me who will come tomorrow'

(14) Aldizkari-ak nesk-ei nor-k eman dizkien galdetu dit
magazine-A girl-D pl who-E give AUX ask AUX
'He has asked me who has given the magazines to the girls'

(15) i *Nor bihar etorriko den galdetu dit
ii *Nork aldizkariak neskei eman dizkien galdetu dit

It seems clear, therefore, that the landing site for wh-words is defined in terms of the verb, rather than in terms of S as in other languages. However, this pre-verbal position has another function in Basque: if there is a focused element in the clause, it must appear in that position. This does not imply that there must be a focus in every Basque sentence, but only that whenever there is one, it will appear in that site. Thus, contrastive stress and focus marking affixes like -xe must occur in constituents that occupy that position. Thus, for all possible permutations of a given sentence, the pre-verbal argument may be considered (though it need not be so) focus of the clause. When the verb itself is focused, a dummy verb egin 'to do' is inserted, and the main verb is placed in the pre-verbal position inmediately preceding egin. Thus, in (16i) aldizkariak 'magazines' is the focus, whereas in (16ii) it is the verb that occupies the focus position:

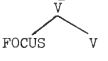
(16) i Nik neskei aldizkariak eman dizkiet
ii Nik neskei aldizkariak eman egin dizkiet

The same distribution is observed in embedded clauses.

There are at least two types of hypotheses to account for these data. Focus might be considered in Basque a structural position made available by the base rules if a parameter of UG has been so fixed. Alternatively, one could interpret focus-related phenomena as part of PF stylistic rules or constraints, or LF interpretation rules. Whether PF or LF facts, this alternative would deny the existence of a Focus node.

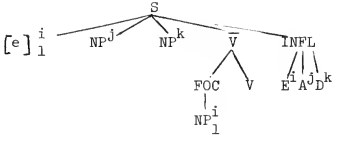
Assuming Focus to be a structural position, it would be represented within a projection of V, as in (17):

(17)



Like COMP, this focus position is a $\bar{\theta}$-position, and therefore,arguments may move to it without violating the θ-criterion. Unlike COMP, however, it does not c-command the remaining elements in S. This has some consequences for the identification of the empty category left by the application of Move- . After any of the NP's in the basic structure (6), whether wh-word or focused element, moves to the empty position by Move-α , we find a configuration like the following:

(18)



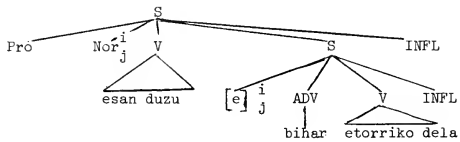
Following the functional criterion for the identification of the gap in (18), [e] is not a variable, since it is not A-bound: the co-superscripted NP does not c-command it, and therefore cannot bind it. It is in fact an empty pronominal, Pro, since it is governed by INFL. As such, it is not

subject to ECP, and there is no violation involved at least in questions within one clause. The situation is similar to that of postposed subjects in Romance.

There is some evidence that suggests that Focus is indeed a structural position, rather than a PF or LF phenomenon . The evidence involves cases of long wh-movement, as in (8-10). Long movement between adjacent clauses would be allowed in both analyses. If there is no Focus position, Move-α would place the wh-element in its S-structure position moving it directly from its Dstructure position. There would be no subjacency violation, since only one bounding node is crossed. Thus, under this analysis, the structure of (8i), repeated here, would be (19):

(8i) Nor esan duzu etorri-ko de-la bihar?
who-A say AUX come-fut AUX-that tomorrow
'Who have you said that will come tomorrow?'

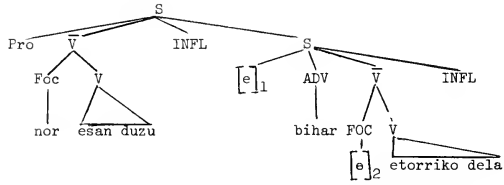
(19)



The occurrence of the empty category in (19) might be identified as Pro [4], since it is governed by INFL. It will not be subject to ECP and the sentence is predicted to be grammatical.

In the alternative analysis, the Focus position, as pointed out in Azkarate et al. (1981), is similar to the COMP position in that movement would operate from Focus to Focus. Thus, Focus would also constitute an escape hatch in Basque. (8i) would have the following S-structure:

(20)



Nor 'who' is first moved to the Foc position in the embedded clause. $[e]_1$ is Pro, again, because it is governed by INFL. Focus to Focus movement will leave a trace in the embedded Focus position.[5] This trace is properly governed: c-command can go 'up' to the V^n projection, and the Focus position will thus always be governed by V, hence properly governed.[6]

The predictions made by the two analyses are different, however, in cases where long-movement does not operate between adjacent clauses. If movement is direct, as in (19), rather than by cyclical Focus to Focus

application of Move-α , it is predicted in the PF-LF analyses that movement of a wh-word will occur only between adjacent cycles, since movement to a position two cycles up would involve a violation of subjacency, under the natural assumption that S is a bounding node in Basque. However, we find sentences like (21), where several intervening clauses separate the S-structure position of the wh-word from its D-structure position:

(21) i Nor esan duzu [entzun due-la Miren-ek [joan-go de-la Paris-a?
who-A say AUX hear AUX Mary-E go-fut AUX Paris-to
'Who have you said that Mary heard (that) will go to Paris?'

ii Nor-i uste duzu [pentsatzen due-la Peru-k [eman-go diote-la sari-a?
who-D think AUX believe AUX Peter give-fut AUX prize-A
'To whom do you think that Peter believes that they will give the prize?'

Under the Focus to Focus hypothesis, on the other hand, each subsequent application of Move-α would involve one single bounding node S; hence there will be no subjacency violation, and (21 i,ii) are predicted to be grammatical.

The 'direct movement' hypothesis, or any other hypothesis that does not involve cyclic Focus-to-Focus movement in the syntax, makes another different prediction from the alternative involving a structural position. The latter predicts that, if there can be no doubly filled Focus position, there can be no intervening focused elements between the original D-structure position of the moved element and its S-structure landing site clause: there will be a trace left in the focus position after the cyclic application of Move-α from one Focus to another. As seen in (21) above and (22) intervening clauses cannot have focused constituents. Not only can't they have any pre-verbal argument as focus, but, moreover, this is reinforced by what seems a PF constraint: there can be no argument preceding the verb:

(22) i*Nor uste duzu [Jonek pentsatzen due-la [etorriko de-la?
who-A think AUX John believe AUX come-fut AUX
'Who do you think that John believes that will come tomorrow?'

ii Nor-i uste duzu zu-k [pentsatzen due-la Miren-ek
who-D think AUX you-E believe AUX Mary-E

[entzun due-la Peru-k [eman-go diote-la sari-a?
hear AUX Peter-E give-fut AUX prize-A
'To whom do you think that Mary believes that Peter has heard that they will give the prize?'

It is not clear how this effect of wh-movement in intervening clauses would be captured in any natural, non-stipulative way in other analyses.

Notice that, since there is no restriction on Movement to Focus to wh-words, the focus position can be an escape hatch for focused [-wh] words as well. Thus, we find sentences like (23), corresponding to (21 ii), where what has been moved is a focused element; the same can be observed in (24):

(23) Miren-i uste dut pentsatzen duela Peruk emango diotela saria
Mary-to
'It is to Mary that I think Peter believes they will give the prize'

(24) Garaikoetxea-k uste dut esan du-ela hori
Garaikoetxea-E think AUX say AUX that
'It is Garaikoetxea that I think has said that'

Thus, we can conclude that the base rules of Basque generate a structural position governed by the verb that serves as an escape hatch for some elements. It is then fulfilling some of the functions of COMP. We have expressed as $\bar{V}$ this categorial node including Focus and verb as a unit.

3. CASE MARKING IN TENSELESS CLAUSES

We have been assuming that the distribution of Pro's and lexical NP's in tensed clauses can be accounted for if Case-assignment is based on co-superscripting relations between the main arguments governed by INFL and the agreement elements in AGR. Case-assignment under government by INFL inmediately runs into problems in the case of tenseless clauses. Most such clauses in Basque are nominalizations. The nominalizing suffix is -te, which can take the Case endings according to the function of the tenseless clause in the matrix one.:

(25) i Peru-k egi-a horren garbi esa-te-a ez zen ona
Pete-E truth-A so clean say-NOM-A was good
'It was not good for Peter tosay the truth so clearly'

ii Peru-k Miren-i aldizkari-ak eskura-tze-ak harritu ninduen
Peter-E Mary-D magazine-A pl hand-NOM-E shock AUX
'It shocked me for Peter to have handed the magazine over to Mary'

iii Peru-k Miren-i aldizkari-ak eskura-tze-ari ez deritzot ongi
hand-NOM-D neg seem well
'I don't approve of Peter's handing over the magazine to Mary'

There is no overt inflection in the preceding nominalized clauses. However, these expressions are similar to tensed clauses in several key aspects:
a) Case-marking. Absolutive, ergative and dative arguments can occur in nominalized expressions.
b) Focus. Nominalized clauses are generally verb-final; they show, however, the same Focus properties of tensed clauses: wh-words and focused constituents must appear before the nominalized verb:

(26) i Peru-k egi-a horren garbi esatea ez zen ona (=(25i))
'It was Peter's saying the truth so clearly that wasn't good'

ii Peru-k egi-a nola esatea ez zen ona?
how

iii*Peru-k nola egia esatea ez zen ona?

In (26ii), the wh-word nola 'how' is placed in the pre-verbal position. In (26iii), it is separated from the verb by another non-focused argument, and the sentence is ungrammatical.
c) Missing arguments. Phonologically empty NP's may occur, mirroring the pattern in (1):

(27) Ama-k ez zuen gogoko ni-k nesk-ei aldizkari-ak ema-te-a
mother-E neg had pleasant I-E girl-D magazine-A give-NOM-A
'Mother did not like my giving the magazines to the girls'

a. i	Amak ez zuen gogoko	Ø	neskei	aldizkariak	ematea
ii		nik	Ø	aldizkariak	ematea
iii		nik	neskei	Ø	ematea
b. i		Ø	Ø	aldizkariak	ematea
ii		nik	Ø	Ø	ematea
iii		Ø	neskei	Ø	ematea
c.		Ø	Ø	Ø	ematea

The absence of inflection, however, makes (27) different from (1) in several respects. First, notice that eman 'to give' does not strictly subcategorize obligatorily for a dative argument in Basque, and it may occur with absolutive and ergative arguments only, as in

(28) Dendari-ak dohainik eman zituen janari-ak
employee-E free give AUX food-A
'The employee gave the food away'

Therefore, (27 a iii, b i, b ii) and (27 c) are not necessarily interpreted as including a missing dative argument. The interpretation of sentences like (27 a i), (27 b i) and (27 c), with missing subject, differs from the corresponding sentences in (1) in that the subject of the former is not understood to be an empty pronoun with specific reference, but rather as an element of arbitrary reference. There are also cases of controlled subjects. Thus, the verb ekin 'to focus on some activity' takes a dative complement, as shown in (29):

(29) Lana-ri ekin zion
work-D AUX
'He buckled down to work'

When the complement is a nominalized clause, the subject must be a subject-controlled PRO:

(30) i Txinoera ikas-te-ari ekin zion Jon-ek
Chinese learn-NOM-D AUX John-E
'John concentrated on learning Chinese'

ii*Ikasle-ek txinoera ikasteari ekin zion Jon-ek
student-E pl
'John concentrated for the students to learn Chinese'

In (30ii), the embedded subject ikasleek is different from the matrix subject Jonek 'John', and the sentence is ungrammatical. Notice that the ungrammaticality of (30ii) cannot be accounted for by the failure of a subject NP to receive Case in a tenseless clause, since, as shown above, Case-marked phonologically realized NP's are possible in nominalized expressions.

Thus, it seems that the arguments in nominalized expressions may be either R-expressions or PRO's (not Pro's): only PRO can be controlled and have arbitrary reference. This distribution of Pro and PRO is predicted in

our analysis: the only governor at D-structure is INFL, with its agreement features. In tenseless clauses there will be no governor, and PRO's are then possible since they will be ungoverned. The absence of Pro's is also a consequence of the absence of AGR: Pro's cannot be locally determined by AGR in tenseless clauses. Thus, missing subjects, for instance, are not interpreted as referential empty pronouns, but rather as anaphors, depending on external controllers for reference.

The distribution of PRO and Pro in these constructions also provides indirect evidence for the analysis positing a $\overline{V}$ constituent. If there is no Focus structural position, V will govern both subjects and object NP's in a non-configurational language like Basque, and PRO would not be possible. On the other hand, if $\overline{V}$ is posited, V will not govern anything, and PRO is predicted to ba available in these tenseless constructions, as is indeed the case.

However, although the absence of AGR in nominalized expressions accounts for the possibility of PRO, it creates problems for the Case-assigning mechanism outlined in Section 1. It seems clear that, since Case-assignment under government is not possible in these expressions, Case must be assigned or checked on the basis of the only element bearing Case-features in them, namely the verb. Thus, I will assume that in nominalized clauses, -te nominalizes the verb, which still retains its subcategorization features. Thus, as a verb, it can still define the focus position, while any other type of nominal cannot. Following Borer's (1981) suggestion, we will assume that associated with the phonological matrix of verbs, their lexical entry also contains a subcategorization frame specifying the Case-features and θ-roles of the complements it is subcategorized for. Given the non-configurationality of this level of Basque the head-complement relation is not accompanied by a government relation in the structure. However, following Borer, we still require that the Case-features in the verb be co-indexed with an argument in the clause. This coindexing expresses a relationship of government between the Case-feature or its realization, the clitic, and the complement. In a structure like the one in (6), the relationship between NP and Case-feature in the verb would be rather one of antecedent-anaphor. Thus, complements are c-commanding antecedents of the Case-features. Since in tensed clauses NP's must also be coindexed with AGR, we find chains of NP's (Case-marked in the lexicon), AGR (if present) and V. Case-checking would then refer to the Case specifications of the elements in each chain. A similar mechanism is independently needed to ensure that each verb takes an auxiliary containing all and only the Case of its complement(s) plus the subject. Thus, a transitive verb taking an absolutive object will not be matched by an auxiliary containing absolutive (subject) and dative markers.

This system will allow complement NP's to be Case-marked in tenseless clauses. However, it does not account for the possibility of having Case-marked subject NP's. We can assume that the subject feature is an inherent feature of nominalized structures, similar to the Genitive of English nominals like:

(31) The enemy's destruction of the city

Due to the morphological ergativity of Basque, the subject feature Case will be ergative (if the verb contains an absolutive Case-feature) or absolutive (otherwise). Thus, in Basque lexical NP's are available in tenseless clauses in those cases where the verb can take on Case endings like other nominal expressions (usually, but not necessarily, after the nominalizing element -te has been added). Apart from the -te nominalizations above, we find:

(32) Jon-ek Miren-i aldizkari-ak eman-ak harritu ninduen
John-E Mary-D magazine-A give-E shock AUX
'John's having given the magazines to Mary shocked me'

(33) Liburu-a Jon-ek idatzi-a da
book-A John-E write-A is
'The book was written by John'

The other tenseless clauses in Basque, formed with the bare'infinitive' without Case-marking (unlike in (32) and (33)) cannot have Case-marked lexical subjects as predicted:

(34)i PRO_i haurr-ekin eskola-ra joan behar dut (ni-k_i)
kid-with school-to go need I-E
ii *nik haurrekin eskolara joan behar dut nik
I-E
iii *Peru-k haurrekin eskolara joan behar dut nik
Peter-E
'I_i need PRO_i (*for me, Peter) to go to school with the kids'

(35) Ni-k_i ez dakit PRO_i zer egin
I-E neg know what do do
'I don't know what to do'

Thus, only PRO is available for subjects of participial clauses like (34) and (35), while both PRO and phonologically realized NP's are possible in nominalized expressions.

An alternative mechanism of Case-assignment might be devised by positing an abstract INFL in tenseless clauses; Case-assignment would then always be under government by AGR-INFL. However, the distribution of PRO and Pro in tenseless and tensed clauses, respectively, would then be left unexplained.[8]

Thus, presumably as a result of the absence of the base configuration differentiating INFL governed from verb-governed NP's, Case-assignment in Basque would not depend directly on government. Rather, it would be based on co-indexing between NP's and c-commanded features in the verb. As for the subject Case marking, the situation would be similar to English: in tensed clauses it would be assigned by INFL, and in tenseless clauses it would be assigned to an NP as an inherent Case of the nominalized constructions.

4. MOVE-α RESTRICTIONS AND LF CONFIGURATIONALITY

We have been assuming that the flat structure generated by our base rule (2) does not generate any equivalent of the VP node. There is, however, some

evidence that suggests that it might be required at LF. The evidence comes from instances of Move-α other than movement to Focus. A structure like (6) wrongly predicts that there will be no movement leaving a trace in any of the NP positions, since it would never be properly governed at LF. Movement to Focus does not leave a trace, but Pro or PRO, and movement from Focus to Focus leaves a trace properly governed within $\bar{V}$. However, NP-Movement, as in passive, would leave a trace not in Focus in some cases and is incorrectly predicted to be ruled out. I will turn now to passive in Basque to examine this prediction.

Basque passives are exemplified in sentences like (36):

(36) i 'Gero' Axularr-ek idatzi-a zen
Gero-A Axular-E write-A was
''Gero' was written by Axular'

ii Opari-ak Jon-ek Miren-i eskaini-ak ziren
gift-A pl John-E Mary-D offer-A pl were
'The presents were offered by John to Mary'

What might be analized as the moved NP becomes the subject of a copulative structure: izan 'to be' takes a sentencial 'adjectival' phrase. The participle of the embedded clause functions as an adjective and, as such, it takes the absolutive Case ending of agreement with the subject, as attributive adjectives do. Thus, compare the adjective agreement in (37) with that of (36):

(37) i 'Gero' astun-a da
Gero boring -A is
''Gero' is boring'

ii Opari-ak ederr-ak dira
Present-A pl beautiful-A pl are
'The presents are beautiful'

In (36i) and (37i) the adjectival phrase is marked absolutive singular, agreeing with the absolutive singular 'Gero'; it is absolutive plural in (36ii) and (37ii), agreeing with the absolutive plural opariak 'the presents'. The adjectival clause in passives functions as an independent clause:
a) There is no marking in the copula for the arguments of the embedded participle. If passives were uniclausal structures, all E,A,D arguments would have to be cross-marked in the verb. However, in (36ii) neither the ergative nor the dative arguments trigger any agreement in the copula, nor can they do so, as shown in (38):

(38) Opari-ak Jon-ek Miren-i eskaini-ak *zituen
AUX (EA)
*zizkien
AUX (EAD)
*zitzaizkion
AUX (AD)

b) The availability of the focus position is limited to clauses; in particular, it does not exist in non deverbal adjectival phrases, while it does

in passives:

(39) i Opariak Jonek Mireni eskainiak ziren
'It was to Mary that the presents were offered by John'

ii Opariak Mireni nor-k eskainiak ziren?
who-E
'By whom were the gifts offered to Mary?'

iii*Opariak nork Mireni eskainiak ziren?

As in other clauses, focused constituents can and must be placed before the verbal element.
c) Since the normal permutability of arguments is restricted to S's by the base system, arguments of the embedded clause cannot appear scrambled with the arguments of the matrix clause:

(40) i*Mireni opariak Jonek eskainiak ziren
ii*Jonek opariak Mireni eskainiak ziren

Such ordering restrictions would be unexplained if passives are not assumed to contain two distinct clauses.

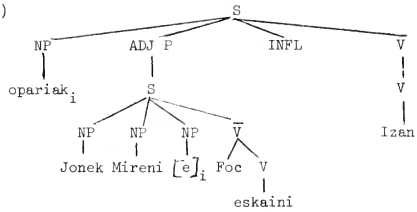
We can account for Basque passives in a straightforward way if we accept Chomsky's analysis of 'passive' as the interplay of two distinct properties: presence of a verb (here the copula izan) that does not assign a θ-role to the subject position, and Case absorption. The D-structure for (36ii) would then be:[9]

(41) [e] INFL $[_S$ Jon-ek opari-ak Miren-i $_{\bar{V}}$[eskaini]-$]_S$ ak IZAN

The participle receives the absolutive Case-marking of agreement, -ak. Let us assume that his -ak absorbs the absolutive Case-feature of the verb; then although one NP can get θ-role assigned by the verb, it cannot get Case from the verb; in order to survive the Case-filter, the NP has to move to a position where it can get Case, here to [e], the position co-superscripted with the absolutive feature of AGR, where it can be successfully checked for Case. Since the agreement feature on the participle is the absolutive Case, it is only the absolutive Case-feature of the verb that gets absorbed, and the remaining arguments can be Case-marked in their D-structure position. Remember that passive structures like (36) contain a tenseless clause with a Case-marked verb, and the subject Case, here ergative, is inherent to the construction, as shown in Section 3. Thus, the ergative NP will be the subject of the embedded clause, rather than a passive agent or passive chômeur.

If Move-α is to account for passives in the manner sketched above, a problem arises in the system we have been developing. After Move-α applies, the resulting structure would be:

(42)



The empty category, trace, left by opariak, is not properly governed, or even governed, due to the branching structure created by the focus position. It should therefore be ungrammatical, as a violation of ECP. The alternative derivation, in which no such violation occurs, would involve movement to Focus of the embbeded clause first. The empty category would be now PRO; unlike [e] in (42), it would not have a c-commanding antecedent in a $\bar{\theta}$-position, excluding its identification as NP-trace. After the focused element is moved to the matrix, the trace is properly governed in $\bar{V}$, as discussed in Section 2. However, this derivation makes a series of wrong predictions about passive.

First, since the relevant NP has to be moved to the embedded Focus, under the assumption that only one element may be focused, it is predicted that once it is moved to the matrix position, the trace will 'fill up' the focus position and the embedded clause will not be able to contain an independent focus. This is not the case, as shown in (43):

(43) Aldizkari-ak [Jon-ek Miren-i eskaini-] -ak ziren
magazine-A John-E Mary-D offer- A were
'The magazines were offered by John to Mary'

where Mireni 'to Mary' is the focus of the embedded clause, despite the presence of the moved NP aldizkariak in the matrix.

Secondly, under the assumption that movement is from Focus to Focus, it is predicted that the moved NP will end up as focus of the matrix. In fact, there can be a different focus; in (43), the whole embedded clause can be the focused element, rather than aldizkariak.

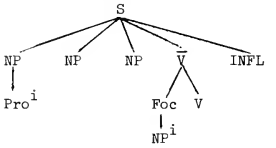
It seems then that the derivation of (36ii) must be as shown in (42), and that [e]$_i$ does not violate ECP, hence is properly governed at LF, where ECP holds. We cannot assume that S is a projection of V and therefore V properly governs any daughter of S. This would incorrectly predict that PRO arguments cannot appear, contrary to what we have observed in Section 3. Phonologically null NP's are also possible in passive sentences, as in (44):

(44) Aldizkari-ak galdu-ak izan ziren
magazine-A lose-A be AUX
'The magazines were lost'

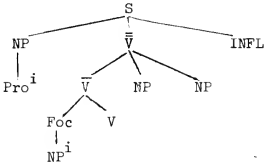
(42) would be allowed, however, if we assume that logical form representations

conform to the pattern NP-INFL-VP in all languages, with configurational or non-configurational syntax. Thus, a structure like (45) will be converted into (46), where a double bar projection of V includes both the Focus and the complements of the verb:

(45)



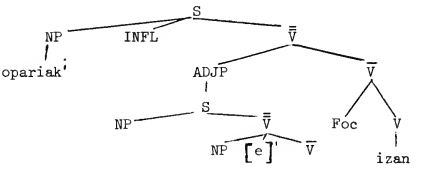
(46)



The identification of the subject NP is straightforward in terms of Case: it will be the ergative NP if there is any, and the absolutive NP otherwise. What is the status of empty categories in this new system? Pro was co-superscripted in D-structure, and this identifying criterion allows us to have Pro's at LF even in object position, as long as they are co-superscripted in D-structure and later with the appropriate feature in AGR. PRO was possible for empty subjects, objects and indirect objects in nominalized expressions and tenseless clauses in general. (46) will produce governed PRO's at LF for direct and indirect objects. This is no problem: the fact that PRO is ungoverned follows from the binding theory, and binding is checked at S-structure, where they are ungoverned. PRO can, therefore, be governed at LF, as it can be governed at D-structure.

As for the empty categories relevant to our present discussion, traces, (46) presents a different set of government relations. The trace of Movement from Focus to Focus will still be properly governed in all cases; in addition, given the definition of c-command by which we may go 'up' to the maximal projection of the c-commanding category, V will govern any trace within V̿ in (46). Thus, at LF, the representation of (36ii) will not be identical to its S-structure representation (42), but it will look like:

(47)



In (47), the NP-trace of passive is properly governed by V, yielding the correct result in that (36ii) is predicted to be grammatical. Non-configurationality would then be restricted to syntax, and the logical form representation would be identical for all languages, as assumed in Chomsky (1981).

5. FOCUS AND WH AT LF

As we have seen in the previous sections, focused elements and wh-words have to appear in a pre-verbal position that we have identified as Focus. In this respect, Basque is similar to Hungarian (Horvath (1981)). Unlike Hungarian, where some verbs subcategorize for complements that must appear in this position, Basque does not allow non-focused or non-wh material in Focus. Horvath considers Focus a Case-like property: an inherent feature of V assigned under government and adjacency. Assuming a rule of Quantifier Raising and that focused elements are quantifier-like operators binding a variable at LF, it is possible to give a unified treatment of focus and wh-phrases. Their similar behaviour would be the result of both being operators at LF.

It can be shown that focused elements behave as variables at LF, supporting their treatment as operators. Thus, in Chomsky (1976), it is noticed that variables cannot serve as antecedents to pronouns occurring to their left. If focused elements cannot be interpreted as coreferential with pronouns to their left, it can be explained by assuming that at LF Move-α has applied leaving a bound variable in the place of the focused element. This variable would then share the referential properties of variables. Thus, in

(49) [Bera-k_i hainbeste maite zuen]emakume-ak Jon$_i$ utzi egin zuen
he-E so much love AUX woman-E John-A leave do AUX
'The woman that he$_i$ loved so much left John$_i$

Jon is not in the focus position of the matrix clause; rather, it is the verb itself that is interpreted as focus, as the insertion of the dummy verb egin indicates. Since there is no variable in the place of Jon at LF, it can be interpreted as the antecedent of the pronominal berak. In (52), on the other hand, where Jon is the focused element (and where the verb appears without the dummy), the pronoun cannot be coreferential with Jon:

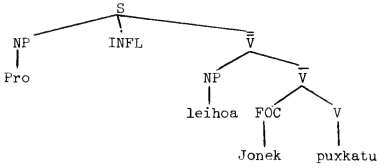
(49) *Berak$_i$ hanbeste maite zuen emakumeak Jon$_i$ utzi zuen

If the focused element acts as a quantifier-like operator at LF, binding a variable created by the application of Move-α, the contrast between (48) and (49) can be automatically accounted for in terms of the previous generalization, without further stipulation.

What is the landing site of the focused element at LF after movement? It must be in a position c-commanding its trace, since the latter has to be bound by it. Thus, before application of Quantifier Raising, the structure of (5) would be something like (51):

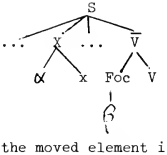
(50) Leiho-a Jon-ek puxkatu zuen
window-A John-E smash AUX
'It was John that smashed the window'

(51)



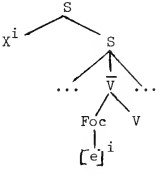
If adjunction is the only possible operation, adjunction to any daughter of S will generate a structure like (52), where the variable β cannot be bound by α, since c-commanding is not possible:

(52)



Thus, we can sssume that the moved element is adjoined to S, as in (53):

(53)



Following Horvath, the interpretation of Focus at LF would be:

(54) $_S[\ldots\ [y]_{foc}\ldots]$

y= the X such that $_S[\ldots X \ldots]$

The representation of (50) would then be, in English glosses:

(55) John = the x such that [x broke the window]

We might try to extend (54) not only to arguments, but also for predicates; thus, the interpretation rule applies to any focused element. Then, if in (50) the verb itself had been the focus, as in (56), we would have the representation as in (57):

(56) Leihoa Jonek <u>puxkatu egin zuen</u>
'What John did was to break the window'

(57) puxkatu = x / Jonek leihoa x egin zuen
do

If this analysis is correct, Q-raising will also apply to wh-questions. Although already moved to a different position at S-structure, they will not appear there at LF, as they do in English; if they leave a bound variable in Focus position, the same coreference restrictions observed for focused elements should obtain for wh-questions, as in fact they do:

(58) *Berak$_i$ hainbeste maite zuen emakumeak nor$_i$ utzi zuen?
he-E$_i$ so much love AUX woman-E who-A$_i$ leave AUX
*'Who$_i$ did the woman that he$_i$ loved so much leave?'

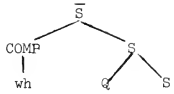
Thus, nor has also been adjoined to S, leaving behind a variable which cannot be coreferential with berak. It is not necessary to assume an abstract COMP node at LF where the wh-phrase moves: it may also be adjoined to S, like focused constituents. Thus, any element appearing in the Focus position will be moved to a position c-commanding the empty category left behind, whether wh-word or not. The trace left by such movement will always be properly governed by V.

An abstract COMP node might be motivated by cases of asymmetry between wh and quantifier scope. In a sentence like

(59) Which movie did every student see?

it has been claimed that the wh-word has a wide scope over the quantifier: there is one single movie that every student has seen, rather than many different movies, one per student. If scope is represented as c-commanding relations and quantifiers are adjoined to S, rather than to $\bar{S}$, as usually assumed, the representation for (59) would be:

(60)



The wh-word c-commands the quantifier in (60), but not viceversa. In Basque we find the same scope relations in (61):

(61) Zein filme ikusi zuten ikasle guzti-ek
which film see AUX student all-E pl
'Which film did every student see?'

Only a wide scope reading is available. The same representation as in (60) can be obtained by stipulating that wh-words have precedence over quantifiers instead of stipulating that the latter are adjoined to S rather than to $\bar{S}$. Unless independently motivated, both solutions are arbitrary. I will choose the former, since it does not require a COMP node which is not well motivated itself for Basque.

The interrelation between focused quantifiers and other quantifiers not in focus position indicates that such precedence relation has to be stated as holding between wh-words and quantifiers, rather than focused elements and quantifiers. Thus, the same representation for (61) could be obtained in both analyses, since the wh-word is always in focus position. Where we substitute another quantifier in focus position, however, there is no wide scope interpretation between the focused quantifier and the non-focused one.

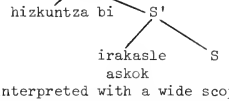
There is no difference in scope that I can determine between (62i) and (62ii):

(62) i Irakasle asko-k <u>hizkuntza bi</u> dakite
teacher many-E language two know
'Many teachers speak two languages'

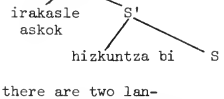
ii Hizkuntza bi <u>irakasle askok</u> dakite

If focused elements had precedence over other operators (the relation wh-word;quantifier being a subcase of this more general principle), we would expect (62) to have the following structure at LF:

(63) (=(62i))



(64) (=(63ii))



(63) would be interpreted with a wide scope for <u>bi</u>: there are two languages such that many teachers speak these two languages. (64), on the other hand, would be interpreted with a narrow scope for <u>bi</u>: there are many teachers such that each speaks two languages. In fact, however, both sentences accept either reading.

While any focused element is adjoined to S at LF, the logical form of questions will be different from that of sentences with -wh focused constituents. The former's representation will be:

(65) $[\ldots\underset{\text{Foc}}{[\text{wh}]}\ \ldots]$

For which x, x an N, $[_S \ldots x \ldots]$

Out of the structure of

(66) Zer puxkatu zuen Jon-ek?
what-A smash AUX John-E
'What did John smash?'

we get the familiar representation (67):

(67) Zein x, x leiho bat, $_S[\text{Jonek x puxkatu zuen}]$

with the appropriate scope representation of the wh-phrase over the whole clause.

6. CONCLUSION

In this paper, I have tried to provide an analysis of Basque where both subject and object NP's are governed by AGR in INFL. This government relation between AGR and direct and indirect objects is made possible by the assumed non-configurationality of Basque grammar: there is no intervening VP-like maximal projection of V blocking government from INFL to the NP's. In this way, 'missing' direct and indirect objects can be treated in a

parallel way to subjects governed by INFL in configurational languages. Other pro-drop features of Basque, like * [that t]violations, have been shown to be derivable not as a function of inversion, as generally claimed for pro-drop languages, but, rather, as a result of the Movement to Focus rule of Basque syntax, which allows traces to be properly governed by V in Focus. Since V does not govern its complements in this system, Case and θ-role assignment cannot be based on government, and alternative mechanisms have to be devised.

Some predictions of this system with respect to ECP violations at LF seem to suggest that configurationality is required at that level, that variables at LF should behave in parallel ways in both configurational and non-configurational languages. Indeed, complete non-configurationality is difficult to integrate in this framework: the definition of government and the mechanisms for Case and θ-role assignment are based on configurational structures for which they were proposed. It is not unexpected then that if the framework is accepted as it is, as I have done in this paper, configurationality has to be somehow included in the analysis. It remains an open question to what extent it has to be so, whether at LF only or also in the syntax, and whether adequate and elegant analyses of languages which have been claimed to be non-configurational can be done in configurational terms.

NOTES

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[1] Cfr. Villasante (1980:241)

[2] I depart from their analysis in treating Case markers in auxiliaries as inflection, rather than clitics. Another divergence, related to this one, consists in generating INFL as a daughter of S, rather than in its surface position with V.

[3] I will restrict myself to declarative clauses. The situation in negatives is slightly more complex. Wh-words are placed before the auxiliary, which is separated from the infinitive and preposed along with the cliticized negative particle. Thus, we find:

(i) Zer eman diote Miren-i?
What give AUX Mary-D
'What have they given to Mary?'
(ii) Zer ez diote eman Mireni?
NEG
(iii) Zer ez diote Mireni eman?

'What haven't they given to Mary?' (ii) and (iii)

[4] Or, it might be identified as a variable, if the key identifying

criterion is the existence of an $\bar{A}$-binder. In this case, (19) would not violate ECP, since in this analysis V governs all daughters of S; in turn, this would only be possible if, contrary to what will be assumed later, V still governs the subject position at LF. That is, if non-configurationality is also a feature of LF.

[5] The status of $[e]_2$ presents a problem. If contextual determination of EC is as usually assumed, it is not a variable, since it is not $\bar{A}$-bound: $[e]_1$ is in an argument position, and the element co-indexed with it in the matrix, nor 'who', does not c-command it, hence cannot bind it. However, $[e]_2$ would be a variable following the criterion that they be co-indexed with elements in $\bar{A}$-positions.

[6] This is the case even when the focus position is empty, if c-commanding can go up through projections of the governor category. S is not a projection of V, and $\bar{V}$ is not a possible governor because it is not a lexical category. V will then never be a governor outside $\bar{V}$, whether Focus is filled or not.

[7] There are two different aspects of the question of Focus in embedded clauses with long wh-movement. One is the absence of intervening focused constituents, and the other what might be interpreted as a PF filter requiring verb initial structures in these constructions. The predictions of the analysis only cover the first phenomenon, not the second. Since the particular word order restriction in intervening clauses must be stated independently, one might argue that in fact we can explain the first phenomenon (absence of focus) in terms of the second, which would make this argument for $\bar{V}$ invalid. In effect, since, as explained above, the focus position is identified as that inmediately preceding the verb, any requirement for the verb to occupy the clause initial position may be thought to rule out the possibility of having any focused constituent. Remember, however, that there is a mechanism to focus the verb itself, by inserting a dummy verb egin between the main verb and its auxiliary, as in

(i) Liburu-a eman egin dio
book-A give AUX
'What he did was to give the book to him'

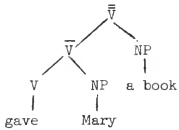
An intervening clause with focused verb is predicted to be unacceptable if the analysis of Focus restrictions is based on the application of Focus to Focus Movement, on the assumption that there can be no doubly filled Focus node (where the trace would count as material for the filter). Such prediction is not made by the PF filter analysis, since even though focused, the clause would still be verb-initial and the filter would not be violated. Such sentences would then be grammatical; in fact, however, it seems that they are not, and that, therefore, Focus-related evidence does support the $\bar{V}$ theory.

[8] One might try to make $\bar{V}$ a Case-assigner itself: Case features would percolate up from V to $\bar{V}$. Such mechanism has precedents in the literature: it has been proposed for double object constructions such as

(i) John gave Mary a book

These constructions seem to require an adjustment in the adjacency requirement for Case-assignment, since the object a present is not adjacent to what is presumably the Case-assigner, gave. It has been suggested that strict adjacency can be maintained as a principle if V is the Case-assiger in these constructions. The VP structure of (i) would be

(ii)



where a book is adjacent to its Case-assigner $\bar{V}$.

Notice, however, that even if this mechanism is accepted, the basic problem remains: $\bar{V}$ cannot assign Case under government because it is not a lexical category. In English the situation is slightly different due to the existence of a VP node: V still governs the NP to which $\bar{V}$ assigns Case. Furthermore, the original motivation for taking $\bar{V}$ as a Case-assigner is completely missing in Basque: given its word-order properties, $\bar{V}$ will not be adjacent to the NP's in many cases.

[9] Notice that, unlike Hale(1980), we are not assuming that there are no empty categories in non-configurational languages. Hale's assumptions are a direct consequence of his particular analysis, based on a parsing mechanism that operates on strings. Such parser, it is argued, would not be able to 'see' empty categories. Within the present framework however, it is perfectly possible for the base rule (2) to generate an NP position which is not filled at lexical insertion and which can receive Case and θ-role.

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TWO NOTES ON NEGATION IN JAPANESE*

Paula Chen Rohrbach

This paper is a study of two types of negative constructions in Japanese: 1) negative sentences involving contrastive constituents and 2) the 'shika...nai' construction. It is found that the first type has a semantic interpretation very close to that of cleft sentences, with the contrastive elements falling inside the scope of negation. The second type of construction is found to involve double negation on the logical level. An attempt is made to capture the semantic differences of these types of sentences by means of a bracketing device to show the different scope relationships.

INTRODUCTION

This study on the negative scope phenomenon in Japanese is basically a descriptive account of the scope of negation of two different constructions in Japanese: negative sentences where contrastive elements are involved and the negative polarity construction where the interpretation is positive: the 'shika...nai' type of sentences.

The main body of the paper consists of three parts. In the first part, a brief account of Kuno's (1980) hypothesis on the scope of negation in Japanese is presented. Based on the fact that the negative morpheme in Japanese is an affix attached to the verb and is part of the verb morphology, Kuno claims that the scope of negation in Japanese extends only to the verb. He also claims that contrastive constituents are thematic and are outside the scope of negation. However, there is evidence from the data in part two of the paper to show that contrastive constituents fall inside the scope of negation and thus should be considered distinct from thematic ones. Although Kuno's revised hypothesis (1982) still does not include contrastive constituents as being in the scope of negation, it can be argued that his new criteria for scope inclusion are indeed met by contrastive constituents.

In the second part, scope relations between the negative element and various other elements in the sentence, such as adverbs, quantifiers, auxiliaries, and modals are studied. It has been found that in a negative sentence where no contrastive constituent is involved, the adverb, or quantifier etc. falls outside the scope of negation. However, whenever a contrastive constituent exists in a sentence, this constituent falls within the scope of negation, contrary to Kuno's claim. In fact, the verb to which the negative morpheme is attached falls outside the scope of negation. That is, the action described by the verb is generally assumed to

have taken place or will take place. It seems that since in Japanese, the negative morpheme is 'forced' to appear at a fixed position, namely, at the end of the verb, it's scope cannot be explained by means of surface structure alone.

The third part of the paper deals with the unique and intriguing characteristics of the quantifier-like particle 'shika'. Various observations are made to indicate that pragmatic implications in 'shika...nai' sentences cannot be accounted for by syntax alone without the help of logical interpretation.

The last part of the paper is a discussion raising questions concerning the adequacy of this study in particular in regard to scope of negation, and the logical formulations in general in regard to their ability to account for all phenomena in Japanese.

Although this study may not capture all the phenomena concerning negation, it is hoped that it could at least shed some light on the issues which seem puzzling to Japanese linguists.

NEGATIVE SCOPE RELATIONS

In his article "The Scope of the Question and Negation in Some Verb-Final Languages" (1980), Kuno proposes the following:

> The Scope of the Negative Morpheme: Only the verbal that immediately precedes the negative morpheme in Japanese falls under the scope of negation except when there is a quantifier in the sentence.

Kuno supports the above claim by means of examples, three of which are given below:[1]

(1) Boku wa[2] Hanako ni[3] awa-na-katta.
I TP Hanako DP meet-NEG-past
I didn't see Hanako.

(2) *Boku wa Tookyoo de[5] umare-na-katta.[4]
I TP Tokyo LOC born-NEG-past
I wasn't born in Tokyo.

He claims that in (1): ".....only the verb <u>aw</u>-'to meet' falls under the scope of the negative morpheme <u>na-i</u>--'not'. Since it happens to be the focus of negation, semantically speaking, the sentence is perfectly acceptable. On the other hand, in (2), ...only <u>umare</u>-'be born' falls under the scope of negation. However, the focus of negation of this sentence is <u>Tookyoo de</u>, and not <u>umare</u>- 'be born'. Hence, the total unacceptability of the sentence. The sentence sounds as if the speaker is saying that he did something in Tokyo other than being born. This implication clearly derives from the fact that the negative morpheme negates only the verb."

Kuno further claims that: ".....The above observation destroys the myth that has been held among Japanese grammarians that the negative morpheme negates wa- marked constituents. Observe the following sentences:

(3) Speaker A: Kimi wa kono hon o yon-da[6] ka.[7]
you TP this book OP read-past Q
Did you read this book?

Speaker B: *a. Iya, sono hon o yoma-na-katta.
no the book AP read-NEG-past
No, I haven't read that book, but.....

b. Iya, sono hon wa yoma-na-katta.
no the book CP read-NEG-past
No, I haven't read that book, but.....

.....What is at issue here is what the negative morpheme na- negates in (3Bb). Speaker B's response says that the speaker hasn't read the book under discussion, but has read some other books. Because of this implication, it has been generally believed that this answer means 'I have read not that book, but.....' in which na- negates the wa-marked Sono hon 'that book'. But this does not make sense. Sono hon wa is a thematic constituent, but it is generally true that thematic constituents are outside the scope of negation,....."

It seems that in sentence (3) above, Kuno fails to differentiate between thematic 'wa' and contrastive 'wa'. As he himself puts it, "speaker B's response says that the speaker hasn't read the book under disccusion, but has read some other books." Clearly, in this case, Sono hon wa is a contrastive constituent, not a thematic one. Moreover, using Kuno's own argument, in sentence (2), the focus of negation semantically is Tookyoo de, and not umare- 'be born', and yet the scope of negation extends only to the verb, thus leading to the unacceptability of the sentence. ("The sentence sounds as if the speaker is saying that he did something in Tokyo other than getting born.")

Therefore, if we could claim that contrastive 'wa' falls within the scope of negation (see examples below), but thematic 'wa' falls outside the scope of negation, then sentence (2) above would be grammatical if we added the contrastive particle 'wa' to Tookyoo de, thus:

(2') Boku wa Tookyoo de wa[8] umare-na-katta.
I TP Tokyo LOC CP born-NEG-past
I wasn't born in Tokyo.

The semantic interpretation of (2') is actually very close to the nominalized version:

(2'') Boku ga[9] umare-ta no[10] wa Tookyo de-wa-nai.
I SP born-past MP TP Tokyo to-be-NEG
Tokyo wasn't the place where I was born.

In his revised theory, Kuno claims that "the scope of the question and negation morphemes extends to an element that does not immediately precede them if it is not a fill-in-the-blank focus, but a multiple-choice focus." Although Kuno does not recognize it as such, a contrastive constituent in a sentence is indeed a multiple-choice type of focus. In Japanese, contrastive constituents marked by 'wa' has a focussing function. This phenomenon can best be seen in negative sentences where contrastive constituents are involved. When an element is placed in focus by means of the contrastive particle 'wa', it is singled out of all other possible elements, narrowing the choices down to only two: positive and negative. A negative statement involving such an element, therefore, negates the element and not the verb. Thus in (2'), Tookyo de is in focus and is being negated.

The following is a set of data that shows the difference in scope of negation with the presence or absence of a contrastive constituent marked by 'wa'.

NEGATION OF CONTRASTIVE CONSTITUENT

In this section, scope relations between the negative elements 'na-i' (for non-past actions) or 'na-katta' (for past actions) and various other elements in the sentences, such as adverbs (of manner, place, point of time, duration of time), quantified nouns as well as modals, auxiliaries and verbs in complementized constructions are studied. A series of examples demonstrating differences in negative scope relations is given below. For each semantically ambiguous sentence in English, there are two unambiguous equivalents in Japanese, whose scope patterns are determined by the presence or absence of a contrastive constituent marked by 'wa'. Each example is given with one English surface reading, two Japanese surface readings (plus glossaries), two English translations and two representations with brackets to show the scope relationship between the elements in the sentences.

The data and description are followed by an attempt to capture the pattern common to all the examples given and to collapse all the logical formulae into only two whose difference in semantic interpretation lies in the scope relation between the elements involved.

I. Negative Element and Adverb

(4) Negative Element and Adverb of Manner

He doesn't come often. (ambiguous)

a. Kare wa yoku wa ko-nai.
he TP OFTEN CP come-NEG
He comes infrequently.
(NEG OFTEN)(He comes)

b. Kare wa yoku ko-nai.
he TP OFTEN come-NEG
Often he doesn't come.
OFTEN(NEG(He comes))

(5) Negative Element and Adverb of Place

He doesn't eat lunch at home. (ambiguous)

a. Kare wa uchi de wa hiru-gohan o tabe-nai.[11]
he TP home LOC CP day-meal AP eat-NEG
He doesn't eat lunch at home, (but he does it somewhere else).
(NEG AT HOME)(He eats lunch)

b. Kare wa uchi de hiru-gohan o tabe-nai.
he TP home LOC day-meal AP eat-NEG
At home he doesn't eat lunch.
AT HOME(NEG(He eats lunch))

(6) Negative Element and Adverb of Time (Point of Time)

He isn't coming tomorrow. (ambiguous)

a. Kare wa ashita wa ko-nai.
he TP TOMORROW CP come-NEG
He isn't coming tomorrow, (but he is some other time).
(NEG TOMORROW)(He comes)

b. Kare wa ashita ko-nai.
he TP TOMORROW come-NEG
Tomorrow he isn't coming.
TOMORROW(NEG(He comes))

(7) Negative Element and Adverb of Time (Duration of Time)

He didn't sleep for three days. (ambiguous)

a. Kare wa mikka wa nema-na-katta.
he TP THREE-DAY CP sleep-NEG-past
He didn't sleep for three days, (but he did sleep for only two days).
(NEG FOR THREE DAYS)(He slept)

b. Kare wa mikka nema-na-katta.
he TP THREE-DAY sleep-NEG-past
For three days he didn't sleep.
FOR THREE DAYS(NEG(He slept))

In all of the examples given above, in the (a) sentences, the adverbs marked by the contrastive particle 'wa' fall within the scope of negation and the main verbs fall outside the scope of negation, while in the (b) sentences, the adverbs are outside the scope of negation. (4a) means "He comes infrequently." In this sentence, what is being negated is the adverb 'yoku--often' and not the action verb 'kuru--come'. The meaning of this sentence is very close to the cleft sentence, "It is not often that he

comes." (4b), however, means "Frequently, he doesn't come." where the action verb itself is being negated. The interpretation in (5a) is: "He eats lunch somewhere other than at home." while that in (5b) is: "At home he does something other than eat lunch." The reading in (6a) is: "He isn't coming tomorrow, but he is some other time.", and that in (6b) is: "Tomorrow he isn't coming." (7a) means: "He didn't sleep for three days, but for two days (or some other number of days)." and (7b) means: "For a period of three days, he didn't sleep." All the ambiguous English sentences have the same corresponding interpretations.

II. Negative Element and Universal Quantified Noun Phrase

(8) Negative Element and Quantified Noun Phrase (Subject)

All of them didn't come. (ambiguous)

a. Karera wa minna wa ko-na-katta.
they TP EVERYONE CP come-NEG-past
Not all of them came.
(NEG ALL)(They came)

b. Karera wa minna ko-na-katta.
they TP EVERYONE come-NEG-past
None of them came.
ALL(NEG(They came))

(9) Negative Element and Quantified Noun Phrase (Object)

I didn't read all of the books. (ambiguous)

a. Sono hon wa zenbu wa yoma-na-katta.
those book TP ALL CP read-affix-NEG-past
I didn't read all of the books, (but I read some of them).
(NEG ALL THE BOOKS)((I) read the books)

b. Sono hon wa zenzen yoma-na-katta.
those book TP ALL read-NEG-past
I didn't read any of the books.
(ALL THE BOOKS)(NEG((I) read the books))

This set of data shows the difference in scope more clearly because it involves quantifiers. (8a) means: "Not all of them came, some didn't come." and (8b) means: "None of them came." In (9a), the reading is: "I didn't read all of the books, but I read some of them." and (9b) reads: "I read none of the books."

III. Negative Element and Modal/Auxiliary

(10) Negative Element and Modal

He may not go. (ambiguous)

a. Kare wa itte wa ike-nai.
he TP go CP PERMISSIBLE-NEG
He isn't permitted to go.
(NEG PERMISSIBLE)(He goes)

b. Kare wa ika-nakute mo ii.
he TP go-NEG even GOOD
It's alright even if he doesn't go.
PERMISSIBLE(NEG(He goes))

(11) Negative Element and Auxiliary

a. Watakushi wa itte mi-na-katta.
I TP go SEE-NEG-past
I didn't try to go.
(NEG TRIED)(I go)

b. Watakushi wa ika-naide mi-ta.
I TP go-NEG SEE-past
I tried not to go.
TRIED(NEG(I go))

Note that since modals and auxiliaries behave like verbs, they appear after the main verbs. However, the slight variation in the order of the elements does not alter the consistency of the scope relation between the elements being studied.[12]

There is one auxiliary item, however, which seems to deviate from the pattern outlined above, that is: 'hoshii'. When a sentence contains a 'verb+hoshii' string, the negative morpheme is always attached to 'hoshii' rather than the verb. McGloin (1976) uses the quantifier-like particle 'shika' shown in the following example to argue for negative raising:

(12) a. Watakushi wa Taroo ni shika kite hoshiku-nai.
I TP Taro DP ONLY come WANT-NEG
I want only Taro to come.

*b. Watakushi wa Taroo ni shika ko-naide hoshii.

Since 'shika' must take a negative verb (see further discussion below), the deep structure of (12a) is something like: 'Watakushi wa (Taroo shika konai) hoshii.', where the negative element belongs to the embedded sentence. McGloin claims that there is an obligatory negative raising rule applied to yield (12a). Observe also the following sentence:

(13) a. Watakushi wa Taroo ni kite hoshiku-nai.
I TP Taro DP come WANT-NEG
I don't want Taro to come.

?b. Watakushi wa Taroo ni ko-naide hoshii.

Both (12a) and (13a) are grammatical and (12b) and (13b) are ungrammatical (although (13b) could sometimes be considered grammatical in the proper context). More interestingly, (12a) and (13a), whose meanings are quite different, have almost the same surface form, differring only in the presence of 'shika' in (12a). By McGloin's analysis, if there is negative raising, then (13a) would have the underlying structure: "I want Taro not to come." If we could claim that (12a) has the underlying form: 'I want no one but Taro to come.' or 'I want (other people than Taro not to come).' rather than 'I want only Taro to come.' while the underlying form for (13a) is: 'I want Taro not to come.', then the semantic difference between the two sentences becomes evident.

It seems that 'hoshii' is an adjectival verb, with the feature [+stative, +emotive], and the semantic difference between "I don't want Taro to come." and "I want Taro not to come." is insignificant pragmatically and that only one surface form is generally used, namely, (13a).[13]

IV. Negative Element and Verbs in Complementized Sentences

(14) a. Taroo wa kuru to[14] itte-na-katta.
Taro TP come QP SAY-NEG-past
Taro didn't say he was coming.
(NEG SAID)(He was coming)

b. Taroo wa ko-nai to it-ta.
Taro TP come-NEG QP SAY-past
Taro said he wasn't coming.
SAID(NEG(He was coming))

(15) a. Taroo wa baka to omowa-nai.[15]
Taro TP stupid QP THINK-NEG
I don't think Taro is stupid.
((I) NEG THINK)(Taro is stupid)

b. Taroo wa baka janai to omou.
Taro TP stupid NEG QP THINK
I think Taro is not stupid.
(I) THINK(NEG(Taro is stupid))

In all of the examples given above (except for sentences (11), (14) and (15), each ambiguous English sentence has two unambiguous equivalents in Japanese, the semantic interpretation of each can be accounted for by a logical formula, that is, in all (a) sentences, the adverbials, quantified noun phrases, modals and auxiliaries and verbs in complementized sentences are in the scope of negation while in all (b) sentences, they fall outside the negative scope.

All of the (a) sentences in I and II and (3Bb) above can be interpreted as: 'It is/was not X that S', where X is a variable standing for an NP, an adverb or a quantifier. In fact, this corresponds very closely to the nominalized version: 'That S is/was not X'. The (b) sentences carry the meaning: 'In the environment of X, not S'. In the sentences in III, where verb-like elements such as modals and auxiliaries are involved, the

use of 'wa' for the (a) sentence is still necessary for (10) where a modal is present but not necessary in (11) where an auxiliary is present. This may be due to the fact that auxiliaris are more like verbs than modals. In IV, where full-fledged verbs are involved, 'wa' is not needed at all to indicate the scope difference between (a) and (b) sentences. This observation raises an interesting point that perhaps the contrastive particle 'wa' in a simplex sentence has the function of making the NP, adverb or quantifier that precedes it into a verb-like element. As the preceding discussion indicates, the contrastive paticle 'wa' is a focus-like particle in Japanese giving the force of such English devices as 'It is NP (ADV, QUAN) that...', 'It is not NP (ADV, QUAN) that.....', etc. If we suppose that a Japanese sentence with a contrastive 'wa' does in fact have an extra clause as part of its logical form or meaning, then the fact that the (a) sentences above have the logical form: (NEG (NP,ADV,QUANT,...))[SENTENCE] makes some sense.

If the noun phrases, adverbials, quantified noun phrases, auxiliaries, and the higher verbs in complementized sentenes can logically be classified together as some kind of an operator, then all the logical formulae in the above examples, which show the scope relations between these elements and the negative element, can be collapsed into just two, the rough format of which is given below:

$$\text{(a)}\quad \left(\text{NEG}\left\{\begin{array}{l} \text{NP} \\ \text{ADV} \\ \text{QUANT} \\ \text{Z}\left\{\begin{array}{l}\text{MODAL}\\ \text{VERB}\end{array}\right\}\end{array}\right\}\right)\ (\text{PRED}\ (X,Y))$$

$$\text{(b)}\quad \left\{\begin{array}{l} \text{NP} \\ \text{ADV} \\ \text{QUANT} \\ \text{Z}\left\{\begin{array}{l}\text{MODAL}\\ \text{VERB}\end{array}\right\}\end{array}\right\}\ (\text{NEG}\ \ (\text{PRED}\ (X,Y))$$

THE SHIKA...NAI PHENOMENON

In this part, I would like to show that the behavior of the 'shika... nai' construction can be accounted for by logical formulation as well. 'Shika' has the unique characteristic that, the sentence in which it appears with a noun phrase must take a negative verb form. Compare the following sentences:[16]

(16) Taroo dake ga ki-ta.
Taro ONLY SP come-past
Only Taro came.

(17) Taroo shika ko-na-katta.
Taro ONLY come-NEG-past
Only Taro came. (Nobody else did.)

Both (16) and (17) have the same meaning--"Only Taro came.", but sentence (17) takes a negative verb while sentence (16) takes a positive one. The difference in these two sentences seems to be implicational, namely, (16) is a neutral statement of fact while (17) conveys additional implication that the speaker expected more people to have come and is, in some way, affected by the unexpected outcome. There seems to be no way to account for this extra bit of information by surface structure alone. However, with the help of logical formoulation, it may be possible to explain the peculiarity of 'shika'. Consider the following sentence:

(18) Taroo igai no hito ga ko-na-katta.
Taro outside MP person SP come-NEG-past
People other than Taro didn't come.

With the use of the concept of set theory, the subjects in (16)--'Taro' and in (18)--'Taro igai no hito' form the total set of 'hito'--'people'. That is, 'Taro igai no hito' is the subset of 'hito'--'people' complementary to the other subset 'Taroo'. So (16) and (18) are complementary to each other, and they are both neutral descriptions of facts. Sentence (17) seems to fall in between (16) and (18) in that it has the surface meaning of (16)--"Only Taro came.", but the underlying implication is: 'No more people than Taro came.' (More people than Taro were expected to come.), which is closer to (18). This is a possible explanation for the phenomenon that sentences with 'NP+shika' must take a negative verb to yield a positive surface meaning with a negative implication. In other words, sentences with 'shika' are actually semantically negative. 'Shika' serves as a delimiter, which has the function of excluding the NP that precedes it as being the subject of the negative verb that follows, that is, 'All but NP didn't VP'. Therefore, the deep subject of the negative verb-- 'ko-na-katta' in (17) is the complement set to the set containing 'Taroo', that is, 'people other than Taroo'.

The following are some observations made on the behavior of the 'shika ...nai' construction:

I. It is believed that the 'shika...nai' construction conveys a implication whereby the speaker is affected either positively or negatively by some unexpected outcome of the action. For example, sentence (17) above implies that the speaker, say, the host of a party, expected other people than Taro to come as well but they didn't show up and he was negatively affected by this outcome (He was disappointed). The following are a few more examples to show this implication:

(19) Meeting ni wa sannin shika ko-na-katta.
meeting DP TP three-people ONLY come-NEG-past
As for the meeting, only three people came to it.

(20) Hyaku en shika nai node kae-nai.
hundred yen ONLY NEG because able-to-buy-NEG
Since there is only a hundred yen, I am not able to buy it.

(21) Boku wa shinbun shika yoma-na-katta.
I TP newspaper ONLY read-NEG-past.
I only read newspaper. (I didn't read anything else.)

(22) Boku wa benkyoo suru shika nai.
I TP study do ONLY NEG
I only study. (There is nothing else to do.)

Notice that the 'shika...nai' can apply to NP of any category, that is, it can be applied to subject NP, object NP etc. It can also apply to VP, as in (22) above. In the case of (22), the negative morpheme 'nai' is the verb itself. The following two examples show that the speaker is positively affected by the outcome of the action:

(23) Taroo shika ochi-na-katta.
Taro ONLY fail-NEG-past
Only Taro failed.

(24) Koko kara Chicago made san jikan shika kakara-nai.
here from Chicago to three hour ONLY take-NEG
It doesn't take but three hours to get to Chicago from here.

The situation in sentence (23) could be: a teacher (the speaker) is pleasantly surprised that only Taro failed the exam. (Not more people have failed the exam.) In (24), the usual reading is positive, that is, it takes less time than anticipated to get to Chicago from here.

On the whole, this additional implicational meaning of the use of the 'shika...nai' construction whereby the speaker is negatively or positively affected in some way holds for most sentences. Further studies are needed to confirm this theory. If this theory is proven to be true, then the analysis that the focus of such a construction is on the non-action of the complement set of the NP marked by 'shika' holds also.

II. The interpretation of exclusion in terms of 'no more than NP V' or 'other than NP not V' in the 'shika...nai' construction mentioned above is further supported by the following pairs of sentences where the 'dake' versions are ungrammatical:

(24) a. Koko kara Chicago made san jikan shika kakara-nai.
here from Chicago to three hour ONLY take-NEG
It doesn't take but three hours to get to Chicago from here.

*b. Koko kara Chicago made san jikan dake kakaru.
here from Chicago to three hour ONLY take
It takes only three hours to get to Chicago from here.

(25) a. Eiga wa hachi-ji ni shika hajimara-nai.
movie TP eight-o'clock DP ONLY begin-NEG
The movie is not going to begin earlier than eight o'clock.

*b. Eiga wa hachi-ji ni dake hajimaru.
movie TP eight-o'clock DP ONLY begin
The movie begins only at eight o'clock.

(26) a. Kare wa raigetsu ni shika ko-nai.
he TP next-month DP ONLY come-NEG
He won't come in ay other month but the next.

*b. Kare wa raigetsu ni dake kuru.
he TP next-month DP ONLY come
He is coming only next month.

Sentence (24b) is ungrammatical because the sentence has no meaning without the 'no more than three hours' implication. In (25b) and (26b), the implications that 'The movie doesn't start at any other time than eight o'clock.' and 'He won't come in any other month than the next month.' cannot be conveyed. This may be due to the fact that unlike 'shika', 'dake' can only be used to delimit quantified NPs. In (25) and (26), the NPs before 'shika' and 'dake': 'hachi-ji--eight o'clock' and 'raigetsu--next month' are NPs which show points of time rather than amounts of time, thus rendering ungrammatical sentences when 'dake' is used as a delimiter. So we can see from all the above three examples that the delimiting function of 'shika' to convey the meaning of 'no more than' is not found in sentences with 'dake'.

III. Unlike 'dake', 'shika' cannot be followed by a particle. The following sentences with 'dake', taken from Kuno's article "Positioning of Quantifier-like Particles in Japanese", are compared with sentences with 'shika':

(27) a. Kimi dake ni wa hanashite okoo.
you ONLY DP CP speak-affix put-volition
I'm going to tell (this) to you only.

b. Kimi ni dake wa hanashite okoo.
you DP ONLY CP speak-affix put-volition
I'm goint to tell (this) only to you.

*c. Kimi shika ni hanashite oka-nai.
you ONLY DP speak-affix put-NEG
I'm going to tell (this) to you only.

d. Kimi ni shika hanashite oka-nai.
you DP ONLY speak-affix put-NEG
I'm going to tell (this) only to you, (I won't tell anyone else.)

(28) a. Tyuusya dake de[17] naoru.
injection ONLY IP cure
One can cure (the desease) by injection alone.

b. Tyuusya de dake naoru.
injection IP ONLY cure
One can cure (the disease) only by injection.

*c. Tyuusya shika de naora-nai.
injection ONLY IP cure-NEG
One can cure (the disease) by injection alone.

d. Tyuusya de shika naora-nai.
injection IP ONLY cure-NEG
One can cure (the disease) only by injection. (Anything else won't cure the disease.)

The above phenomenon is extremely interesting. The (a) and (c) sentences are meant to convey the concept of sufficiency while the (b) and (d) sentences are to convey the meaning of necessity. While 'dake' can be used for both connotations by means of switching the order of 'dake' and the particle around, the 'shika' versions cannot. This gives greater support for the exclusion function of 'shika' because the (d) sentences convey the exclusion meaning and the (c) sentences do not. Based on the implicational difference between 'dake' and 'shika' described above, sentences (b) and (d) probably differ in that the 'dake' sentences are neutral and objective statements while the 'shika' ones convey that the speakers are negatively affected in some way. So (27d) may have the implication that if the speaker talks to someone else, some negative consequences will result,[18] and (28d) may imply that it is too bad that injection is the only thing that will cure the disease for the speaker cannot afford to pay for injections.

IV. 'Shika' does not co-occur with other negative polarity items.

(29) a. Taroo dake wa amari ko-nai.
Taro ONLY CP seldom come-NEG
Only Taro seldom comes.

*b. Taroo shika amari ko-nai.
Taro ONLY seldom come-NEG

*c. Taroo shika amari kuru.
Taro ONLY seldom come

(30) a. Kono e dake wa tittomo okashiku-nai.
this picture ONLY CP at-all funny-NEG
Only this picture is not funny at all.

*b. Kono e shika tittomo okashiku-nai.
this picture ONLY at-all funny-NEG

*c. Kono e shika tittomo okashii.
this picture ONLY at-all funny

Since both 'shika' and 'amari' in (29b) and 'shika' and 'tittomo' in (30b) require negative verbs, they canot co-occur in the same sentence because two negative affixes cannot be attached to the same verb. Or alternatively, one could say that the scope of negation only extends as far as the first polarity item and hence the second one is unpaired. Neither can two negative polarity items co-occur in the same sentence to make the sentence positive as in (29c) and (30c).

V. By the same logical reasoning as in IV, 'shika...nai' constructions do not have negative counterparts, as the 'dake' sentences do.

(31) a. Taroo dake ga ki-ta.
Taro ONLY SP come-past
Only Taro came.

b. Taroo shika ko-na-katta.
Taro ONLY come-NEG-past
Only Taro came. (No one else did.)

(32) a. Taroo dake ga ko-na-katta.
Taro ONLY SP come-NEG-past
Only Taro didn't come.

*b. Taroo shika ko-na-katta.
Taro ONLY come-NEG-past

*c. Taroo shika ki-ta.
Taro ONLY come-past

d. Taroo shika ko-na-katta no de-wa-nai.
Taro ONLY come-NEG-past MP to-be-NEG
It is not the case that only Taro came.

The closest negative counterpart to (31b) is (32d), whose subject is the nominalized form of (31b) predicated by a negative copular verb.

All of the above findings can be accounted for by means of logical formulation. Semantically, the surface NP with 'shika' is being excluded as the implicational focus is on the complement set of the NP, resulting in the meaning of 'other than NP not V' or 'no other than NP V', which also explains the negative verb. In other words, the NP followed by 'shika' is outside the scope of negation. The exclusion function of the 'shika...nai' construction can be formulated as follows:

(31b) above: Taroo shika ko-na-katta.
NEG(come(NEG Taro))

Recall earlier in the paper, I argue that McGloin's negative raising analysis cannot account for the two similar surface structures (differing

only in the existence of 'shika' in one and not in the other) have almost opposite meanings. By logical formulations, this semantic distinction is made clear. The examples are given again accompanied by logical formulae to show the semantic distinction:

(12) a. Watakushi wa Taroo ni shika kite hoshiku-nai.
I TP Taro DP ONLY come WANT-NEG
I want only Taro to come.
(or) I don't want anyone but Taro to come.
(NEG (I WANT))(come (NEG Taro))

b. *Watakushi wa Taroo ni shika ko-naide hoshii.
I TP Taro DP ONLY come-NEG WANT
*I want only Taro not to come.
*I WANT(NEG(NEG(come(NEG Taro))))

(13) a. Watakushi wa Taroo ni kite hoshiku-nai.
I TP Taro DP come WANT-NEG
I don't want Taro to come.
(NEG (I WANT))(come (Taro))

b. ?Watakushi wa Taroo ni ko-naide hoshii.
I TP Taro DP come-NEG WANT
?I want Taro not to come.
?I WANT(NEG(come(Taro)))

The ungrammaticality of (12b) is can be explained here by the fact that the 'shika...nai' construction cannot be negated. The questionable acceptability of (13b) has also been discussed earlier in the paper. (See note 13 below.)

DISCUSSION

The logical formulae arrived at from the above data may be too simple as an account of the behavior of negative scope phenomenon in Japanese. Moreover, logical formulation alone cannot account for information based on pragmatics, (for example, the case of 'shika'), although they can help direct us to the correct semantic interpretation underlying the pragmatic implication and help us understand the implication on a logical basis.

In cases where universal quantifiers are involved, by the definition of logical equivalence, (NEG$\forall$(x))(pred(x)) (Not all x such that x come) and $\exists$(x)((NEG(pred(x))) (There is some x where x not come) are logically equivalent (except when there is no member x in the set under the former formula). Although the truth value of: 'Not all of them came.' and 'There are some of them who didn't come.' are the same logically, these two sentences are said under rather different circumstances, depending on the implicational intention on the part of the speaker. Logical formulations cannot make these subtle differences.

The above is but a survey on the scope of negation in Japanese. As pointed out in the notes as well as in various parts of the paper itself, many new and interesting phenomena showed up in the course of this study, which require more detailed investigation. However, it is intriguing to find that, at least with the data dealt with here, the scope relation between negation and other elements in sentences falls so neatly into the pattern captured by the above two logical formulae. Further studies are, of course, needed to test out the hypothesis with more data involving negative scope (for example, complex sentenes with negative elements) and to revise it or to place constraints on it, if necessary, so that it may account for all negative scope phenomena in Japanese, and ultimately, in all languages.

NOTES

*I wish to express my appreciation to Professors Alice Davison, Robert Hart, Michael Kenstowicz, Seiichi Makino and Jerry Morgan for their valuable suggestions and guidance on various aspects of this paper. Thanks also to Atsushi Fukada, Mariko Kaga and Michio Tsutsui for their insightful judgement on the grammaticality of most of the sentences.

[1]Sentences (1), (2), (3) correspond to sentences (12a), (13a) and (14) respectively in Kuno's article.

[2]TP=topic particle

[3]DP=dative particle

[4]Makino points out that if sentence (2) were embedded in another sentence, such as: 'Boku wa [Tookyoo de umare-na-katta] koto o zannen ni omou.--I regret that I wasn't born in Tokyo.', then the sentence is perfect. This may be due to the pragmatic reason that in general, the contrastive particle 'wa' is deleted in a subordinate clause even though the semantic interpretation does not change. In other words, the scope relation remains the same, that is, the contrastive constituent is in the scope of negation, but this constituent is no longer in focus, due to the fact that there is some other constituent in the main clause that is in focus. To have two foci or more will make a sentence difficult to process.

[5]LOC=locative particle

[6]OP=object particle

[7]Q=question particle

[8]CP=contrastive particle

[9]SP=subject particle

[10]MP=modification particle

[11] I am not sure how elements between the contrastive constituents and the negative verb should be treated, but it seems logical to consider the object and the verb as a close unit. More studies need to be done in this area.

[12] It is not clear what significance the particle 'mo' in (10b) between the verbs has in regard to scope relations, nor what role the different affix forms play between the verbs in (11a) and (11b).

[13] (13b) can be grammatical in the proper context. For example, 'Watakushi wa Taroo ni konaide hoshigatta. Dooshite kita no desu ka?'-- 'I wanted Taro not to come. Why did he come?'

[14] QP=quotative particle

[15] The logical formulation indicates that (15a) and (15b) are not synonymous.

[16] To make the comparison complete, perhaps a sentence like 'Taroo ga kita.'--'Taro came.' (exhaustive listing described by Kuno) should have been added to (16), (17) and (18).

[17] IP=instrumental particle

[18] It seems that in a sentence where the action is beyond the control of the speaker, the negative affect on the speaker is that he/she is victimized by the outcome of someone else's action in some way. For example, (17)--'Taroo shika konakatta.' implies that the speaker is disappointed that other people didn't come. However, in cases where verbs of volition are invloved, the speaker has control over the action and, therefore, the outcome of the action. For example, (27d)--'Kimi ni shika hanashite okanai.' implies that the speaker would be negatively affected if he/she spoke to someone else.

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This special issue of

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is dedicated to

Josephine L. Wilcock

and

Ladislav Zgusta

on attaining a significant milestone

in their lives on

March 22, 1984

and

March 20, 1984

respectively.

— — — — — — — — — — —

jīvataṃ śharadaḥ śhataṃ

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PREFACE

This special issue of Studies in the Linguistic Sciences contains twelve papers on selected aspects of language variation, primarily in four non-Western countries--India, Indonesia, Iran, and Zimbabwe. The majority of the papers represent topics concerned with India, but this overrepresentation is not intentional: It so happened that we received a large number of papers dealing with this region, and the reviewers considered several of them worthy of publication in this volume.

These papers are important for several reasons. First, they provide a non-Western perspective on many unresearched aspects of language variation and language use; in this sense, these studies are important for cross-cultural and cross-linguistic understanding of these little understood linguistic phenomena. Second, the papers raise numerous theoretical and empirical questions about language contact, language acculturation, nativization, language attitudes, and the bilingual's creativity. These issues are vital for our understanding of language in traditional bilingual or multilingual societies. And, finally, the papers demonstrate a relationship between language form and language function in the context of these four language areas of the world, thus revealing another dimension of what has been termed "socially-realistic linguistics".

This collection would not have been possible without excellent cooperation of the reviewers of the papers. I am grateful to the following for their time and detailed evaluation of each paper: Eyamba G. Bokamba, H. Douglas Brown, C. C. Cheng, J Ronayne Cowan, Hans H. Hock, Yamuna Kachru, Rajeshwari Pandharipande, Paula Treichler, and Ladislav Zgusta. Their comments and suggestions made my job easier. My thanks are also due to Jean D'Souza, Fannie Lambert, Peter Lowenberg, and Tamara Valentine for performing with great competence the more mundane but crucial chores of editing, library research, and typing.

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VARIATION IN HINDI: PROBLEMS AND PROSPECTS

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A wide range of linguistic and non-linguistic factors obscured the clear, systematic and unbiased description of linguistic variation in Hindi. Among such factors, notable ones are: the charismatic impact of Sir George A. Grierson's monumental work, Linguistic Survey of India, on variability studies in Indian languages; the bias of the succeeding investigators against rural dialects; the influence of Gandhian philosophy and of the reformative secular government policies. The aim of this paper is three-fold: one, to demonstrate that a more highly intricate and dynamic state of linguistic variability exists in the Hindi-speaking region than has been pointed out in the existing literature on this topic. Two, to point out that the unsatisfactory view of linguistic variation in general and Hindi variation in particular has narrowed down the domain of Hindi grammar. Three, to characterize the scope and the nature of a pan-dialectal grammar of Hindi. In an attempt to achieve the last goal, ten speakers of Hindi were selected, representing different areas, castes and religions of the Hindi-speaking region. The study was carried out following the methodology outlined in Labov (1972, 1978).

0. INTRODUCTION

What prescriptivism of traditional grammarians and liberalism of modern linguists shared in spite of their divergent theoretical and methodological goals, was the growth of a myth about the nature of language, namely, that language is a homogeneous and closed system. Whether it was a matter of principle or convenience, linguists, grammarians and pedagogues alike equated the homogenial aspect of language with essentials and the heterogenial aspect with trivialities of language. As a result, their linguistic descriptions were centered exclusively around ideal speech; linguistic variation received very little attention.

The grammars and the linguistic descriptions of the languages of India do not constitute an exception to this tendency. In spite of the clearly observable wide variations in the Indian languages, variation is dismissed as deviant, uncultured and undesirable speech and is also equated with communication barriers and grammatical errors (vyākaraṇik truṭiyāṁ, doṣ, bhūl). Only an ideal standard speech is considered legitimate. This creates a misconception that every language in India forms its own homogeneous speech community. However, with the growth of the current sociolinguistic research, variation has received its long due share. The

negative labels have been scrapped and varied forms of speech have gained equal footing with ideal speech. Moreover, variation has become theoretically interesting due to its significance for conveying sociological information. Thus, a new era of linguistic research has dawned which marks a point of departure from earlier linguistic research.

The goal of this paper is to draw attention to some important problems which underlie several theretical, empirical and methodological issues which have occupied Hindi variationists[1] until this date. The problems singled out here also have serious implications for the theory of language in general, and the theory of variation in particular. The problems mentioned in the first two sections concern the total range of variation in Hindi and the last section deals with the question of variation and the writing of grammar. Before I detail these problems, it is crucial to examine the pattern of variation in the Hindi-speaking area; otherwise it will be impossible to visualize clearly the justification of the problems under consideration, and difficult to appreciate the important properties of variation in Hindi. Section (0.2) of the paper very briefly reviews the state of the treatment of linguistic variation in Hindi grammars and linguistic descriptions. This section further provides insights into the nature of the problems and their unsatisfactory treatment in the earlier works.

0.1 THE HINDI LANGUAGE AND LINGUISTIC VARIABILITY

India in general, and the Hindi-speaking area in particular, provide a complex network of linguistic variability. This fact is not only observed by linguists and grammarians but also by the speakers who have intuitively characterized the linguistic variation in Hindi in the form of a saying: das kos pe pānī badle, bīs kos pe bolī, i.e., 'the water (climate) changes every ten miles whereas dialect changes at every twenty miles.' Although there might be some element of exaggeration in the above saying, it is undoubtedly true that a vast degree of complex variability prevails in this region.

The Hindi language is spoken essentially in North India. This area includes the states of Rajasthan, Delhi, Himachal Pradesh, Uttar Pradesh, Hariyana, Madhya Pradesh and Bihar. The linguistic situation of this vast region can best be characterized by a dialect continuum. Different languages and dialects are linked by a chain of gradually changing village dialects where neighboring dialects are always mutually intelligible. Since from Rajasthan to Bihar, every village dialect is intelligible to a neighboring village dialect, every dialect speaker can communicate with a speaker of the adjacent dialect. However, the mutual intelligibility does not hold at the end points. Therefore, a Bihārī speaker may have a very hard time understanding Rājasthānī.

Historically speaking, a perfect equilibrium prevailed among the various dialects of this region. There was no urban or cultural center such as Paris or London which could dictate its linguistic standards to the other regions. No one dialect emerged as dominant, capable of serving all linguistic purposes. It is true that from time to time several dialects emerged as literary 'language', yet no dialect succeeded in overshadowing others as a pan-regional dialect. While the emergence of dialects such as

Rājasthānī, Braj Bhāṣā, Maithilī and Avadhī as strong literary dialects qualified them for the status of language (Bhāṣā), their appeal to other linguistic roles was rather restricted. Even in the area of literary activities, they complemented each other. For example, Rājasthānī overshadowed Braj and Avadhī in the Bardic poetry whereas the latter established their supremacy in the area of devotional poetry. Although these dialects extended themselves beyond both their respective regions and their prescribed roles, the supremacy of the regional dialect within its own region remained unchallenged and, as a result, extra-regional dialects coexisted with each region's dominant dialect in perfect harmony. Thus, historically speaking, multidialectalism flourished in the entire region and no dialectal rivalry arose till very recently. (For details, see Kachru and Bhatia 1978.) Besides these regional dialects, the needs of local administration and business were satisfied by a distinctive style of their own within every region. Spoken forms similar to regional standards were often the native speech of town dwellers and trading castes, and they also served as mutually understandable media of communication for the villages of a region, since they tended to avoid most divergent localism of the village.

Gumperz and Naim (1960:50)[2] attempt to capture the pattern of speech variation in this region by a stratified distributional model such as the following. According to them, the total range of speech varieties in the Hindi region may be described in terms of three strata, each corresponding to its own network of communication and having different functions in social system. First, there is a chain of mutually intelligible 'local' dialects which vary from village to village and from caste to caste. A superposed, second stratum comprise 'sub-regional' dialects used in wider areas, in small bazaar towns, and in certain urban and rural areas requiring a common medium. Superimposed above the local and sub-regional dialects is the urban stratum of 'standard' varieties known as Hindi-Urdu. It is the native speech of a part of the urban population and is widely used as a second or third language because of its considerable communicational and prestigious advantages. With this stratified model in mind, let us observe the treatment of variation in Hindi.

0.2 TREATMENT OF VARIATION IN HINDI

The bulk of traditional grammars and linguistic studies on Hindi focuses on two types of variation: geographical and stylistic variants of Hindi. The traditional Hindi grammars such as Kellogg (1893), Guru (1957), Vajpeyi (1967), and Sharma (1958) primarily focus their attention on grammatical accounts of the regional dialects of Hindi and their classification. Only Vajpeyi makes some passing remarks regarding the social differentiation of Hindi. The analysis of stylistic variation includes the discussion on literary Urdu (Platts 1873) and its other spoken varieties employed primarily by educated people, Hindustani (Harley 1944, Bailey 1950) and Dakkhini (Sharma 1964).

Grierson's Linguistic Survey of India (Henceforth, LSI) is the first and the most detailed systematic account of speech variation in India. It contains most dialects of the Hindi-speaking region and covers both geographical as well as stylistic variants of the Hindi language. A number of later works attempt to supplement this work (for these works, see Bhatia 1973), but without much success. The works of Gumperz (see Dil 1971, for

a collection of Gumperz's works on Hindi) constitute a notable exception to those mentioned above, since Gumperz deals with the societal aspect of the Hindi language rather than with the geographical.

The major shortcoming of variation studies on Hindi can be summed up by the following remarks of Gumperz and Naim (1960:50)

> Such studies while useful to those whose interest is confined to literature or to the structure of a single variety, nevertheless represents rather arbitrary abstractions from actual linguistic behavior which are of little aid in clarifying the bewildering range of varieties of Hindi-Urdu found in North India. If we are to understand speech distribution, we must describe it in terms of the society in which it operates.

In short, little attention has been paid to the societal aspect of the linguistic variation in Hindi. This practice has left serious gaps in the sociolinguistic descriptions of Hindi. In the following two sections, I will draw attention to some major problems related to linguistic variation in Hindi.

1.0 SOLVING THE LINGUISTIC PUZZLE

To this date, one of the major concerns of grammarians and linguists working on speech variation in Hindi is how to solve the linguistic puzzle of the region under consideration. The problem involves two steps: first, to look at the total range of the geographical varieties of Hindi and, second, to build a framework of variation to classify these varieties. In order to accomplish these tasks, Hindi linguists looked to Grierson's monumental work, LSI, as a model since it laid down the basic framework for variation studies by providing the description and classification of most dialects of the entire Hindi-speaking region. The impact of LSI was so great that it was considered a complete enumeration of the geographical variants of Hindi. As a result, it left a wrong impression among Hindi variationists that since almost all the geographical varieties have been touched upon, the only task left for later studies is to supplement Grierson's findings and offer a better description and classification of the varieties discussed by him. Subsequent works proceeded with these set goals in mind and offered conclusions along the following lines: our study shows that Grierson's account of the dialect X is inadequate. Such findings were followed by some remarks regarding Grierson's classification of the dialect in question.

The need for supplementation and examination was also felt important for the reason that Grierson's LSI was not based on direct field work. Therefore, it became readily apparent to later investigators that it is highly probable that LSI could be missing some significant information which in turn is crucial for dialect classification. And, in order to fill this gap, Hindi linguists set out to supplement his work by employing actual field work techniques. Although their improved methodology laid a better foundation for future variation studies, not much was gained. Their value was undercut by investigators' lack of phonetic training and by the use of Devanāgarī script for phonetic transcription. Consequently,

their contribution in bringing out a better picture of Hindi variation was not very significant. Also, it went unnoticed by later scholars that Grierson's reliance on written information presented a narrow range of Hindi variation. His informants were asked to furnish translations of a standard text into one or other named speech form known from local sources. It turned out that the dialects and styles which were dealt with in LSI as the smallest units of linguistic variation in Hindi actually failed to record yet smaller units of variation, the rural or local dialects. This failure of LSI to provide a close approximation to Hindi variation not only furnished a weak model for further investigations, but it also missed some important properties of Hindi variation.

A better model of Hindi variation, a three-strata model, emerged as a result of Gumperz's field work, which presented a rather close approximation of variation in the Hindi-speaking area. From this model, it becomes clear that the task of investigating the lowest stratum is far from being complete and that it must be taken up seriously in order to arrive at the complete or adequate enummeration of the geographical variation of Hindi.

It will not be desirable to conclude from the above discussion that Grierson and others were totally unaware of the existence of village dialects. Nevertheless, a great deal of misconception stemmed from the inability of the latter investigators to relate the accidental exclusion of the lowest stratum with the use of Grierson's methodology. They took LSI at its face value and failed to draw any inference about the presence of such a stratum of variation in Hindi. However, it was not the only reason for the omission of village dialects in post-Grierson studies. In spite of the fact that Gumperz spelled out their existence in his model and that he (1958) and Bahri (1966) initiated studies on these dialects, the study of village dialects generated little enthusiasm among Hindi variationists. The contrast between the investigation of village dialect today and the neglect of variation earlier, in general, hardly goes unnoticed. In spite of repeated calls from Gumperz and Bahri for the urgency of such investigations, this neglect still continues which indicates the presence of a continuous bias among Hindi variationists towards this variety of Hindi.

Needless to say, investigation of rural dialects is not only crucial to account for the total range of geographical variants of Hindi, but is also important to gain better perspectives into several issues related to language planning. While exploring all these issues is outside the scope of this paper, some remarks regarding the importance of rural dialects and mass communication are in order.

The investigation of rural dialects holds an important key for unlocking a most efficient and worthwhile mass communication policy in the Hindi-speaking region. From our discussion of Gumperz's stratified distributional model, it is clear that there is considerable lack of mutual intelligibility between village varieties and the standard Hindi which is employed by educated government officials. As a result, communication between villagers and government officials who are not familiar with the village dialect breaks down completely. This observation was previously made in Gumperz (1957). On the basis of his empirical tests, he showed that villagers of Saharanpur encountered serious difficulties in under-

standing the contents of government pamphlets (for some recent similar findings, see Srivastava et al. 1978). Hence, the investigation of local rural varieties is crucial to analyze the differences between them and standard Hindi which pose communication barriers. It must be stressed that no other alternative medium such as TV or movies can serve as a suitable medium to eliminate the communication barriers, which are fundamentally caused by linguistic differences. Thus, the most urgent task for Hindi variationists and communication policy makers alike is to pay serious attention to rural varieties in order to grasp the communication difficulties of rural dwellers. It is clear that for efficient communication, either village dialects should be adopted as media of communication or a variety of standard Hindi,[3] which could minimize the gulf between the two varieties, should be developed.

Finally, with regard to the question of the geographical varieties of Hindi, I would like to draw the attention of Hindi variationists to an area which still remains largely unexplored. Studies by Harris (1966 and 1968) and Sharma (1968) have shown that new varieties of Hindi have emerged as a result of the contact of Hindi with its regional dialects or languages and other Indian languages. That is to say, there are new variants of standard Hindi which have undergone some changes as a result of their contact with regional varieties such as Rājasthānī, Braj, Avadhī, Bhojpuri. Also, Sharma (1968) outlines varieties such as Punjābī-Hindī, Marāthī-Hindī, Telugu-Hindī, etc. which have gained currency in recent times. These studies open a whole new area of research on variation in Hindi. In the following section I will focus my attention on non-geographical variants of Hindi and the problems related to them.

2.0 SOCIAL DIALECTS OF HINDI

As I pointed out in my introductory remarks, Hindi studies leave the impression that variation in Hindi is primarily one-dimensional in nature, i.e., geographical differentiations are the most significant and perhaps the only type of variation that exists in Hindi. It is, of course, possible that the regional varieties are more marked and thus, more readily recognizable. However, that does not mean that social or caste diversity is in the process of decline in the region. On the contrary, such diversity exhibits more varied, multiple and complex characteristics. For example, Gumperz (1958) shows that in a small village such as Khalapur the inhabitants are divided into thirty-one endogamous castes or <u>jāti</u> groups, some of which maintain their dialect differences.

In spite of the fact that every conceivable type of speech community exists in the region, Hindi investigators pay very little attention to the interaction of the language with society. It is not the case that there is no agreement on the necessity or desirability of this dimension. Though this dimension is accepted by every investigator in theory, in actual practice it is not taken seriously. Therefore, most variational studies conclude with some remarks such as the following, about the societal aspect of the Hindi language.

> There is no significant difference between the Brahmin and Thakur's dialects (Dube 1967, cited in Bhatia 1973: 374).

> Language differentiation can be induced due to social differences. However, on the basis of the speech samples of various castes in the region in question, no systematic and significantly different varieties could be obtained in the district of Agra (Chaturvedi 1961: 103).

Generally speaking, such conclusions are not arrived at as a result of careful investigation of the linguistic data. On the contrary, they are the reflection of secularism, which has introduced a great deal of bias in the investigation of linguistic variation with respect to societal or caste differences in Hindi. A theme of caste and societal differentiation is considered to be obsolete among the educated Indian community and is neither in agreement with the progressive Gandhian school of thought nor with government policy, which aims at eliminating caste differences in order to lay the foundation of a modern society. In this context, consider the following remarks of Chaturvedi:

> The underlying reason (for the absence of significant differences between the Brahmin and Thakur dialects in the district of Agra) is that social and caste differences are fading away nowadays. (Ibid., 104)

While it is true that Indian society is currently undergoing transformation and social reforms, it is far from being a homogeneous society. A close investigation of speech samples presented by Chaturvedi himself reveals significant caste differences, some of which are presented in the following tables.

TABLE - 1

	Brāhmin	Thākur
Today	ā̃j	ā̃j
Today	āju	—
One	ek	ek
One	eku	—
He (Ergative)	unne	unne
He (Ergative)	bāne	bāne
He (Ergative)	binne	—

TABLE - II

	Brāhmin	Thākur	Ahīr/Jāt
The Dative Marker	kũ̃	—	kũ̃
The Dative Marker	kõ̃	kõ̃	—

[The symbol — represents a gap]

From the above tables, it is clear that various caste differences are noticeable in the variety spoken in the district of Agra. The Brahmin forms exhibit more variation than those of other castes. They have full control over the linguistic variants of other castes and they also control the variants, the highly localized as well as non-localized ones.

One of the linguistically serious consequences of such conclusions as those drawn by Chaturvedi and Dube is that it became a common practice among Hindi variationists to analyze linguistic variants in terms of geographical correlates alone. The theory of variation which emerged from such practices treated the societal or caste correlates as insignificant to a description of linguistically significant and systematic differentiations. As a result, wrong conclusions were drawn and sometimes arbitrary geographical boundaries were set up in the process of analyzing linguistic variation in Hindi. In addition, because of this attitude, some problems arose which would not have arisen under an adequate theory of variation. The following example will clarify the point that I am trying to make here.

Most of the dialectological studies in Hindi, first of all, never admit that some variants cannot be accounted for on the geographical basis alone. It is also interesting to note that no problematic areas are discussed, and no exceptions to dialect boundaries are suggested. The only exception I came across is the study by Dube (1967).[4] Her study on the Bundelkhand area revealed a baffling amount of variation. It was observed, for example, that the lexical item andherā 'darkness' has at least thirteen variants. When her attempts to draw separate areas for each variant failed, she concluded that "The amount of variation is so great that individual boundaries can not be drawn" and she went on to explain that such a scattered variation can be attributed to "mobility." Notice that such problems arose on account of the ill-equipped theory of variation which requires one geographical area per variant and overlooks the societal aspect of linguistic variation. The problem can best be solved by taking into account the various social or caste groups which exist in a given area. I should also add that mobility is not significantly high in the Bundelkhand area, and thus, it is not adequate to attribute this high degree of variation to it. In short, such an inadequate theory of variation not only created unnecessary problems in the analysis of Hindi variation data, but also missed significant social and sociolinguistic information about the Hindi speech community. In addition, societal information of the type abstracted here on the basis of speech samples of various castes presented in Chaturvedi (1961), shows that variation studies can disclose deep-rooted and underlyingly significant societal information which is otherwise difficult to obtain due to the complexities and the surface behavior of societies. Consider for instance the case of Urban Hindi in this regard. It is generally observed that "urbanization is acting as a solvent upon the traditionally compartmentalized and localized modes of life" (Gumperz 1969: 597). It is true that modern urban Indian communities display a great deal of interaction and communication among various groups as compared to traditional Indian society or rural communities. However, it is not adequate to arrive at the conclusion, on the basis of the surface behavior of Indian urban communities, that the social distance among various Indian castes or groups is fading away in the urban setting. A sociolinguistic account of the Gujrati Indian community

reveals that underlyingly the social distance is as strong and rigid in the urban as in the rural communities (see Pandit 1972). Our preliminary observations about the urban communities of Delhi reveal that Pandit's observations are valid for the Hindi-speaking speech community too. Therefore, Hindi variation studies must aim at providing information about those deep-rooted social differentiations which may not be otherwise accessible even by sociological studies. Furthermore, it should be pointed out that variation analysis can bring out the following type of sociolinguistic insights. It has been observed by Kachru (1976) and others that migrant Indian communities, as opposed to those immigrants in the USA, do not give up their languages or dialects in favor of a dominant language or dialect. Speaking from the strictly sociological point of view, it is interesting to observe that in spite of the decompartmentalization of social life, urbanization does not discourage multilingualism and, indeed, preserves social dialect differentiation by and large at the same rate as in the rural areas. This then reveals yet another important property of Indian multilingualism.

3.0 SPEECH VARIATION AND PAN-DIALECTAL GRAMMARS

It has been pointed out before that sociolinguistic research not only reveals significant information about a speech community, but also provides better insights into the inherent nature of language by characterizing variation as constituting an integral part of it. As such, variation has important implications for the notion of linguistic competence and grammar (Labov 1971; Le Page 1978; Chomsky 1975.)

3.1 LINGUISTIC VARIATION AND THE EXTENDED DOMAIN OF GRAMMAR

One of the direct and serious consequences of the earlier linguistic view of variation was that it narrowed down the domain of grammar. Even recent theories such as transformational grammar reject variation in favor of its concern with the 'ideal speaker in a completely homogeneous speech community.' Although it is important that the initial systematic inquiry proceed by means of idealization of data, nevertheless, such a procedure alone is not sufficient for the inquiry as a whole. The rejection of hetrogenity in favor of homogenity and variation for idealization by transformationalists as a matter of principle, not as a step towards a systematic inquiry into language, failed to capture the nature of language. Their theory also suffers from the following inadequacies:

(1) it wrongly limits the scope of linguistic competence of speakers to a fraction of what is actually known to a speaker about his own language (see Bailey 1972: 22);

(2) it makes wrong claims about the actual nature of language, i.e., language is a discrete and closed system;

(3) it leads to ill-formed linguistic formulations (such as optional rules) and ill-founded linguistic concepts (free variation); and finally,

(4) it makes unacceptable claims about the verbal behavior of speakers.

Although some transformationalists such as Klima (1964) attempted to generate more than one variety of any given language with a unitary core grammar, the systematic attempt to incorporate hetrogenity into grammars was presented by Bailey (1972) in the form of pan-dialectal grammars (henceforth, PDG). Although the notion of PDG is not entirely new, since the traditional grammarians and comparative linguists maintained a somewhat similar notion, the view offered by Bailey is different. Under the earlier view, the PDGs were viewed as a set of different systems of dialects/languages and, thus, every dialect/language was treated as a separate system. Therefore, a PDG simply meant a collection of more than one grammar in a grammar, whereas the notion of Bailey's PDG is based on a view which treats various dialects and languages in a multilingual or multidialectal society as parts of a single system. Such a view, which was prompted by speech variation studies, aims at capturing the following facts about speakers of a speech community. One, it is a well-observed fact that as the native speakers of a dialect grow older, they become familiar with increasingly larger number of other dialects. Two, they develop an ability to understand and interpret other dialect speakers, analyzing their rules and extending their own rules; and, three, they can extrapolate from their own rules and predict the existence of forms which they have never heard. On these bases, Bailey argues that defining linguistic competence on the basis of what a speaker usually produces wrongly limits the scope of competence investigations to a fraction of what is actually known to speakers about their own native language. Since the competence of a native speaker goes beyond the dialect he himself uses, Bailey argues for a single grammar which can encompass all the dialects of a language.

Similar views were earlier expressed in Gumperz and Wilson (1971). They argue that a single repertoire can be constructed for several different languages which a speaker can use. Furguson (1978) extended the notion of PDG to pan-lingual grammar and argued that variation functions as an absolute universal in human languages and, that therefore, not only geographical or social variation but also such variations as stylistic and register must become an integral part of a unified grammar.

In other words, speech variation not only provides a better understanding of the nature of language but also calls for a better theory of language on the one hand and a reconsideration of writing grammar on the other. In light of the above discussion, it becomes clear that a comprehensive grammar must not dismiss variation data simply as an exception or deviation from the norm, as has been common practice till now, but must admit it as legitimate input in order to start a new era of grammar, the PDG. In what follows, I will briefly outline a PDG of Hindi.

3.2 PDG OF HINDI: ITS SCOPE AND GOALS

Before the question of writing a PDG of Hindi is taken up, it is crucial to ask questions such as the following:

(1) What is the nature of the linguistic competence of Hindi speakers? Does it go beyond their own dialect?

(2) To what degree do the present grammars of Hindi represent such competence?

(3) Is it possible to write a PDG of Hindi?

(4) What is the scope and the goals of a PDG of Hindi?

Questions such as the first one are especially important in view of the enormously diverse, compartmentalized and localized Hindi-speaking speech community in which every village has its own dialect. On the basis of our discussion in section (1.0), it is clear that an adult speaker of Standard Hindi is familiar with other regional and social dialects as well. Not only can he recognize, understand, interpret and produce variants outside his own dialect but he can also predict a particular dialect he has never heard before.

With respect to the second question, the answer is the same as in the case of English. Generally speaking, the grammars of Hindi are prescriptive in nature and are concerned with 'ideal speaker' and 'homogeneous society.' Thus, a PDG is needed to account for the pan-dialectal competence of native speakers of Hindi in a unified way. Needless to say, such grammars will be different from grammars such as that by Kellogg (1893) in their theoretical, methodological and empirical approach.

From our discussion of PDG it is clear that such a grammar extends its scope beyond 'ideal speaker's dialect.' Such concerns of PDGs naturally set up prerequisites for data-input and subjects different from the earlier grammars. Since the PDGs admit variable data in stead of ideal data alone, a PDG of Hindi aims at characterizing the variety of Hindi which is used in day-to-day conversations, in talking, joking, gossiping, etc. and is free from the constraint of 'ideal speech of an ideal subject.' In other words, an ideal subject does not automatically qualify as the best subject for this type of grammar. From the following discussion of a PDG of Hindi, it will become clear that the grammar will not simply express the presence or absence of a rule with diacritics or with contrastive statements, but that it must also carry subsections or chunks for different dialects in order to account for those forms which constitute the grammar of a specific group. The following discussion will also answer the third question.

As far as the question of the nature of PDG of Hindi is concerned, I will restrict myself to the question of determining the limits of such a grammar and will postpone several questions related to the internal organization, per se, for future discussions. The PDG does not extend its scope unidirectionally. This explains why such a grammar calls for defining its outer as well as inner limits (these terms are due to Labov 1972). Theoretically speaking, the outer limits of a grammar may correspond with the entire grammar of a speech community, its ethnography, and the inner limit with an idiolect. However, for our linguistic purposes, the domain of the outer limit PDG will be restricted to accept only the sociolinguistic data, and the inner limit to the grammar of the smallest group of a speech community. Let us now consider the question of a PDG of Hindi and its limits. The methodology of abstracting such limits is adopted from Labov (1972, 1978).

In order to determine the outer limit of a PDG of Hindi at least ten speakers of Hindi were selected from the University of British Columbia, Vancouver, Canada, representing different areas, castes and religions of the Hindi-speaking area. They were considered the best candidates for the grammar of Hindi under consideration due to their mobility and social surroundings in India as well as in Canada. They were and still are in contact with various speakers of different geographical and social dialects

of Hindi, and therefore have a wide range of exposure to other dialects outside their own region and social group. Such a selection is in agreement with Labov's selection of university students for the PDG of English. They were subjected to the same interviewing techniques as given in Labov (1972, 1978).

3.2.1 THE OUTER LIMITS

As is evident from the term PDG, one of the natural and important candidates for inclusion in such a grammar will be those categorical rules which are shared by all members of a speech community. Constructions such as dative (for details see Kachru 1970 and Sridhar 1976), passive, causative (Kachru 1976), compound and complex verbs (Kachru 1977) not only qualify for a PDG of Hindi, but also for a pan-lingual grammar of Indian languages. The other good candidates for inclusion in such a grammar are such rules as that which blocks the occurrence of two postpositions ko in a simplex sentence. For instance, there are the following two possibilities in Hindi and its dialects:

1. vo {laṛke ko / laṛkā ϕ} dekhtā hɛ.
   he boy obj. mark. see aux.
   He sees the boy.

i.e., the direct object may occur either with or without the ko. The occurence or non-occurence of ko is subject to semantic requirements or dialect variation.[5] However, in the dative construction, the deletion of ko is obligatory in all the dialects of Hindi as is evident from the grammaticality of (2) and the ill-formedness of (3).

2. us ko laṛkā pasand hɛ.
   he dative boy like Aux
   He likes the boy.

*3. us ko laṛke ko pasand hɛ.
   he dative boy obj. mark. like aux

Sentences such as (1) and (2) were judged as meaningful and were recognized by all our subjects. However, the general reaction to (3) was either 'it does not make sense' or 'it constitutes an emphatic response to a question kis ko kɔn pasand hɛ? who likes who?' In other words, in the response the subject and the object receive an equal focus.

Although some subjects were able to guess the meaning of (3) on the basis of their familiarity with Hindi word-order, they admitted their defeat when the cleft version of (3) was presented to them.

*3a. laṛke ko, us ko pasand hɛ.
   boy obj he dative like Aux.
   It is the boy who he likes

The ability of subjects to arrive at the correct interpretation of (3) was drastically reduced by the retention of the postposition ko as an object marker in the dative construction. The fact that no dialect of Hindi has ko in this construction is further supported by the fact that in response to (3), it was unanimously reported 'I have never heard such sentences.'

Among other non-categorical constructions, the ergative (see for detail Pandharipande and Kachru 1977) and cāhiye constructions constitute good candidates for inclusion in a PDG of Hindi. Although Standard Hindi is an ergative language, the speakers of this variety are fully aware of the fact that some dialects of Hindi do not have ergativity. The notable non-ergative dialects of Hindi are the Eastern dialects, Dakkhini Hindi, and some dialects spoken in the western region. In spite of this variation, ergativity and non-ergativity qualify for inclusion in a PDG of Hindi. Not only can the speakers of the ergative dialects recognize and interpret non-ergative counterparts of an ergative sentence, but they can also produce and correctly predict the forms spoken outside their own dialect.[6] Consider an example of a non-ergative dialect:

4.	ham	khānā	khāye	hɛ̃.
	we	food	ate	have
	we have eaten food.			

The above sentence is perceived as an equivalent of (4a), i.e., with ergativity and at the same time without any change of meaning:

4a.	ham	ne	khānā	khāyā	hɛ·
	we	erga.	food	ate	have
	We have eaten food.				

Let us now consider the candidacy of the cāhiye construction for the type of grammar of Hindi under consideration.

5.	mujhe	kitabẽ	xarīdnā	cāhiye.
	to me	books	buy to	should
	I should buy books.			

Vajpeyi (1968) and other Hindi grammarians permit sentences such as (5) in the grammar of Hindi and reject the following variants of (5) as the sub-standard forms.

5a.	mujhe	kitābẽ	xarīdnī	cāhiye.
5b.	mujhe	kitābẽ	xarīdnī	cāhiye.

The Western Hindi dialects spoken in Delhi and other regions differ from the form (5), which is considered the standard form by Hindi grammarians, with respect to agreement rules which operate on the infinitival form xarīdnā 'to buy'. The Standard Hindi dialect uses the infinitival form as invariant, whereas the infinitival form agrees with the object kitābẽ 'books' in number and gender in some Western Hindi dialects. Such agreement also extends to the verbal element in some dialects in the western region. I will call this dialect WD2 and the former one, WD1.

Thus, both WD1 and WD2 share the infinitival agreement rule, whereas the verbal agreement rule which allows the verbal form cāhiye 'should' to undergo agreement with the object NP, books, is exclusively restricted to the WD2 dialect. However, all three forms (5-5b) constitute a part of the linguistic competence of Hindi speakers, since all of our subjects could easily understand, interpret, produce and predict the forms outside their own dialects. Different agreements rules[7] which yield different outputs of VP and NP in various dialects of Hindi will also go into the body of a PDG of Hindi for the same reason.

The PDG of Hindi must incorporate the following information about the gender system. All the dialects of Hindi behave identically with respect to the question of assigning gender to animate nouns, since logical decisions go into the selection of the gender of such nouns. However, in the case of inanimate nouns, various criteria[8] such as semantic, phonological or some other arbitrary criteria are employed to select gender from the binary choice of gender, i.e., either masculine or feminine. (The details of selecting the gender in Eastern and Western Hindi are outside the scope of this paper.) The Eastern and Western dialects of Hindi differ with respect to the precedence of one criterion over the other. For example, the gender of dahī 'yogurt' is masculine in one dialect and feminine in the other, the reason being that in the latter dialect the phonological criteria for assigning gender has precedence over the criteria employed by the former dialect. In the third type of dialects which have emerged in the urban areas as a result of the convergence of Hindi with other languages of India, the masculine category is treated as an unmarked category. This explains why even the unmarked feminine forms such as hindī 'Hindi', nadī 'river' and shādī 'marriage', etc. have masculine gender in these dialects.

During the interviews, it was discovered that recognition and reproduction of the outside dialect forms did not constitute sufficient evidence for their inclusion in the PDG of Hindi. That is why the criteria of interpretation and prediction of the outside forms were admitted as additional crucial criteria for their inclusion in the PDG of Hindi. The justification of these additional criteria becomes clear from the following discussion. The dialects of Hindi follow the following systems with respect to question words as modifiers:

Western Hindi		Eastern Hindi
kyā	'what'	Kaun 'what/who'
kɔn	'who'	kaun-sā 'which one'
kɔn-sā	'which one'	

That is, the three-way distinction is reduced to a two-way distinction in the Eastern Hindi dialects. Due to the partial phonological identity of the two systems, the Western Hindi speakers could easily recognize and reproduce the Eastern Hindi forms such as kaun kām 'what work/business', and they even claimed that they could interpret such phrases. However, their interpretation and paraphrasing revealed that the Western Hindi speakers equated these phrases with phrases such as kaun-sā kām 'which work/business' and derived the Eastern Hindi counterpart from the deletion of the particle sā. However, they immediately mastered the correct Eastern

Hindi system, when asked if they ever heard sentences such as the following.

6. kaun desh se āye hɛ̃.
what state from came have
What state do you come from?

Although some Western Hindi speakers did report that the above sentence is ambiguous, they preferred the Eastern Hindi reading. The ambiguity of the above sentence stemmed from the non-unitary interpretation of kaun—se 'who—from' i. e., "Who has come from the country (home)'. Their preference for the Eastern Hindi system is potentially present in their grammar. It is interesting to observe that the sentence (6) served as a cue to arrive at the correct Eastern Hindi system. The paraphrasing of the above sentence and of several other isolated phrases including the non-oblique form of kaun desh se 'from what state' showed that when presented with a cue sentence, the Western Hindi speakers could correctly predict the interpretation of the Eastern Hindi forms and did not derive the form kaun as resulting from the deletion of sā.

Now let us look at an example of a syntactic construction which represents the grammar of a group and not the PDG of Hindi speakers. Kachru (1979) pointed out the presence of quotative constructions in the Dakkhini Hindi. When sentences such as the following were presented to our subjects, they encountered problems in interpreting the exact meaning of these sentences.

7. keh rɛ̃ mere sāth rēne do bolke.
saying my with stay give quot
He is saying, "let (him) stay with me."

8. unũ āj āo bolke bole the.
they today come quot said had
They had said, "come today."

Our subjects singled out the phrase bol ke and attempted to process the sentence with this phrase meaning as 'Having said/saying'. This shows that although the native speakers of Hindi are familiar with the literal meaning of the phrase, its functional meaning as a quotative marker is outside the scope of their grammar. In spite of the fact that they were told the meaning of the above sentences in Dakkhini Hindi, they failed to reproduce the above sentences as well as other such sentences. From their attempts to produce the quotative sentences, it became further clear that they not only lack intuitions about the use of bol ke as a quotative marker but they also have no intuition about its word order in a sentence. Hence, such a construction falls outside the outer limit of the PDG of Hindi and will form a part of Dakkhini Hindi, which in turn will constitute a sub-section of this grammar.

3.2.2 THE INNER LIMIT

The inner limit of the PDG of Hindi is marked by rules which are specific to individual groups which form the Hindi-speaking speech community. Needless to say, there will be a great deal of variation among the

individuals of a group; however, the PDG will restrict itself only to the patterned and systematic variation representative of the group in question. Detailing this limit, Labov points out that

> Our work is finished when we have written the most specific rule we can that constrains as tightly as possible the language of a given group. Such rules often combine a number of parallel sub-cases, some invariant, others variable. These maximally specific rules are one kind of minimal unit. They will apply to a group of speakers who use, interpret, and evaluate them in a relatively uniform way. There will of course be some differences among them, but grammar must stop at some point, and declare that those differences are not grammatically significant (Labov 1972: 76).

The inner limit of the PDG of Hindi will embody such rules as the following. Nasalization is phonemic in Standard Hindi. Gumperz (1958) pointed out some striking dialect differences in the phonology of speakers in Khalapur. One such difference which marks the dialect of untouchables is the rule which nasalizes the long oral vowels of standard Hindi. Consider, for example, the following data.

Standard Hindi	The Untouchable Caste Dialect	
īkh	ĩkh	'sugar cane'
khāṭ	khãṭ	'cot'

Notice that the PDG will not simply write the rule as characterized above and then stop. Even at this level, the grammar must look for constraints which can qualify as pan-dialectal constraints. For example, it is not an accident that only long vowels get nasalized in the untouchable dialect. In part it follows a general phonetactic constraint which maintains that the long vowels are generally nasalized in Hindi pan-dialectally. In other words, the PDG of Hindi must not stop looking for pan-dialectal features in the grammar of a specific group.

4.0 CONCLUSION

Due to the highly complex and varied nature of the Hindi speaking/speech community, Hindi represents a highly intricate and dynamic state of linguistic variability. Added to this state of affairs are several other factors such as the impact of Grierson's LSI, the bias of investigators against rural dialects, the influence of Gandhian philosophy and the reformative secular government policy which obscured the clear, systematic and unbiased description of linguistic variation in Hindi. As a result, several problems such as serious gaps in variation studies, ill-formed analyses and inadequate theory of Hindi variation emerged. The insights provided by the current sociolinguistic research, however, offer better perspectives into the problems of Hindi variation and at the same time point out the direction of future research. Current problems of research in variation in Hindi deserve serious attention and several neglected areas of research, especially the writing of a PDG of Hindi, need to be addressed. Our preliminary investigation into a PDG of Hindi reveals that constructions such as the dative, passive, causative, compound and conjunct verbs fall under the outer limits of such a grammar. Also,

the non-categorical constructions such as the ergative and cāhiye constructions constitute good candidates for inclusion in the outer limit. However, the non-phonemic rules, such as the nasalization rule which nasalizes the long vowel of Standard Hindi, mark the inner limit. Needless to say, further investigations are needed before one could adequately determine the nature of a PDG of Hindi.

NOTES

This paper profited a great deal from discussions with Professor Braj B. Kachru concerning this topic. I am also indebted to Professor Y. Kachru for her invaluable comments on the earlier version of this paper.

[1]I am using the label 'variationalist' as a cover term to denote terms such as dialectologist, sociolinguist and variationalist.

[2]The pagination of Gumperz's articles as based on Dil (1971).

[3]Such a variety can easily be deviced by reducing the frequency of a highly Sanskritized lexicon and employing the code-mixed variety of Hindi with Persian and English, which will significantly increase the intelligibility of Standard Hindi.

[4]It is interesting to note that even Dube is not really concerned with problematic areas. The temptation to show the maximum number of variants led to the problematic area under discussion.

[5]In the Standard Hindi dialect, the postposition ko is selected with a definite direct object NP and is dropped in the case of an indefinite direct object NP. However, some urban and non-urban dialects of Hindi do not retain such a distinction and always drop the postposition.

[6]The preliminary examination showed that all of our subjects, whether speakers of the ergative dialect or the non-ergative dialect, showed equal competency in the other dialect. If it were not the case, it would have been an interesting question to investigate what variety in general has a bigger grammar. Also, it would be interesting to observe the competency of the Dakkhini Hindi speakers in the ergative variety.

[7]What I have in mind is the agreement rule(s) which generate(s) sentences or phrases such as the following:

m ɛ̃/ham jātā̃ hɛ. 'I/We go'
āp ao. 'Please come'
acchā̃ larkī log 'good girls'
vo ghar mẽ 'in that house'

[8]The gender of inanimate nouns is sometimes predictable on the basis of the semantic or phonological cues. In general, inanimate nouns which are associated with big and heavy objects are assigned the masculine gender, whereas diminutive objects are assigned feminine gender. Such a criterion of assigning the gender, I call the semantic criterion. Under

the phonological criterion, nouns ending in the -ā and -ī are given the masculine and the feminine gender, respectively. When neither of these two criteria apply, the gender is assigned 'arbitrarily.' For example, neither of the above criteria can predict the gender of the lexical item senā 'army' which has the feminine gender.

[9] In the Eastern Hindi, the question word kyā 'what' is present; however, it is absent as a modifier.

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LANGUAGE-DEATH PHENOMENA IN SANSKRIT: GRAMMATICAL EVIDENCE FOR ATTRITION IN CONTEMPORARY SPOKEN SANSKRIT

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Sociolinguistic evidence indicates that Sanskrit, after more than 3000 years of continuous history, now is in the process of dying out in its spoken use. The present paper shows that this process of language attrition or 'language death' is mirrored in an attrition of the grammatical rule system of spoken Sanskrit: Even excellent, fluent speakers of Sanskrit exhibit considerable difficulties in judging the grammaticality of structures involving "major" changes in grammatical relations. On the other hand, other aspects of grammar seem to be relatively little affected by the process of language attrition. This suggests that in language death, the relatively more "complex" rules which affect or refer to grammatical relations are more easily lost than relatively superficial rules such as gender marking or negative placement.

1. Of the ancient Indo-European prestige languages, Sanskrit alone remains in spoken use even today, after more than three thousand years of continuous history. At the same time, however, a sociolinguistic study of spoken Sanskrit which I conducted in 1980/81[1] strongly suggests that in this oral use, Sanskrit is now rapidly following the other ancient prestige languages on the road toward extinction. Though this process may not be irreversible as yet, the signs of imminent language death are clearly visible. Most prominent among these is the fact that even in Vārāṇasī (Banares), the most important center for Sanskrit learning, the number of fluent speakers of Sanskrit is significantly smaller in the lower age groups and far higher in the age groups over 50 than life expectancy would suggest. Moreover, during the entire year of my research I came across only one instance of "spontaneous" use of spoken Sanskrit, i.e. without there being a special occasion (such as a meeting of Sanskritists) or without my being present and prompting the spoken use of the language.[1a] Finally, even in academic contexts, the traditionally most common context for spoken Sanskrit, the language has undergone severe reduction. This is most clearly seen in the case of the Vārāṇasī Sanskrit University, an institution dedicated to Sanskrit language and culture: In the sixties and even the early seventies of this century, instruction after the first year of study still was in Sanskrit, requiring students and professors alike to be able to speak Sanskrit and to understand spoken Sanskrit with sufficient fluency to make academic communication possible and meaningful. Now, however, oral examinations no longer are given in Sanskrit, and instruction, even in traditional Sanskrit fields such as grammar and philosophy is conducted in Hindi--even though most of the professors can speak Sanskrit with complete fluency. That is, even those who can speak Sanskrit fluently, do so under severely reduced sociolinguistic circumstances, and there is clear evidence that this sociolinguistic reduction is now accelerating at an alarming rate. A full report on my general sociolinguistic findings will be presented in a separate publication.

This paper examines certain evidence of a more specifically linguistic nature which suggests that not only in its sociolinguistic use, but also in its grammatical structure, spoken Sanskrit is a dying language.

Since research on which this paper is based was conducted mainly in Uttar Pradesh, the specific findings here presented hold true for the Hindi-speaking area only. Spot checks and preliminary research in other areas of India, however, suggest that although the details may differ, the general situation here described may well be pan-Indian. This is certainly the case for the sociolinguistic indicators of incipient or accelerated language death. As far as the structural aspects discussed in this paper are concerned, there may well be some regional variations. This is especially true for the construction covered in section 4.1 below, where the noted restrictions seem to be limited to the Hindi-speaking area. However, there is no evidence for any similar variations for the other features discussed in this paper.

2. At the very outset it should be noted that a good deal of the evidence here presented may be amenable to one and/or the other of two alternative interpretations: It may be claimed that the observed phenomena merely reflect 'interference', or the 'interlinguistic influence' of Hindi, the spoken vernacular. Or it may be asserted that the speakers in question simply did not learn Sanskrit correctly.

There is no doubt an element of truth to these different interpretations. However, as in other instances of language death,[2] the question remains whether these interpretations are sufficient to account for the observed phenomena, especially when viewed in their totality.

This issue will be addressed more fully in section 7 below. Preliminarily, however, we may note that in the present case, the imperfect-learning hypothesis is cast into considerable doubt by the fact that with one exception (speaker VI, whose spoken Sanskrit was merely 'adequate'), the speakers in question all had an excellent command over spoken Sanskrit, such that they were able to converse about virtually any topic, with great linguistic and stylistic sophistication, without making any grammatical mistakes (except for such--usually self-corrected--grammatical slip-ups as occur in all spontaneous, unrehearsed speech).

In fact, the speakers in question were selected because of the excellent quality of their spoken Sanskrit. Another criterion, however, was the fact that these speakers (again with the exception of speaker VI) were not specialists in traditional grammar and thus could be expected to give judgments concerning their own internalized knowledge of Sanskrit uninfluenced by the prescriptivisms of the grammatical tradition. (Beside gathering the responses of speaker VI, other less formal attempts at cross-checking were made. Like speaker VI's responses, they led to essentially the same conclusions as those of speakers I - V. There is thus good reason to believe that the observed phenomena are a general property of contemporary Sanskrit as spoken in Uttar Pradesh.)

3. The influence of Hindi, likewise, will not provide a sufficient explanation for the phenomena in question. For first of all, what needs to be explained is the <u>selective</u> nature of the putative influence.

There are many grammatical features in which Hindi and Sanskrit differ. Thus where Sanskrit has a distinction between masculine and neuter, even in stems belonging to the same inflectional class, such as the a-stems viṣaya- 'topic' and patra- 'letter', Hindi has lost the distinction and shows invariable masculine gender in the corresponding words. Cf. (1) (a)-(b) vs. (a')-(b').

(1) Skt. (a) etāni madīyāni patrāṇi (n.)
*ete madīyāḥ patrāḥ (m.)

(b) *etāni madīyāni viṣayāṇi (n.)
ete madīyāḥ viṣayāḥ (m.)

Hindi (a') ve mere patr (m.)

(b') ve mere viṣay (m.)

On a less superficial level, Sanskrit has an 'absolute' construction employing the locative case of a participle, with agreeing locative case of the underlying subject of that participle. Hindi, on the other hand, uses the so-called oblique of the participle and the (non-agreeing !) genitive of the subject. Cf. the examples in (2).

(2) Skt. rāme bhāṣamāṇe lakṣmaṇaḥ upaśāntaḥ
Loc. Loc.pple.

Hindi rām ke bolte hue lakhan čup ho gayā
Gen. Obl. pple.

'when Ram spoke, L. became quiet'

As far as the placement of negation is concerned, Sanskrit shows a great degree of freedom. There is a tendency, however, for the position of the negative na to indicate the scope of negation, as in (3) (a) vs. (b), where the position of na relative to kaścid 'some/anyone' or to the verb indicates quantifier or sentential scope. Hindi, on the other hand, lacks constructions comparable to (3a). Only constructions comparable to (3b) are permitted, and it is within these constructions (cf. (3b')) that Hindi tries to make the distinction which Sanskrit encodes in (3a) vs. (3b). (Cf. Bhatia 1978 for further details on Hindi.)

(3) Skt. (a) na kaścid etad jānāti 'no one knows this'
etad na kaścid jānāti

(b) kaścid etad na jānāti 'someone does not know this'
etad na kaścid jānāti

Hindi (a') *nahī̃ koī yah jāntā
*yah nahī̃ koī jāntā

(b') koī yah nahī̃ jāntā 'someone does not know this/ no one knows this'

yah koī nahī̃ jāntā 'no one knows this'

In spite of the grammatical differences between Hindi and Sanskrit exemplified in (1) through (3), however, good speakers of Sanskrit quite freely--and accurately--follow Sanskrit norms in their linguistic behavior, not the norms of Hindi. Moreover, they can be observed to correct beginning Sanskrit

speakers' Hindi-influenced Sanskrit toward the Sanskrit model (such as the use of (3b) in the meaning of (3a)).

In fact, outside constructions which involve ("major") changes in grammatical relations,[3] the spoken Sanskrit of good speakers is remarkably free of Hindi influence. I have noted only one such construction where Hindi can be said to exert some influence; and here it is simply in favor of over-extending an option which already existed in traditional Sanskrit, namely the surface specification of first and second person subject pronouns. Here traditional Sanskrit offered an option between (4a) and 4b), while Hindi essentially only permits (4a'). (The type (b') occurs only under highly restricted discourse conditions.)

(4)	Skt.	(a)	aham na jānāmi	'I/I don't know'
		(b)	na jānāmi	'I don't know'
	Hindi	(a')	maĩ nahĩ jāntā (hũ)	'I/I don't know'
		(b')	??? nahĩ jāntā (hũ)	

Note however that although most Uttar-Pradesh Sanskrit speakers prefer the Sanskrit type (4a) in their own speech, they accept spoken Sanskrit employing type (4b) without any adverse reactions.

4. The situation is strikingly different when we turn to constructions which involve changes in grammatical relations.[3] This is especially true for constructions in which grammatical relations have undergone more than one 'layer' of changes, viz. the double causative (or causative of the causative) and the causative passive (or passive of the causative).

4.1. On the other hand, in the simple passive no great difficulties can be observed--except for one sub-type which will be discussed presently.

This is all the more remarkable since the Sanskrit passive and its Hindi counterpart tend to have quite divergent functions, especially where underlying subjects (or 'agents') are specified on the surface. Cf. (5) (a)-(b) vs. (a')-(b'). That Sanskrit speakers have little difficulty with this type of passive is perhaps attributable to the fact that the passive is very productively used in Sanskrit to convey politeness or deference (especially in its imperative, as in etat kriyatām bhavadbhiḥ 'please do this', lit. 'let this be done by your lordship(s)'). As a consequence, speakers have enough occasions to encounter these constructions and to use them--so as to account for them within their internalized grammatical rule system.

(5)	Skt.	(a)	(aham) tatra gacchāmi	(act.)	'I go there'
		(b)	mayā tatra gamyate	(pass.)	
	Hindi	(a')	maĩ vahā̃ jā rahā hũ	(act.)	'I go there'
		(b')	mujh se vahā̃ jāyā jā rahā hai	(pass.)	'I can go there'[3a]

There is, however, one passive construction which is evaluated very differently, namely the type exemplified in (6b). This past-participial passive construction from intransitive verbs (of motion) not only is not used by Utter-

Pradesh Sanskrit speakers, it is almost universally rejected as incorrect, or at the least, as bad usage; and persons using the construction are definitely subjected to opprobrium. At first sight this is all the more puzzling since Hindi clearly does have a corresponding passive construction, namely (6b"), which differs in function from Sanskrit (6b) just as (5b') differs from (5b). (Note that while with transitive verbs, structures similar to (6b) are in Classical and modern Sanskrit used as simple past tenses, without any special passive "flavor", with intransitives--including motion verbs--they do function as passives, corresponding to structures like (6a) just as (5b) corresponds to (5a).)

(6)	Skt.	(a)	aham tatra gataḥ	(act.)	'I went there'
		(b)	mayā tatra gatam	(pass.)	
	Hindi	(a')	maĩ vahā̃ gayā	(act.)	'I went there'
		(b')	*maĩ ne vahā̃ gayā	(erg.)	
		(b")	mujh se vahā̃ jāyā gayā	(pass.)	'I could go there'[3a]

There is of course a fairly obvious explanation, namely that (6b) too uncomfortably closely resembles the ungrammatical Hindi type (6b'). (Note that if grammatical, (6b') would not be passive, but 'ergative' past.) It is the 'interference' from the ungrammaticality of this construction, then, which seems to account for the unacceptability of (6b).[4]

However, as noted earlier, the question remains why interference from Hindi should be so much stronger here than it is in constructions (1) - (3). (Note that even in the case of (4), the use of type (4b) constructions does not elicit enything like the responses provoked by (6b).)

One possible answer is that while passives of the type (5b) occur quite freely in traditional Sanskrit, intransitive-passive structures of the type (6b) are used quite rarely. As a consequence, speakers might have less of an occasion to account for them in their internalized grammar.

At the same time, however, the difficulty remains that--in spite of their rare use--constructions of the type (6b) could be, and were, used in traditional Sanskrit. Presumably, earlier speakers of Sanskrit thus had not difficulty accounting for this type within their grammar (as a sub-type of the general passive construction).

4.2. Greater difficulties are observed in the causative construction. As noted earlier, this is especially true for the double causative and for the causative passive. But even in the simple causative, a great degree of uncertainty in grammatical judgments is noted.

This uncertainty manifests itself in terms (a) of variation in a given speaker's judgments and (b) of variation across different speakers. Cf. (7) (a)-(b) and (8) (a)-(b). (Indented number in (7-) - (9) refer to the sentences which were used to elicit speakers' grammaticality judgments. These sentences are given in the Appendix. Doubly underline numbers refer to sentences which most directly asked speakers to evaluate the grammaticality of the construction in question, as well as to make judgments concerning the relationship between constructions.)[5]

(7) SIMPLE CAUSATIVE I (kr-, Hindi kar- 'do')

	S C O V	I	II	III	IV	V	VI	Sanskrit 'Usage'	Sanskrit Pāṇini	Hindi
(a)	N A A c,a									
	(5)	*	x	x	*	*	*			
	(20)	*	x	x	*	*	*	x	x	*
	(33)	*	x	*	*	*	*			
(b)	N I A c,a									
	(4)	x	x	x	x	x	x			
	(19)	x	x	x	x	x	x	x (≠ a)	x (= a)	x
	(32)	x	x (≠ a)	x	x	x	x			
(c)	I N A c,p									
	(21)	OK	x	x	x	* → OK	x			
	(26)	?	?	x	x	*	x	x	x	*
	(35)	*	x/? → *	x	x	x	x → *			
(d)	I A N c,p									
	(22)	?	?	x	*	* → OK	*			
	(27)	?	?	x	*	*	*	*	x/? (= c)	*
	(34)	x	*	*	*	*	*			
(e)	I I N c,p									
	(23)	x	x	x	x	x	x	rare (≠ c)	x (= c,d)	x
	(25)	x	x	x	x	x	x			
	(36)	x	*	?	x (= c)	*	x → *			

What complicates matters is that especially for (7a-b) there is a divergence not only between Hindi and Sanskrit, but even within Sanskrit, where we have to distinguish between the precepts of Pāṇini's grammar and its later commentators and an actual usage which dates back to the time of Vedic prose. A more detailed picture of this difference is provided in Hock 1981. For the present, suffice it to state that in the non-Pāṇinian 'usage' tradition, instrumental and accusative causee marking can be found with all verbs, with the instrumental indicating a reduced 'affected-agency'. In Pāṇini's grammar, on the other hand, causee marking is lexically governed, with intransitives and

'ingestives' taking accusative causees, most others selecting the instrumental, and with hr- 'take' and kr- 'do' offering a choice, without any difference in pragmatic function. What is important for our present purposes, however, is that traditional Sanskrit embraced the non-Pāṇinian 'usage' model, which is even farther removed from Hindi than that of Pāṇini.

(8) SIMPLE CAUSATIVE II (pā/pĩ-, Hindi pĩ- 'drink')

	S C O V	I	II	III	IV	V	VI	Sanskrit 'Usage'	Sanskrit Pāṇini	Hindi
(a)	N A A c,a (61)	x	x	x	*	x	x	x	x	(x)
(b)	N I A c,a (62)	*	*	*	x	*	*	x (≠ a)	*	*
(c)	I N A c,p (63)	x	*	x	x	x	*	x	x	*
(d)	I A N c,p (64)	*	*	x (= c)	x	OK (not used)	*	*	x/? (= c)	(x)
(e)	I I N c,p (65)	*	*	*	x (= c)	x (= c)	x	rare (≠ c)	*	*

A further complication lies in the fact that in causatives from verbs like pĩ- 'drink', Hindi does not have the (equivalent of) accusative marking for the (animate[6]) causee, but rather a noun phrase marked by the postposition ko, as in (8a') below. The same marker, ko, then also appears in the passive, as in (8d') below, and as a consequence it is only the underlying object, not the causee, which can become the subject in the causative passive.

(8a') Hindi mãĩ us ko šarāb pilā rahā hũ̃
'I make him drink liquor'

(8d') Hindi mujh se us ko šarāb nahĩ̃ pilāī jā rahī hai
fem. fem. fem.
'I cannot make him drink liquor'

As can be seen from (7) and (8), the general tendency is to select from this mixed Sanskrit model those constructions which most agree with Hindi. However, two speakers accept (7a), although one of them does not do so consistently. (The other, moreover, seems to make the non-Pāṇinian pragmatic distinction in causee marking.) Even more interesting is the response of speaker IV under (8a-b), for this response agrees neither with the pattern of Hindi, nor with that of Pāṇini, nor with the pragmatically unmarked pattern of the non-Pāṇinian 'usage'. Perhaps the most striking evidence suggesting that speakers do not have a clear internalized account for these structures comes from the following: When one speaker was asked about the grammaticality

of one of the sentences in (7) he first judged it to be ungrammatical, then began to hesitate, and finally--triumphantly--pulled out a copy of the Rāmāyaṇa and pointed to a passage with a similar structure which to his satisfaction proved that the construction is grammatical after all. That is, at least this speaker's ability to judge the grammaticality of such causative structures depended in large measure not on internalized grammar, but on his ability to recall 'external' precedents. (There is some less compelling evidence that other speakers based some of their grammaticality judgments on similar considerations.)

4.3. While aberrancies of this sort are relatively limited for the simple causative, they are considerably more pronounced in the causative passive; cf. (7c-e) and (8c-e) above.

Thus it is noteworthy that even in the patterns most closely agreeing with Hindi (viz. (7e) and (8d)), there is a great deal of uncertainty, hesitation, and variation. Moreover, throughout (7c-e) there are numerous instances of speakers changing their minds, not always in favor of a historically more correct interpretation. Compare e.g. speaker VI's change from x to * in (7c) and (7d), and especially the fact that while (7d) is ungrammatical in traditional usage and at least doubtful in the post-Pāṇinian grammatical tradition, as well as ungrammatical in Hindi, some speakers--in some of their responses--accept structures of this sort, either wholeheartedly or with some reservations. Note also that speaker II does not accept <u>any</u> causative passives for <u>pā</u>/<u>pī</u>- 'drink' (cf. (8c-e)). Finally, whereas <u>in</u> (7a-b) and (8a-b) some general tendencies of preference emerged quite clearly, the picture presented by (7c-e) and (8c-e) is much more chaotic.

Here again it is possible to point to a mitigating circumstance, namely the fact that here too there are considerable differences within Sanskrit (between Pāṇinian precepts and actual usage), as well as between Hindi and Sanskrit: In addition to the case marking differences for the causee, which has been discussed in the preceding section, Hindi offers a pattern of causative passive (cf. (8d') above) which agrees most closely with a Sanskrit pattern which is ungrammatical in the usage tradition and which even in the post-Pāṇinian grammatical tradition becomes doubtful.

4.4. Such mitigating circumstances, however, are difficult to find in the case of the double causatives, where Hindi and <u>both</u> of the Sanskrit traditions agree on allowing only the instrumental for <u>the</u> 'intermediate' causee. As a consequence, only the 'second' causee (the one actually performing the action) can become the subject of the corresponding passive. True, in Hindi the postposition <u>ko</u> superficially blocks such a promotion, so that the passive comes out as subjectless. At a more abstract level, however, the <u>ko</u>-marked NP of such Hindi passives (provided it is an underlying object) does seem to exhibit certain subject properties, in being able to control or trigger absolutive formation and reflexivization; cf. e.g. the examples and discussion in Pandharipande 1981:14, 41, and 44. Moreover, in all other respects Hindi would show the same pattern as Sanskrit.

This general agreement within Sanskrit and between Sanskrit and Hindi thus would predict that in (9) below, (b) and (d) should be the only constructions judged to be grammatical, or (at worst, if the <u>ko</u>-marking for Causee 2 is considered an obstacle) none of the constructions should be accepted. To

some extent these expectations are met: (b) and (d) are the most generally accepted patterns, and one speaker (II) tends to reject all constructions. Beyond these tendencies, however, the picture is no less chaotic than that of the other causatival constructions, especially in the passive (c-d).

(9) DOUBLE CAUSATIVE (pā/pī-, Hindi pī- 'drink')

	S	C^1	C^2	V	I	II	III	IV	V	VI	Sanskrit	Hindi
(a)	N	A	A	c,a								
				(6)	*	x	x	*	*	*	*	*
				(37)	*	*	*	*	*	*		
(b)	N	I	A	c,a								
				(7)	x	x	x	x	x	x	x	(x)
				(38)	x	*	x	x	x	x		
(c)	I	N	A	c,p								
				(8)	*	*	x	*	*	x	*	*
				(39)	x	*	x	*	*	*		
(d)	I	I	N	c,p								
				(9)	x	?	x	x	x	x	x	(x)
				(41)	??	*	?	x	x	x		
(e)	I	A	N	c,p								
				(10)	x	?	x	*	*	*	*	*
				(40)	??	*	(*)	*	*	*		

In all fairness, it should perhaps be pointed out that while in the case of the double causative there are no (or hardly any) structural mitigating circumstances, there is the fact that double causatives are relatively rarely used, both in Sanskrit and in Hindi. It is therefore possible to argue, as in the case of (6b), that it is this rarity of attestation which accounts for the lack of definite grammatical intuitions. However, the same counter-argument raised in the case of (6b) also applies here: How is it that earlier Sanskrit speakers--or, in the present case, Hindi speakers for that matter--do not exhibit the same difficulties?

5. There is evidence that also in processes which themselves do not affect grammatical relations but which refer to grammatical relations which have been changed on the surface, modern Sanskrit speakers encounter difficulties. This evidence consists of the process of absolutive formation: In Sanskrit, absolutive formation normally takes place only if the agent of the absolutive is identical to the agent (i.e. the underlying subject, which in P-oriented constructions is different from the surface subject) of the main verb. In Hindi the situation is similar, except that in the passive there is an option

between agent or surface-subject control. That is, in Sanskrit, the NP janaiḥ 'by the people' would control absolutive formation both in the participial, past-tense value constructions of (10a/b) and in the finite passive structures of (10c/d), no matter what its position in the sentence. In Hindi, the situation is exactly the same for the 'ergative' counterparts of (10a/b), while in the passive counterparts of (10c/d), both the agent (janaiḥ) and the surface subject (rājā 'the king') may control absolutive formation, no matter where either of these two NPs would be placed within the clause. Cf. Hock In Press and Pandharipande 1981:41, 44 for further details.

What is important is that absolutive formation is by no means a rare phenomenon, either in traditional Sanskrit or in Hindi, either with active or with P-oriented main verb. Moreover, as noted, the difference between Sanskrit and Hindi is relatively small and more a question of slightly different choices than of absolute irreconcilability. It is thus in a way comparable to the difference in subject-pronoun specification in (4) above.

Interestingly enough, however, speakers' responses do not exhibit any of the patterns which one might expect under these circumstances. These would be: (a) The traditional Sanskrit pattern; (b) the actual Hindi distribution; (c) the generalization of the Hindi pattern to all P-oriented constructions.

Instead, what we find is by and large a tendency toward conceptual strategies according to which the NP which comes first controls absolutive formation. Cf. the examples under (10). (The meanings are: 'having gone to the capital city, the king was seen by the people/the people saw the king' for (a/b), and 'having gone to the capital city, the king is seen by the people' for (c/d).)

(10) ABSOLUTIVE FORMATION[7]

	A	B	I	II	III	IV	V	VI	Skt	Hindi
(a)	pradhānanagaram gatvā rājā janaiḥ	dṛṣṭaḥ	A/B	*	A	A/B	A	A	B	B
(b)	pradhānanagaram gatvā janaiḥ rājā	dṛṣṭaḥ	A/B	*	A	A/B	B	A	A	A
(c)	pradhānanagaram gatvā rājā janaiḥ	dṛśyate	A	*	A	A/B	A	A	B	A/B
(d)	pradhānanagaram gatvā janaiḥ rājā	dṛśyate	A	*	A	A	A	A	A	A/B

Deviations from the perceptual strategies noted above do exist, such as the vacillation of speaker I for (10a/b), the preference of speaker V for surface-subject control in (10a/b), or speaker II's complete rejection of all four constructions. However, none of these deviations seems to be motivatable by the characteristics either of the Sanskrit or of the Hindi patterns. Rather, it appears that the speakers simply have no intuitions concerning the grammaticality of structures like (10a/d), so that when asked to give grammatical judgments, they either refuse to make any or simply grasp at non-linguistic straws.

6. The evidence of absolutive formation just discussed is important; for it suggests that even without any strong mitigating circumstances, such as rarity of usage or excessive structural differences between Sanskrit and Hindi (or within Sanskrit), contemporary Sanskrit speakers may have gaps in their internalized grammatical systems. While such mitigating circumstances may play a role in determining which constructions are not properly accounted for by

the speakers' internalized grammar, the most important factor--and the only one which differentiates the whole set of constructions (5)-(10) where speakers have difficulties from (1)-(3) (and (4)) where they do not--seems to be that these constructions either involve changes in grammatical relations or refer to underlying grammatical relations which have been changed on the surface.

If then the difficulties encountered by the speakers are attributable to the fact that spoken Sanskrit is a dying language, the conclusion suggests itself that in language death, the relatively more 'complex' rules which affect or refer to grammatical relations are more easily lost than relatively superficial rules such as gender marking or negative placement.

7. Finally, a few words might be in order concerning the question as to whether we are really dealing with language death, or with simple 'interference' or imperfect learning. As noted earlier, the notion of 'interference' would not well account for the selective nature of the observed phenomena. Moreover, while interference would perhaps account for the speakers' difficulties with (6b) vs. their acceptance and use of (5b), or for the observed tendencies in (7), (8), and (9) to favor constructions which are found also in Hindi, it would not be able to predict that absolutive formation should present so much greater difficulties. Nor would it do very well in explaining the relatively chaotic nature of speakers' responses concerning the causative passive.

'Imperfect learning' likewise presents some difficulties, if considered as a phenomenon separate from language death. For as noted earlier, the speakers in question are excellent speakers of Sanskrit. Moreover, spot-checks with other excellent speakers suggest that they have similar patterns of attrition. Finally, the question must arise as to why there should be such a great degree of agreement among speakers concerning which constructions they 'learn imperfectly'. (Note that while speakers may differ in terms of the individual responses which they give, they do agree on the general areas in which their responses betray grammatical difficulties.) Such a remarkable agreement would be difficult to explain simply in terms of 'imperfect learning': one would expect much greater individual differences. Rather, this agreement would seem to call for a non-individualistic, social explanation, the most likely one being language death.

The 'scenario' accounting for this situation, then, would have to be more or less the same as in other cases of language death (cf. e.g. Dorian 1978, Dressler + Wodak 1977): As the sociolinguistic contexts decrease in which the language is actively used, younger speakers will increasingly be exposed to fewer utterances which may serve as the basis for developing internalized grammatical hypotheses. This will above all affect their ability to formulate rules which correctly account for the grammatically more complex phenomena which involve changes in grammatical relations or which crucially refer to 'changed' grammatical relations, especially if they are rarely attested to begin with or are structurally different from what is found in the more commonly spoken language. As a consequence, such speakers will tend to avoid using constructions of this type, while otherwise continuing to speak the language quite correctly. Subsequent generations of speakers will, of course, consequently have less of a basis for correct grammar formulation. Eventually, then, the constructions in question may simply go out of use.

It might be objected that this scenario is not applicable to Sanskrit, a language learned in school and not normally acquired in childhood, in the way that languages normally are acquired. However, there is good reason to believe that the formal instruction in Sanskrit is much less important for learning to speak the language than the spoken 'input' which Sanskrit-speaking teachers provide in traditional schools. Consider for example speaker VI, a person steeped in traditional Sanskrit 'grammar' as conveyed through traditional-school instruction, but no more certain in his grammatical intuitions than the other speakers, who lack this grammatical background.

The question which remains to be asked is whether there is any concrete evidence which confirms the above 'scenario'. Sociolinguistically, of course, the situation outlined in section 1 would provide a setting eminently conducive for language attrition and language death. Moreover, among the younger speakers there are a number of persons who can speak the language quite fluently, but whose spoken Sanskrit is full of (non-corrected) grammatical mistakes, suggesting a highly reduced form of internalized grammar. As far as the specific structural evidence relevant to the discussion of this paper is concerned, however, I am not at present able to give a satisfactory answer to the question just posed. True, the fact that construction (6b) is universally disfavored may perhaps provide relevant evidence, in that in traditional Sanskrit the structure was at least occasionally used. However, note that the use of this construction has not just decreased, it has been entirely lost. As for the other constructions, I do not recall ever hearing anyone employ either type (9), the double causative, or type (10), absolutive formation in a P-oriented construction. However, note that (9) is rarely used to begin with, both in Hindi and in traditional Sanskrit. That might leave absolutive formation; but one would want to have more detailed information on this count than just my recollections of what I may or may not recall hearing. Finally, causative constructions (and their passives) are heard not at all uncommonly. True, it appears to me that most are of the type where it is possible to argue that the verbal form in question no longer is a real causative, but has been lexicalized as a simple verb. (Cf. etad vicārayāmi lit. 'I make this go back and forth (in my mind)', but actually meaning 'I consider this/think (about) this'.) Genuine causative constructions therefore may perhaps be used quite rarely--or even be avoided. Here too, however, some more detailed research is required before one can say with some degree of confidence that true causatives are in fact used less commonly than they were in traditional Sanskrit (or than they are in contemporary Hindi).

Even without this highly desirable further research, however, given the alternatives--and given the sociolinguistic evidence for language attrition--, the view that the observed attrition phenomena are to be attributed to language death seems to be the most plausible.

APPENDIX

Sentences on which the grammaticality judgments in (7) - (9) are based. (They come from a longer questionnaire; numbers therefore do not run consecutively.)

(4) devadattaḥ yajñadattena svakāryam kārayati
(5) devadattaḥ yajñadattam svakāryam kārayati
(6) devadattaḥ yajñadattasya mātaram svaputrān pāyayati
(7) devadattaḥ yajñadattasya mātrā svaputrān pāyayati

(8) devadattena yajñadattasya mātā svaputrān pāyyate
(9) devadattena yajñadattasya mātrā svaputrāḥ pāyyante
(10) devadattena yajñadattasya mātaram svaputrāḥ pāyyante
(19) āśāse yad yūyam sevakaiḥ svakāryam kārayatha
(20) āśāse yad yūyam sevakān svakāryam kārayatha
(21) āśāse yad yuṣmābhiḥ sevakāḥ svakāryam kāryante
(22) āśāse yad yuṣmābhiḥ sevakān svakāryam kāryate
(23) āśāse yad yuṣmābhiḥ sevakaiḥ svakāryam kāryate
(25) āśāse yad yuṣmābhiḥ sevakaiḥ svakāryam kāritam
(26) āśāse yad yuṣmābhiḥ sevakāḥ svakāryam kāritāḥ
(27) āśāse yad yuṣmābhiḥ sevakān svakāryam kāritam
(32) devadattaḥ yajñadattena kāryam kārayati
(33) devadattaḥ yajñadattam kāryam kārayati
(34) devadattena yajñadattam kāryam kāryate
(35) devadattena yajñadattaḥ kāryam kāryate
(36) devadattena yajñadattena kāryam kāryate
(37) devadattaḥ mātaram putram pāyayati
(38) devadattaḥ mātrā putram pāyayati
(39) devadattena mātā putram pāyyate
(40) devadattena mātaram putraḥ pāyyate
(41) devadattena mātrā putraḥ pāyyate
(61) mātā putrān dugdham pāyayati
(62) mātā putraiḥ dugdham pāyayati
(63) mātrā putrāḥ dugdham pāyyante
(64) mātrā putrān dugdham pāyyate
(65) mātrā putraiḥ dugdham pāyyate

NOTES

[1]This sociolinguistic research, on the nature of spoken Sanskrit in Uttar Pradesh, as well as the research on which the present paper is based, was conducted by me from May 1980 to May 1981, mainly in Lucknow and Vārāṇasī, Uttar Pradesh, under a combination sabbatical leave/leave of absence without pay from the University of Illinois and a grant from the American Institute of Indian Studies. I am deeply grateful for the support of these two institutions, as well as for the aid I received from the more than three hundred persons whom I was able to interview. My special thanks must go to Dr. Shiv Shekhar Misra, Head of the Sanskrit Department, Lucknow University, my official advisor who provided much needed help; Dr. Ram Lakhan Sharma, Director, Uttar Pradesh Sanskrit Samiti, my 'guru' who gave unstintingly of his time to teach me to speak Sanskrit and to otherwise help me in my research; Dr. Sripati Avasthi, Assistant Director, Uttar Pradesh Sanskrit Academy, who likewise provided valuable help; and Dr. Vasudev Dvivedi, Director, Sārvabhaumasaṃskṛtapracārakāryālaya, whose help was invaluable during my research in Vārāṇasī. I have benefited also from comments by Yamuna Kachru on an earlier draft of this paper. Finally, for some of the Hindi examples and grammaticality judgments I owe gratitude to my colleagues, Professors Yamuna Kachru and Rajeshwari Pandharipande, and to my wife, Dr. Zarina M. Hock. Needless to say, the responsibility for the conclusions of this paper, as well as for any errors or omissions rests with me.

[1a]This was in the Vārāṇasī branch of the publishing house Motilal Banarsidass, where hidden in the depths of the stacks I suddenly heard two people conversing with each other in Sanskrit, at the tops of their voices and obviously

enjoying it. When I came up, one of them, who didn't know me, immediately switched to English for my benefit, switching back to Sanskrit only after finding out that I could handle it. Clearly, this use of Sanskrit was not staged for my benefit or otherwise motivated by the setting. However, as noted, such spontaneous use is exceedingly rare.

[2]Recent discussion of language-death phenomena can be found in Dressler + Wodak 1977 and Dorian 1978.

[3]The locative-absolute construction in (2), to be sure, generally also is taken to involve a change in grammatical relations. However, I think it is legitimate to make a distinction between nominalization processes of this sort and what may be called "major" changes in syntactic relations, the latter involving passivization and causativization. (For convenience, I will in the rest of this paper refer only to the latter as changes in grammatical relations.) Arguments for distinguishing these two types of processes include the following: (a) In nominalizations, the verbs become non-finite, in relation-changing processes they remain finite (or, in the case of the Sanskrit ta-participle and the gerundive, which are used as the equivalents of finite verbs, they remain 'main verbs'). (b) The applicability of relation-changing processes is strictly ordered, at least in Sanskrit: causativization may feed itself (leading to double causatives), as well as passivization. Passivization, however, may not feed causativization. Once passive has applied, no other relation-changing process may apply. On the other hand, nominalizations can, at least in theory, feed and be fed by any string, whether that string has undergone causativization, passivization, both, or any of the various nominalization processes. (c) Relation-changing processes introduce three case markings (nominative, accusative, and instrumental); nominalizations introduce the genitive (and, in certain contexts, the instrumental), otherwise they consist mainly in readjusting the nominative marking introduced by the relation-changing processes so as to make the original (superficial) subject agree in case with the nominalized form of the verb, the participle. (Cf. the locative-agreement of the original (superficial) subject rāma- with the locative participle, bhaṣamāṇe, in (2) above.)

[3a]The Hindi passive sentences given here are more easily accepted in the negative (with nahī 'not').

[4]Spot-checks with Sanskrit speakers from Dravidian-speaking areas, where the Hindi ergative/non-ergative distinction is not relevant, suggest that this is the correct interpretation. For these speakers have no difficulties with (6b), either in accepting it or in using it.

[5]In (7) - (9) below, the following symbols are used: S = underlying subject, C = causee, O = underlying object, V = verb; N = nominative, A = accusative, I = instrumental, c = causative, a = active, p = passive; x = acceptable, * = unacceptable, OK = acceptable with some reservations, ? = grammatical acceptability not certain. Arrows connecting the judgmental symbols indicate a change in judgment. (= a), (≠ a) etc. indicate that the meaning/function of a given construction is the same/different as that of (a) etc. The column headings I - VI refer to the speakers who were interviewed.

[6]It is not quite clear to me what happens with inanimate causees. The difficulty lies in the fact that verbs which take ko-marking for animate causees do not easily occur with inanimate causees. Hindi speakers seem to feel uncomfortable about sentences like the following. Only if pushed do they give grammaticality judgments. What is interesting is that while all speakers accept (a)--if thus pushed-- and reject (b), for (a') and (b'), where the underlying object has been omitted, one speaker preferred (b') while others rejected it as ungrammatical, accepting only (a'). This suggests that there may be a dialectal split in regard to the causee marking under discussion: Some speakers apparently treat the causee as a kind of accusative object which, when animate/definite (i.e. under normal conditions), is marked with the animate/definite marker ko, but when inanimate/definite takes ko only under much more restricted conditions (as is the case also elsewhere for inanimate/definite object NPs). Other speakers, on the other hand, seem to treat the causee as a dative-marked NP, with ko serving as the dative marker, rather than as a marker of animacy/definiteness.

(a) gāṛī ko peṭrol pilāo 'give the car gas to drink/feed the car gas'

(b) *gāṛī peṭrol pilāo

(a') gāṛī ko pilāo 'feed the car'

(b') gāṛī pilāo

[7]In (10), the A and B under the headings I - VI, Skt., and Hindi refer to whether the first or the second NP labeled A and B in the preceding sentences is (considered) the controller of the absolutive expression pradhānanagaram gatvā 'having gone to the capital city'. A/B indicates that both NPs are (considered) possible controllers. A̲/B has the same interpretation, except that A is the preferred controller.

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THE BILINGUAL'S CREATIVITY: DISCOURSAL AND STYLISTIC STRATEGIES IN CONTACT LITERATURES IN ENGLISH*

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The processes of the bilingual's creativity are discussed with special reference to what have been termed 'contact literatures' in English. The term refers to creative writing by non-Western bilingual users of English in typical non-Western settings where English is primarily used as an institutionalized second language. Such literatures exhibit stylistic and discoursal characteristics that differ markedly from the traditional canons of English literature. This divergence arises from the novel social and cultural thematic contexts of contact literatures, and from the transfer of cohesive devices, rhetorical strategies, and underlying thought-patterns and conventions of coherence from writers' other languages. As a result, "un-English" linguistic, aesthetic, social, and cultural norms develop for creative writing in non-native varieties of English, giving to each contact literature a unique 'meaning potential'. Discoursal and stylistic features of these contact literatures are shown to have far reaching implications for linguistic theory, language change, and research methodology. The linguistic innovations used in this fast-growing body of writing are also important for understanding the bilingual's creativity, and for the accurate interpretation and analysis of literatures in English.

The bilingual's creativity[1] in English on a global scale, and the issues concerning nativization of discourse patterns, discourse strategies and speech acts, are a natural consequence of the unprecedented world-wide uses of English, mainly since the early 1920s. The phenomenon of a language with fast increasing diaspora varieties - and significantly more non-native users than native speakers[2] - has naturally resulted in the pluricentricity[3] of English. The sociolinguistic import of this pluricentricity is that the non-native users of English can choose to acquire a variety of English which may be distinct from the native varieties. As a result, two types of models of English have developed: native and institutionalized non-native (see Kachru, 1982c). It is with reference to these models that the innovation, creativity and emerging literary traditions in English must be seen.[4] Each model has its own linguistic and literary norms - or a tendency to develop such norms. This is the linguistic reality of English in its world context. Attitudinally, however, the way people react to this situation opens up an entirely different can of worms, not directly related to this paper.[5]

The concept 'pluricentricity' of English is a useful beginning point for this paper: I will address certain issues which, it seems to me, are related to both Western and non-Western pluricentricity of

the English language. I will first raise a theoretical question concerning linguists' common perception of a speech community, particularly their understanding of the linguistic behavior of the members of a speech community which alternately uses two, three or more languages depending on the situation and function. One might ask: How valid is a theory of grammar which treats monolingualism as the norm for description and analysis of the linguistic interaction of traditional multilingual societies? Yet in linguistic description - save a few exceptions - the dominant paradigms have considered monolingualism as the norm (i.e., judgments based on the ideal hearer-speaker).[6] My second concern - not unrelated to the first point - is with description and methodology: Are the models proposed for discourse and text-analysis of monolinguals' linguistic interaction observationally, descriptively, and explanatorily adequate for the analysis of bilinguals' language use? My third aim is to discuss some underlying processes of nativization which characterize literariness[7] (both formal and contextual) of selected texts manifesting the bilingual's creativity. The examples have been taken primarily from what has earlier been termed 'contact literature'.[8] Finally, I shall discuss the relationship between this creativity and underlying thought-patterns of bilinguals.

I believe that the theoretical and methodological tracks followed to date in the study of contact literatures in English fail on several counts.[9] The foremost limitation one detects in a majority of studies is that of using almost identical approaches for the description of the bilingual's and monolingual's creativity. Literary creativity in English has until now been studied within the Western Judaic-Christian heritage and its implications for understanding English literature. True, the English language shows typical characteristics of a 'mixed' language development in its layer after layer of borrowings, adaptations, and various levels of language contact.[10] But even there, the earlier main intrusion has been essentially European and more or less consistent with the Hellenistic and Roman traditions.

However, the prolonged colonial period substantially changed that situation in the linguistic fabric of the English language, and extended its use as a medium for ethnic and regional literatures in the non-Western world (e.g., Indian English, West African English; see Kachru, 1980). The results of this extension can be observed in the 'Sanskritization' and 'Kannadaization' of Raja Rao's English,[11] and in the 'Yorubaization' and 'Igboization' of Amos Tutuola and Chinua Achebe. The labels indicate that these authors have exploited two or more linguistic - and cultural - resources which do not fit into the paradigms of what Kaplan (1966) terms 'the Platonic Aristotelian sequence'[12] and the dominant Anglo-Saxon thought patterns of the native speakers of English. Recognition of this mixing of Western and non-Western resources has implications for our use of terms such as cohesion or coherence[13] and even communicative competence. We should also be cautious in suggesting typologies of culture-specific speech acts in various varieties of English (see Chishimba, 1983).

In contact literature, the bilingual's creativity introduces a nativized thought-process (e.g., Sanskritic, Yoruba, Malaysian) which does not conform to the recognized canons of discourse types, text design, stylistic conventions, and traditional thematic range of the English language, as viewed from the major Judaic-Christian traditions of literary and linguistic creativity.

The linguistic realization of the underlying traditions and thought processes for a bilingual may then entail a transfer of discoursal patterns from one's other (perhaps more dominant) linguistic codes and cultural and literary traditions. That such organization of discourse strategies - conscious or unconscious - arises in different ways in different cultures has been shown in several studies on non-Western languages.[14]

"CONTACT" IN CONTACT LITERATURES. What does the term 'contact literatures' imply? The term refers to the literatures in English written by the users of English as a second language to delineate contexts which generally do not form part of what may be labeled the traditions of English literature (African, Malaysian, and Indian and so on). Such literatures, as I have stated elsewhere, are "a product of multicultural and multilingual speech communities" (1982b:330). Furthermore,

> The concept of "contact literature" is an extension of "contact language". A language in contact is two-faced: it has its own face, and the face it acquires from the language with which it has contact. The degree of contact varies from lexical borrowing to intensive mixing of units. Contact literatures (for example, non-native English literatures of India, Nigeria or Ghana; the francophone literatures; or the Indian Persian literature) have certain formal and thematic characteristics which make the use of the term "contact" appropriate (Kachru, 1982b:341).

It has already been shown that contact literatures have both a national identity and a linguistic distinctiveness (e.g., Indianness, Africanness). The 'linguistic realization' of such identities is achieved in several ways: the text may have both a surface and an underlying identity with the native varieties of English; it may show only partial identity with the native norms; or it may entail a culture-specific (e.g., African, Asian) identity both at the surface and the underlying levels and share nothing with the native variety. Thus contact literatures have several linguistic and cultural faces: they reveal a blend of two or more linguistic textures and literary traditions, and they provide the English language with extended contexts of situation within which such literatures may be interpreted and understood. In such literatures there is a range of discourse devices and cultural assumptions distinct from the ones associated with the native varieties of English. One must extend the scope of the historical dimension and cultural traditions from that of Judaic-Christian traditions to the different heritages of Africa and Asia. This kind of historical and cultural expansion results in a special type of linguistic and literary phenomenon: such texts demand a new literary sensibility and extended cultural awareness from a reader who is outside of the speech fellowship which identifies with the variety.

It is in this sense that English writing has become, to give an example, "our national literature", and English "our national language" in Nigeria as claimed by Nnamdi Azikiwe, the first President of Nigeria, (quoted in Thumboo, 1976:vii). The same is, of course, true of most of the former British and American colonies or areas of influence, such as India, Singapore, and the Philippines.

Thumboo (1976:ix) is making the same point in connection with Commonwealth writers in English when he says that "language must serve, not overwhelm, if the Commonwealth writer is to succeed. Mastering it involves holding down and breaching a body of habitual English associations to secure that condition of verbal freedom cardinal to energetic, resourceful writing. In a sense the language is remade, where necessary, by adjusting the interior landscape of words in order to explore and mediate the permutations of another culture and environment."

And discussing the problems of such writers, Thumboo adds (xxxiv):

> The experience of peoples crossing over into a second language is not new, though the formalization of the more acts as a powerful rider. What amounts to the re-location of a sensibility nurtured by, and instructed in one culture, within another significantly different culture, is complicated in the outcome.

DISCOURSAL THOUGHT PATTERN AND LANGUAGE DESIGN. The relationship between underlying thought patterns and language designs has been well illustrated by Achebe in a very convincing way. In his Arrow of God, Achebe provides two short texts as an illustration, one nativized (Africanized) and the other Englishized, and then gives reasons for choosing to use the former. In explaining his choice, he says that it will "..give some idea of how I approach the use of English." In the passage, the Chief Priest is telling one of his sons why it is necessary to send him to church. Achebe first gives the Africanized version:

> I want one of my sons to join these people and be my eyes there. If there is nothing in it you will come back. But if there is something then you will bring back my share. The world is like a mask, dancing. If you want to see it well, you do not stand in one place. My spirit tells me that those who do not befriend the white man today will be saying, 'had we known', tomorrow.

Achebe, then asks, "supposing I had put it another way. Like this for instance:

> I am sending you as my representative among those people - just to be on the safe side in case the new religion develops. One has to move with the times or else one is left behind. I have a hunch that those who fail to come to terms with the white man may well regret their lack of foresight.

And he rightly concludes: "The material is the same. But the form of the one is in character and the other is not. It is largely a matter of instinct but judgment comes into it too."

It is thus a combination of creative instinct and formal judgment which makes a text language - or culture-specific within a context of situation (e.g., Yoruba speech, Chicano English, Kannada influence, Punjabi English).[15]

Furthermore, if we accept Kaplan's claim that the preferred dominant 'thought patterns' of English are essentially out of 'the Anglo-European cultural patterns' based on 'a Platonic-Aristotelian sequence', the logical next step is to recognize that in the case of, for example, Raja Rao or Mulk Raj Anand, the underlying thought patterns reflect the traditions of Sanskrit and the regional or national oral lore. And in the case of Amos Tutuola and Chinua Achebe, they stem from Yoruba and Igbo traditions, respectively.

Raja Rao makes it clear that such transfer of tradition is part of his creativity.

> There is no village in India, however mean, that has not a rich sthala-purana,or legendary history, of its own... The Puranas are endless and innumerable. We have neither punctuation nor the treacherous "ats" and "ons" to bother us - we tell one interminable tale. Episode follows episode, and when our thoughts stop our breath stops, and we move on to another thought. This was and still is the ordinary style of our story telling. I have tried to follow it myself in this story [Kanthapura] (1963:vii-viii).

Raja Rao's narration of of an "interminable tale" results in breaking the Western norms of punctuation and prose rhythm, and he shares it with the writers on another continent, West Africa. Tutuola has a "peculiar use of punctuation, resulting in an unending combination of sentences," which he "owes to his Yoruba speech" (Taiwo, 1976:76).

> When he tried all his power for several times and failed and again at that moment the smell of the gun-powder of the enemies' guns which were shooting repeatedly was rushing to our noses by the breeze and this made us fear more, so my brother lifted me again a very short distance, but when I saw that he was falling several times, then I told him to leave me on the road and run away for his life perhaps he might be safe so that he would be taking care of our mother as she had no other sons more than both of us and I told him that if God saves my life too then we should meet again, but if God does not save my life we should meet in Heaven" (Bush of Ghosts, p. 20; quoted in Taiwo, 1976:76).

In addition to this characteristics, Taiwo (1976:111) argues that Tutuola and his compatriot Achebe "...exhibit in their writings features which may be described as uniquely Nigerian." Taiwo further explains (1976:75) that Tutuola "has carried Yoruba speech habits into English and writes in English as he would speak in Yoruba... He is basically speaking Yoruba but using English words." And, "the peculiar rhythms of his English are the rhythms of Yoruba speech" (85). With regard to Achebe, Taiwo (1976:117) observes that in the following scene which he quotes from Things Fall Apart, Achebe "has had to rely heavily on the resources of Igbo language and culture to dramatize the interrelation between environment and character":

> 'Umuofia kwenu!' shouted the leading egwugwu, pushing the air with his raffia arms. The elders of the clan replied, 'Yaa!'
> 'Umuofia kwenu!'
> 'Yaa!'
> 'Umuofia kwenu!'
> 'Yaa!'
> Evil Forest then thrust the pointed end of his rattling staff into the earth. And it began to shake and rattle, like something agitating with a metallic life. He took the first of the empty stools and the eight other egwugwu began to sit in order of seniority after him.

THE BILINGUAL'S GRAMMAR: HYPOTHESES. It seems to me that for understanding the bilingual's creativity one must begin with a distinct set of hypotheses for what has been termed 'the bilingual's grammar' (or multilingual's grammar). I am, of course, not using the term 'grammar' in a restricted sense: It refers to the productive linguistic processes at different linguistic levels (including that of discourse) which a bilingual uses for various linguistic functions.

The bilingual's grammar has to be captured in terms of what sociolinguists term 'verbal repertoire' or 'code repertoire', with specific reference to a speech community.[16] Such speech communities have a formally and functionally determined range of languages and or dialects as part of their competence for linguistic interaction (see Kachru, 1981a).

A characteristic of such competence is the faculty and ease of mixing and switching, and the adoption of stylistic and discoursal strategies from the total verbal repertoire available to a bilingual.[17] One has to consider not only the blend of the formal features, but also the assumptions derived from various cultural norms, and the blending of these norms into a new linguistic configuration with a culture-specific meaning system. There are several salient characteristics of the creativity of such a person. I shall discuss some of these below.

First, the processes used in such creativity are based on multinorms of styles and strategies. We cannot judge such devices on the basis of one norm derived from one literary or cultural tradition (see Parthasarathy, 1983). Second, nativization and acculturation of text presupposes an altered context of situation for the language. Traditionally accepted literary norms with reference to a particular code (say, Hindi or English) seem to fail here. A description based on an approach which emphasizes the monolingual 'speaker-hearer' is naturally weak in terms of its descriptive and explanatory power. Third, the bilingual's creativity results in the configuration of two or more codes. The resultant code therefore has to be contextualized in terms of the new uses of language. Finally, such creativity is not to be seen merely as a formal combination of two or more underlying language designs, but also as a creation of cultural, aesthetic, societal and literary norms. In fact, such creativity has a distinct context of situation.

It is these distinctive characteristics which one might say on the one hand formally limit the text and on the other hand extend it,

depending on how one looks at linguistic innovations. The creative processes used in such texts have a limiting effect because the conventional 'meaning system' of the code under use is altered, lexically, grammatically, or in terms of cohesion (see Y. Kachru, 1983a and 1983b). A reader-hearer 'outside' the shared or recreated meaning system has to familiarize himself or herself with the processes of the design and formal reorganization, the motivation for innovations, and the formal and contextual implications of such language use. In other words, to borrow Hallidayan terms (1973:43) one has to see what a multilingual 'can say' and 'can mean'. The range in saying and the levels of meaning are distinct and one has to establish 'renewal of connection' with the context of situation.[18]

What is, then, inhibiting (limiting or unintelligible) in one sense may also be interpreted as an extension of the codes in terms of the new linguistic innovations, formal experimentation, cultural nuances, and addition of a new cultural perspective to the language.[19] If the linguistic and cultural 'extension' of the code is missed, one also misses the interpretation at the linguistic, literary, sociolinguistic and cultural levels. One misses the relationship between saying and meaning, the core of literary creativity.

What does it take from a reader to interpret such creativity? It demands a lot: it almost demands an identification with the literary sensibility of the bilingual in tune with the ways of saying and the levels of new meaning.

LINGUISTIC REALIZATION OF DISTINCTIVENESS. This altered 'meaning system' of such English texts is the result of various linguistic processes, including nativization of context, of cohesion and cohesiveness, and of rhetorical strategies.

Nativization of Context: One first thinks of the most obvious and most elusive process which might be called contextual nativization of texts, in which cultural presuppositions overload a text and demand a serious cultural interpretation. In Raja Rao's Kanthapura, to take a not so extreme example, such contextualization of the following exemplary passage involves several levels.

> "Today", he says, "it will be the story of Siva and Parvati." And Parvati in penance becomes the country and Siva becomes heaven knows what! "Siva is the three-eyed," he says, "and Swaraj too is three-eyed: Self-purification, Hindu-Muslem unity, Khaddar." And then he talks of Damayanthi and Sakunthala and Yasodha and everywhere there is something about our country and something about Swaraj. Never had we heard Harikathas like this. And he can sing too, can Jayaramachar. He can keep us in tears for hours together. But the Harikatha he did, which I can never forget in this life and in all lives to come, is about the birth of Gandhiji. "What a title for a Harikatha!" cried out old Venkatalakshamma, the mother of the Postmaster. "It is neither about Rama nor Krishna!" - "But," said her son, who too has been to the city, "but, Mother, the Mahatma is a saint, a holy man."- "Holy man or lover of a widow, what does it matter to me? When

> I go to the temple I want to hear about Rama and Krishna and Mahadeva and not all this city nonsense," said she. And being an obedient son, he was silent. But the old woman came along that evening. She could never stay away from a Harikatha. And sitting beside us, how she wept! . . . (1963:10)

In this passage, it is not so much that the underlying narrative technique is different or collocational relationships are different, but the 'historical' and 'cultural' presuppositions are different than what has been traditionally the 'expected' historical and cultural milieu for English literature. One has to explain Siva and Parvati with reference to the multitude of the pantheon of Hindu gods, and in that context then three-eyed (Sanskrit trinetra) makes sense: it refers to Lord Siva's particular manifestation when he opens his 'third eye', located on his forehead, spitting fire and destroying the creation. Damayanthi [Damayantī], Sakunthala [Sakuntalā], and Yasodha [Yasodā] bring forth the epic tradition of Indian classics: Damayanthi, the wife of Nala; Sakunthala, who was later immortalized in Kalidasa's [Kālīdāsa: 5th cent. A.D.?] play of the same name; and Yasodha, the mother of Krishna, the major character of the epic Mahabharata. The contemporariness of the passage is in reference to Gandhi (1869-1948), and the political implications of Hindu-Muslim unity and khaddar (handspun cloth). The Harikatha man is the traditional religious storyteller, usually in a temple, who has woven all this in a fabric of story.

Now, this is not unique: this is in fact characteristic of context-specific texts in general.[20] But that argument does not lessen the interpretive difficulties of such texts. Here the presupposition of discourse interpretation is at a level which is not grammatical. It is of a special lexical and contextual nature. It extends the cultural load of English lexis from conventional Greek and Roman allusions to Asian and African myths, folklore, and traditions. It universalizes English, and one might say 'de-Englishizes' it in terms of the accepted literary and cultural norms of the language.

Nativization of Cohesion and Cohesiveness. The second process involves the alteration of the native user's concepts of cohesion and cohesiveness: these concepts are to be redefined in each institutionalized variety within the appropriate universe of discourse (see Y. Kachru, 1983a and 1983b). This is particularly true of types of lexicalization, collocational extension and the use or frequency of grammatical forms. A number of such examples are given in my earlier studies.[21]

The lexical shift, if I might use that term, is used for various stylistic and attitudinal reasons.[22] The lexicalization involves not only direct lexical transfer but also entails other devices, too, such as hybridization and loan translation. Such English lexical items have more than one interpretive context: they have a surface 'meaning' of the second language (English) and an underlying 'meaning' of the first (or dominant) language. The discoursal interpretation of such lexicalization depends on the meaning of the underlying language, say Yoruba, Kannada, Punjabi, Malay, etc.

Nativization of Rhetorical Strategies. The third process is the nativization of rhetorical strategies in close approximation to the devices a bilingual uses in his or her other code(s). These include consciously or unconsciously devised strategies according to the patterns of interaction in the native culture, which are transferred to English.

A number of such strategies are enumerated below. First, one has to choose a style with reference to the stylistic norms appropriate to the concepts of 'high culture' and 'popular culture'. In India, traditionally, high culture entails Sanskritization, and in certain contexts in the north, Persianization. We see such transfer in the much discussed and controversial work of Raja Rao, The Serpent and the Rope. On the other hand, in Kanthapura, Rao uses what may be called a 'vernacular style' of English. His other work, The Cat and Shakespeare, introduces an entirely new style.[23] In devising these three styles for Indian English, Rao has certainly demonstrated a delicate sense for appropriate style, but such experimentation has its limitations, too. These innovations make his style linguistically 'deviant' from a native speaker's perspective, and culturally it introduces into English a dimension alien to the canons of English literature.[24]

In the expansion of the style range, the African situation is not different from the South Asian. In Achebe, we find that "he has developed not one prose style but several, and in each novel he is careful to select the style or styles that will best suit his subjects" (Lindfors 1973:74). It is for this reason that, as Lindfors says, "Achebe has devised an African vernacular style" (74).[25]

Once the choice of the style is made, the next step is to provide authenticity (e.g., Africanness, Indianness) to the speech acts, or to the discourse types. How is this accomplished? It is achieved by 'linguistic realization' of the following types:

1. The use of native similes and metaphors (e.g., Yoruba, Kannada, Malay) which linguistically result in collocational deviation;
2. The transfer of rhetorical devices for 'personalizing' speech interaction;
3. The translation ('transcreation') of proverbs, idioms, etc.;
4. The use of culturally-dependent speech styles; and
5. The use of syntactic devices.

Let me now illustrate these five points one by one. First, the use of native similes and metaphors: It is through such similes that Achebe, for example, is able to evoke the cultural milieu in which the action takes place (Lindfors 1973:75). Examples of such similes are: like a bush-fire in the harmattan, like a yam tendril in the rainy season, like a lizard fallen from an iroko tree, like pouring grains of corn into a bag full of holes (also see Kachru,1965 [1983:131ff]).

Second, the transfer of rhetorical devices for contextualizing and authenticating speech interaction. Such devices provide, as it were, the 'ancestral sanction' to the interaction, a very important strategy

in some African and Asian societies. It is one way of giving 'cultural roots' to English in African and Asian contexts, particularly to its 'vernacular style'. One might say it is a device to link the past with the present. Onuora Nzekwu (Wand of Noble Wood) accomplishes this by the use of what may be called 'speech initiators' which appear 'empty' to one who does not share the cultural and linguistic presuppositions. But for contextualizing the text, these are essential. Consider among others the following: our people have a saying; as our people say; it was our fathers who said; the elders have said. Stylistically this also preserves the 'orality' of the discourse.

A third strategy is that of 'transcreating' proverbs and idioms from an African or Asian language into English. The culture-embeddedness of such linguistic items is well recognized and as Achebe says, they are "the palm-oil with which words are eaten" (1964:viii). The function of such expressions is to universalize a specific incident and to reduce the harshness of an utterance. Achebe's use of proverbs, in Lindfors' view (1973:77), sharpens characterization, clarifies conflict, and focuses on the values of the society. In other words, to use Herskovits' term (1958), the use of such a device provides a 'grammar of values'. Consider for example, the use of the following proverbs by Achebe: I cannot live on the bank of the river and wash my hand with the spittle; if a child washed his hands he could eat with kings, and a person who chased two rats at a time would lose one. It is through the proverbs and word play that the wit and wisdom of the ancestors is passed on to new generations. I have shown earlier (1965 and 1966) how this device is used to nativize speech functions such as abuses, curses, blessings, and flattery.

A fourth characteristic is to give the narrative and the discourse a 'native tall-tale style' typical of the earthy folk style (Lindfors 1973:57). This is typical of Tutuola, or of Raja Rao's Kanthapura. This, as Jolaoso says (quoted by Lindfors,1973:57), "reminds one very forcibly of the rambling old grandmother telling her tale of spirits in the ghostly light of the moon." (See also Afolayan,1971 and Abrahams, 1983:21-39).

The fifth strategy is the use of particular syntactic devices. An example is the enhancement of the above folk style by using the device of a traditional native village storyteller and occasionally putting questions to the audience for participation: This assures a reader's involvement. Tutuola makes frequent use of asking direct questions, or asking rhetorical questions in the narration. In Raja Rao's case, the Harikathaman or the grandmother uses the same devices, very effective indeed for passing on the cultural tradition to new generations and for entertaining other age groups.

One might ask here: Is there evidence that the discourse of Indians reflects features which according to Lannoy represent a 'culture of sound' (1971:275)? Perhaps, as Lannoy suggests, one consequence of belonging to such a culture is "tne widespread tendency of Indians to use language as a form of incantation and exuberant rhetorical flourish

on public occasions? Orators rend the air with verbose declamations more for the pleasure of the sound than for the ideas and facts they may more vaguely desire to express" (p. 176).One wonders, is Babu English (see Widdowson, 1979:202-211) a manifestation of such 'culture of sound' in the written mode?

The above discussed characteristics are essentially related to what may be called the texture of discourse or the nativized cohesive characteristics of various Englishes. The question of linguistic realization of the underlying thought pattern in the bilingual's creativity still remains. I shall now return to that aspect and briefly explore it with reference to South Asia.

Let me begin with two recent studies, both on Indo-Aryan languages of South Asia: Hindi and Marathi. In Hindi discourse, according to Y. Kachru (1983b:58), there is a 'spiral-like structure', and there is a greater degree of tolerance for digressions in an orthographic paragraph in Hindi as compared with English, provided the digressions link various episodes in discourse paragraphs in a spiral-like structure.

The paragraph structure of Marathi has been labelled 'circular' (from the point of view of a native English speaker) by Pandharipande (1983:128). Contrasting what Kaplan calls the 'linear' paragraph structure of English with the 'circular' structure of Marathi, Pandharipande further points out that (a) "... a paragraph in English begins with a general statement of its content,,and then carefully develops that statement by specific illustrations; (b) while it is discursive, a paragraph is never digressive; (c) the flow of ideas occurs in English in a straight line from the opening sentence to the last sentence. In contrast to this, the paragraph structure in Marathi is full of digressions. The paragraph opens with a hypothesis and proceeds with arguments to either support or to oppose the hypothesis. Finally, the validity of the hypothesis is confirmed. Thus a paragraph in an expository discourse in Marathi begins and ends roughly at the same point (128)."

We find an identical position in Heimann, who believes that an Indian "thinks" in "a circle or a spiral of continuously developing potentialities, and not on the straight line of progressive stages" (1964, quoted in Lannoy 1971:278). In Lannoy's view, a characteristic trait of Indian minds is "... indifference to the logical procedure defined in Aristotle's law of the excluded middle" (277). The Indian preference then is for "non-sequential logic" (279). However, Lannoy assures us that "this is not to suggest that India is unconcerned with logic, but that it employs a different system of logic from the West" (277; also see Nakamura, 1964).

Here the difference between the two systems, the Aristotelian and Indian, should interest us. This important difference between the two has clearly been brought out by Basham (1954:501-2); I cannot resist the temptation to quote the relevant passage here.

> A correct inference was established by syllogism, of which the Indian form was somewhat more cumbrous than the Aristotelian. Its five members were known as proposition, reason, example, application, and conclusion. The classical Indian example may be paraphrased as follows:

1. There is fire on the mountain,
2. because there is smoke above it,
3. and where there is smoke there is fire, as, for instance, in a kitchen,
4. such is the case with the mountain,
5. and therefore there is fire on it.

The third term of the Indian syllogism corresponds to the major premise of that of Aristotle, the second to Aristotle's minor premise, and the first to his conclusion. Thus the Indian syllogism reversed the order of that of classical logic, the argument being stated in the first and second clauses, established by the general rule and the example in the third, and finally clinched by the virtual repetition of the first two clauses.[26]

On the basis of the above illustrations one can argue that distinct African, Indian, Chinese, or Thai thought-processes manifest themselves in distinct English types.[27] Before one comes to that conclusion, a word of warning is in order here: I am not claiming that such 'transfer in contact' is limited to literary texts or that such 'creativity' appears in literature only. Rather these apply to all linguistic interactions in which multilinguals participate.[28] It is in fact part of being an Indian, an African, or a Singaporean.

It is, of course, evident that for understanding such texts, the barriers to intelligibility have to be broken at a minimum of two levels: (1) at the surface level of structural relationships which provide culture-specific text-design or cohesion to the text, e.g., collocational, lexical, or grammatical, and (2) in the reinterpretation of a text within the extended (or altered) sociosemantic and pragmatic system. The structural relationships are just the visible part of such a discoursal iceberg. There is more to it which is beyond the monolingual interpreter's ken--especially for a monolingual who has made no effort to cross the barriers created by monoculturalism and monolingualism.

This then takes us to a related research area, that of contrastive discourse (or contrastive stylistics): But this research must venture beyond its present concerns into contrastive pragmatics, relating linguistic realization to the cultural norms and the 'meaning system' of a society which uses English.[29] The discourse strategies in contact literatures should be seen as linguistic realizations of a new sociosemiotic and linguistic phenomenon which is being added to the canons of literatures in English.

CONCLUSION. The study of the bilingual's creativity has serious implications for linguistic theory, and for our understanding of culture-specific communicative competence. It is of special interest for the study and analysis of the expanding body of the non-native literatures in English and of the uses of English in different cultures.

The universalization of English may be a blessing in that it provides a tool for cross-cultural communication. But it is a double-edged tool and makes several types of demands: a new theoretical perspective

is essential for describing the functions of English across cultures. In other words, the use of English is to be seen as an integral part of the socio-cultural reality of those societies which have begun using it during the colonial period, and more important, have retained it and increased its use in various functions in the post-colonial era.

In recent years many such proposals for a theoretical reorientation have been made, not necessarily with reference to international uses of English, by Gumperz, Halliday, Hymes and Labov, among others. And in 1956, when Firth suggested (Palmer, 1968:96-97) that "in view of the almost universal use of English, an Englishman must de-anglicize himself" he was, of course, referring to the implications of such universalization of the language. In his view, this de-anglicization was much more than a matter of the readjustment of linguistic attitudes by the Englishmen; it entailed linguistic pragmatism in the use of English across cultures.

The diaspora varieties of English are initiating various types of changes in the English language. More important is the decanonization of the traditionally recognized literary conventions and genres of English. This change further extends to the introduction of new Asian and African cultural dimensions to the underlying cultural assumptions traditionally associated with the social, cultural, and literary history of English. The shared conventions and literary milieu between the creator of the text and the reader of English can no more be taken for granted. A text thus has a unique context. English is unique in another sense too: it has developed both national English literatures, which are specific and context-bound, and certain types of context-free international varieties. The national varieties show more localized organizational schemes in their texture, which may be 'alien' for those who do not share the canons of literary creativity and the traditions of underlying culture which are manifest in such varieties.

The national English literatures are excellent resources for culture learning through literature, a topic which has attracted considerable attention in recent years.[30] However, for such use of these texts one has to acquire the appropriate interpretive methodology and framework for identifying and contextualizing the literary creativity in English, especially that of its non-native bilingual users. It is only by incorporating such pragmatic contexts, as has been recently shown, for example in Chishimba (1983),[31] that the functional meaning and communicative appropriateness of the new discourse strategies and discourse patterns will be understood and appreciated.[32]

NOTES

*This is a revised version of an invited paper presented at the Conference on English as an International Language: Discourse Patterns Across Cultures, June 1-7, 1983, East-West Culture Learning Institute, East-West Center, Honolulu, Hawaii. This will appear in the proceedings of the conference.

[1]In this paper, I have used the term "bilingualism" to include "trilingualism", "multilingualism", and "plurilingualism". The "bilingual's creativity" refers to linguistic creativity exhibited by non-monolinguals in all these situations.

[2]Strevens (1982:419) claims that English has 400 million non-native speakers and 300 million native speakers.

[3]This term was suggested to me by Michael G. Clyne. It was, however, first used by Heinz Kloss. I have earlier used the term "polymodel" in roughly the same sense. See Kachru, 1977 and 1981a.

[4]The issues related to the models and norms of English and the implications of these issues have been discussed in Kachru, 1982b and 1983.

[5]For discussion of this topic see, e.g., Prator, 1968, and my response to Prator in Kachru, 1976. Also see relevant studies in Smith, ed., 1983.

[6]Ferguson, 1978 raises several interesting questions concerning "multilingual grammars", and summarizes several attempts for describing multilinguals' linguistic interaction. Also see Hymes, 1967.

[7]See, e.g., Jakobson (quoted in Erlich, 1965:172) "The subject of literary scholarship is not literature in its totality, but literariness (literaturnost), i.e., that which makes of a given work a work of literature." For the relationship of <u>context</u> and <u>text</u> see also Seung, 1982.

[8]See Kachru, 1982c:330 and 341.

[9]However, there are some exceptions to this. An excellent study is Chishimba, 1983. See also Lowenberg, forthcoming and Magura, forthcoming regarding contact literatures in Southeast Asia and Africa, respectively. For further references see Kachru, 1983, Pride, 1982 and 1983, and Sridhar, 1982.

[10]For lexical evidence see Serjeantsen, 1961.

[11]For further discussion see Parthasarathy, 1983.

[12]I am grateful to Wimal Dissanayake for pointing out to me that the Platonic and Aristotelian <u>sequences</u> are not identical and that Kaplan's coupling of these two <u>together</u> is misleading.

[13]A discussion of the bilingual's discourse strategies in educated English and specific illustrations of some cohesive characteristics of educated Indian English are given in Y. Kachru, 1983a and 1983b.

[14]See the following for discussion and illustrations of contrastive discourse: for Hindi, Y. Kachru, 1983a and 1983b; for Japanese, Hinds, 1983; for Korean, Chang, 1983; for Mandarin, Tsao, 1983; and for Marathi, Pandharipande, 1983.

[15]See Kachru, 1983, Pride, 1983, and Sanchez, 1983.

[16]In this context one might mention the insightful work of John Gumperz, Dell Hymes and several other scholars. For references and further discussion see Chishimba, 1983 and Kachru, 1982c.

[17]See Kachru, 1978 for references, illustrations, and further discussion. Also see Sridhar and Sridhar, 1980.

[18]The relationship of sociolinguistic context and the "meaning potential" of non-native Englishes, with specific reference to African varieties of English, has been discussed extremely well by Chishimba, 1983. Also see Kachru, 1982b and 1983 and Lowenberg, forthcoming.

[19]Nelson, 1982 and 1983 discuss several issues related to intelligibility of non-native Englishes. Also see Smith, ed., 1983.

[20]One also finds this in James Joyce, Walter Scott, or Thomas Hardy, to give just three examples. But all these were still experimenting within the Western cultural and literary traditions.

[21]See Kachru, 1965 and later, reproduced with an extensive bibliography in Kachru, 1983.

[22]For example, consider Yorubaization in Amos Tutuola, Sanskritization in Raja Rao and Hindiization and Punjabiization in Mulk Raj Anand. For references and discussion, see Kachru, 1983.

[23]See Parthasarathy, 1983.

[24]A recent example of such stylistic experimentation is provided by another acclaimed South Asian writer, Salman Rushdie in his novels Midnight's Children, which won the Brooker Prize, and Shame.

[25]Also see Chinweizu, Jemie and Madubuiku, 1983; Lindfors, 1973; Moore, 1962; Mphahlele, 1964; and Sridhar, 1982.

[26]For discussion on this topic see also a very insightful discussion in Nakamura, 1964.

[27]For Chinese see Cheng, 1982, and for Thai see studies by Mayuri Sukwiwat, especially 1983.

[28]See, e.g., Gumperz, 1964 and later; Kachru, 1981a and 1981b; Sridhar and Sridhar, 1980; Pandharipande, 1982 and later.

[29]The term "meaning system" is used here in a wider sense, more or less as used by Halliday.

[30]See, e.g., Amirthanayagam, 1976; and Sharrad, 1982. Sharrad provides a useful list of relevant references.

[31]See also Kachru, 1982b, Lowenberg, forthcoming, Magura, forthcoming, and Pride, 1983.

[32]As an important afterword, I should point out that the issues raised here have several parallels in situations of bi-/or multidialectism (for example, Scottish, Welsh, and Irish literature, or what are termed "dialect" literatures in other languages). A reader who does not share the linguistic and cultural norms of such writers is therefore at a disadvantage. True, a text does provide its own context, but it does not necessarily provide its culture-specific or language-specific interpretive context.

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CROSS-CULTURAL TEXTS AND INTERPRETATION*

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This study is an attempt to demonstrate how cultural differences are reflected in the characteristic conventions of rhetorical forms in different cultures. The illustrative examples are drawn from a body of cross-cultural texts, i.e., texts from a nativized variety of non-native English: Indian English. It is shown that in order to interpret such texts at an optimum level, readers need three types of competence: linguistic, cultural and textual (Beaugrande, 1980). The theoretical and empirical implications of these findings are also pointed out in the conclusion.

Introduction. A significant part of recent research in discourse analysis has been concerned with the problem of understanding the relationship between language and cognition by attempting to answer the questions of whether and how culture influences thought patterns (e.g., Scribner, 1979; Tannen, 1980). There are several positions one might take with respect to these questions, as is evident from the controversy surrounding the Whorfian hypothesis. As a linguist searching for universals and an applied linguist interested in translations, I assume that there are no differences in underlying cognitive processes among various populations; the differences are in conventionalization of appropriate rhetorical forms in different languages and cultures.[1] This does not mean that I am denying the real observable differences in habitual ways of producing and interpreting discourse in different cultures. In fact, this paper examines selected aspects of these habitual ways of producing discourse in Indian English and discusses the problems in interpretation these discourse strategies may create for speakers of other varieties of English

I am using 'cross-cultural texts' to refer to a body of texts bilinguals (or multilinguals) produce in a transplanted language in a speech community that does not share the native cultural contexts of the transplanted language. The texts in Persian written by the Indians in India in the medieval times, and in English by the indigenous peoples of Africa, Asia, and other parts of the world in their own, un-English sociocultural contexts, are good examples of such cross-cultural texts. These texts have a number of properties not shared by texts produced by monolinguals in monolingual speech communities (Kachru, 1982; Taiwo, 1976 and other works dealing with world varieties of English). This will become clearer as we proceed with the discussion of Indian English texts in this paper.

I am using 'interpretation' to refer to something that is different from mere decoding of a text. Interpretation involves, in addition

to decoding, the imposition of one's own knowledge, experience, beliefs, and expectations on what one reads.[2] In this paper, I am interested in identifying those factors which have a bearing on interpreting Indian English texts.

For convenience of exposition, the paper is organized as follows. First, a selected range of differences between the syntactic structures of English and those of major Indic languages are very briefly discussed. The focus is on factors such as clausalization and subjecthood (Bernardo, 1980). This is followed by a brief description of the rhetorical conventions in major Indic languages. A number of examples from Indian writings in English are presented to demonstrate how syntactic structures and rhetorical conventions of Indic languages are reflected in Indian English texts. Several of the same characteristics are shown to occur in the English translations of Indic language texts by native speakers of English. Finally, the factors that enter into interpreting Indian English texts are clearly identified.

Clausalization and Subjecthood in Indic Languages. According to Bernardo (1980), discourse largely involves the expression of conceptual material such as one's knowledge, beliefs, on-going perceptions, memories of past experiences, etc. When the conceptual material is activated or brought to consciousness, it is in unified chunks with names such as 'our vacation', 'my sister's wedding', 'the nuclear freeze movement', etc. There are two sorts of elements in these chunks: (1) individuals and (2) states, processes, actions, experiences, etc. In encoding these chunks into language, the writer has to subchunk a large piece into smaller units so that the relationships between these two types of elements are clearly expressed. This process of subchunking is not automatic; different participants describe the same event in different ways, and the same person may describe the same event in different ways at different times. The process of subchunking is directly involved in encoding events in clauses and also in the choice of subjects for the clauses. A 'minichunk', i.e., a subchunk conceived as a single state, process or action, is usually expressed as a clause in English. One of the component individuals in the minichunk is selected as the subject of the clause. This is the individual that has a higher degree of prior activation in the consciousness of the writer and a human or causal role in the event.[3] Other things being equal, the subject is also the theme or topic of the sentence and occurs as the left-most constitutent of the sentence in English (Halliday, 1967-1968).

Although the process of subchunking is universal, the conventions of clausal encoding and subject selection differ from language to language. For instance, unlike English, the major Indic languages prefer to express a series of temporally sequential events in one clause.[4] Consider the following examples from Hindi.[5]

1.	jaldii se	ghar aakar	haath-mũh	dho kar	paṛhne	<u>baiṭh jaao</u>
	quickly	home having come	hand face	having washed	to read	<u>sit down</u>

<u>Come</u> home and <u>wash</u> yourself quickly and (then) <u>sit down</u> to study.

2. vah tumhaare kahne par bhii dillii pahũcte hii sumit
   he your saying on even Delhi arriving as soon as Sumit
   se mil kar sab baatẽ tay karne ko taiyaar nahĩ hai
   with having met all matters deciding for ready not is
   Although you asked him to, (s)he is not ready to meet Sumit and settle everything as soon as (s)he arrives in Delhi.

In the Hindi examples above, we have just as many clauses underlyingly as in the English translation equivalents. On the surface, however, English requires at least three clauses in each as compared to only one clause in Hindi (the finite verbs that are obligatory constituents of the English and Hindi clauses are underlined).[6]

As regards subjecthood, unlike English, Indic languages have a low subject number (Keenan, 1976; Y. Kachru, B. Kachru and Bhatia, 1976; Y. Kachru, 1983; Pandharipande, 1981, 1983; Sridhar, 1976). They allow for sentences with no grammatical subjects or marginal grammatical subjects as in the following.

3. baahar ṭhaṇḍ hai
   outside cold is
   It is cold outside.

4. dhuup mẽ garmii nahĩ hai
   sun in heat not is
   There is no warmth in the sun(light).

5. mez par kitaab hai
   table on book is
   There is a book on the table.

6. kaar mẽ koii aadmii hai
   car in some man is
   There is a man in the car.

Also, there is a subjecthood hierarchy in Indic languages which works as follows. Sentences that express a volitional act require an agent-subject whereas a major class of sentences that express non-volitional processes and states have as subjects a noun with dative or some other case marking. Only the active agent subjects - whether unmarked or marked with an agentive marking - have all the behavioral properties of a grammatical subject (Keenan, 1976). The dative, instrumental, and genitive marked subjects have fewer subject properties, and the locative marked subject has no subject properties (Pandharipande, 1981; Verma, 1976). A comparison of the following Hindi sentences with their English translation equivalents will clarify the notion of case marked subjects.

7. ramesh kavitaa likh rahaa hai[7]
   Ramesh poem write ing is
   Ramesh is writing a poem.

8. ushaa ko buxaar tha
   Usha dat fever was
   (f) (m) (m)
   Usha had a fever.

9. ramesh ko bhuukh lag rahii hai
   Ramesh dat hunger feel ing is
   (m) (f) (f)
   Ramesh is feeling hungry.

10. mujhko sab baatẽ yaad hãĩ
    me dat. all matters memory are
    I remember everything.

11. meraa iraadaa hai ki ek axbaar nikaalũũ
    my intention is that a newspaper bring out
    I intend to publish a newspaper.

12. uske sir mẽ dard hai
    his/ head in ache is
    her
    (S)He has a headache.

Notice that in English, the sentences in 7-12 all have an unmarked subject. In contrast, in Hindi, only sentence 7 has an unmarked active subject. Sentences 8-10 have dative subjects, sentence 11 has a genitive subject and in sentence 12, we have a possessive phrase with a locative postposition, "in his/her head". Sentences 8, 10, 11, and 12 express non-volitional states while sentence 9 concerns a process and sentence 7 an action.

The clausalization and subjecthood facts discussed here have important consequences for discourse coherence. Also involved in discourse coherence are the tense-aspect-mood systems and anaphoric processes in Hindi, which have been described elsewhere (Y. Kachru, 1983). The role of these grammatical features in discourse structure is discussed in the section on Indian English texts in some detail.[8]

Discourse in Indic Languages. The limited research heretofore in the area of contrastive discourse analysis (e.g., Kaplan, 1966; Y. Kachru, 1983; Pandharipande, 1983) links the strategies of expository discourse structure in different languages to popular conventions of logic in their respective cultures. For instance, an ideal English expository paragraph is often described as having a straight linear progression, from the topic sentence in the beginning to the last sentence of the conclusion, a preferred structure said to be derived from a Platonic-Aristotelian model (Kaplan, 1966). As opposed to this, Hindi and Marathi have been shown to have a spiral-like and a circular structure respectively (Y. Kachru, 1983; Pandharipande, 1983).[9] The paragraph structures in Indic languages have been linked to the tradition of oral narratives in these languages (Y. Kachru, 1983; Pandharipande, 1983). Furthermore, it has been demonstrated that the patterns that occur in Hindi also occur in the English written by Hindi speakers, no matter how high their competence in English (Y. Kachru, 1983). That the Indic patterns of discourse structure also appear in English writings by speakers of other Indic languages is clear from the examples in the next section.

Discourse Features of Indian English Texts. The following paragraph from an Indian English expository text exemplifies the deviations from native varieties of English that are observable in the South Asian variety of English.

13. Sanskrit, the classical language of India, has had a history of four thousand years in this country, its earliest literature, the hymns of the Rigveda, being also the oldest and most extensive remains of Indo-European literature. The antiquity of Sanskrit is well known but its continuity is not less remarkable. In the same accents in which the Vedic seer uttered, his mantra is even now intoned; and in the same cadence and diction in which Kalidasa and Bana composed, a Sanskritist today writes his verse or prose. The Vedic dialects, the freedom of the popular epic style, the rules for the spoken word in Panini's grammar, the diction of early drama, all point to a period when Sanskrit was a living spoken tongue. When out of its dialects a literary norm got standardised and the early primary Prakrits were coming into increasing literary use, Sanskrit still continued to hold its authoritative position; for, as observed by the latest writer on the language, "though it appears paradoxical at first sight, the Sanskrit language only reached its full development as a language of culture and administration at a time when it had ceased to be a mother tongue." Buddhism and Jainism which started with using the popular languages, could not by-pass Sanskrit to which they had eventually to come. Sanskrit consolidated itself as a pan-Indian language by reason of the common culture and thought it embodied; the mother of most of the mother-tongues of the country, it was and is still the strongest bond of the country's unity [Ragavan, 1957, p. 201].

Note the use of the adversative but and the phrasal negative not less remarkable so close together in the second sentence; the use of utter as a "deletable transitive" verb in the third sentence (line 6); and the inversions in the two clauses of the third sentence (lines 5 and 6) and the fifth sentence (line 11). All these are deviant from the native norms. According to Green (1982), the use of such inversion in expository prose by native speakers of English is unlikely if not totally unattested. In fact, the whole tone of the paragraph is oratorical rather than expository. The factors that are responsible for this tone have largely to do with the structure of clauses and the combining of clauses into sentences. Note that what seem to be inversions according to the native norms of English may not be inversions in Indian English; the order of the propositional phrase and the rest of the clause in lines 5, 6, and 11 would be unmarked in most Indic languages. Additionally, an affective style, not appropriate in expository prose according to native norms of English, is not unusual in Indic language scholarly texts, especially in the genre of literary criticism.

The greater toleration of digression that characterizes Indic language texts can be seen in the following example of Indian English expository prose.

14. Among Indian languages Kannada is next only to Sanskrit and Tamil in its antiquity [and] its claims for attention, however, are not based only on its antiquity. Writers who can be called great from a comparative point of view have written in Kannada, [and] one of the most striking features of Kannada literature is its ability to assimilate influences. Even the earliest extant evidence of the literary uses of the language, the inscriptions from the 5th century A.D. onwards, show the influences of Sanskrit language and literature on Kannada. In its openness to influences Kannada contrasts with its sister language, Tamil. Unlike Tamil, Kannada has no "indigenous" epics, [and] the first extant book in the language Kavirājāmarga, a book on poetics written by Sri Vijaya, a court poet of the Rashtrakuta king Nrpatuṁga, of the 9th century A.D., refers to some Kannada versions of the Ramayana which are now lost. Many of the extant Kannada versions of the Hindu epics, the Ramayana and the Mahabharata are not mere translations from Sanskrit. The authors of these epics borrow the frame work from Sanskrit [and] the feel of their versions differs from that of the Sanskrit epics on the one hand and from that of the versions of the same epics in other Indian languages. Another interesting feature of Kannada literature is the writers' attitudes to Sanskrit. Sri Vijaya is one of the many who attack indiscriminate borrowings from Sanskrit, and the best among the Kannada writers have always been aware of the dangers of an over-Sanskritization of the language. In fact, a Kannada writer's use of Sanskrit can be used as a measure of his greatness as a creative artist. Some of the best writers in Kannada have successfully exploited the "bilingualism" of their language. The Kannada and the Sanskrit words in a passage often balance one another and are sometimes used to suggest different levels of experience. Some of the vacanas of the sayings of the Virasaiva mystics of the 12th century provide some of the most fascinating examples of the exploitation of this bilingualism of Kannada [Krishnamurthi, 1967, p. vii].

There are several features of this paragraph that warrant attention. First, notice the internal structure of the first sentence and the sentence "The authors of these epics...other Indian languages" (lines 15-18). In the first sentence, it is difficult to see why the coordinator and is needed to link the two clauses. In the other sentence, clearly an adversative rather than a coordinating conjunction is required. In fact, the four instances of boxed and in the text above are all, according to the norms of native speakers of English, misplaced. Also, the expectation of "on the other hand" to balance the expression "on the one hand" in the text (in lines 15-18) is not satisfied. Another striking attribute of the paragraph is the lack of a straight linear progression of thought. The first sentence does not make a clear topic statement. In fact, it only implies that the greatness of Kannada lies partly in its antiquity and partly in other characteristics. These other characteristics, again merely implied in later sentences, are its openness to outside (i.e., Sanskritic) influences; the originality of its writers; and the exploitation of the 'bilingualism' of Kannada, introduced into Kannada by Sanskrit, for creative purposes. In a sense, the topic 'greatness of Kannada literature' is to be inferred; it is not explicitly stated at the beginning.

I have already discussed the preferred process of clausalization in Indic languages. Since English does not normally accommodate complexity in single clauses of the type that Indic languages allow for, Indian writers of English have to find a way of expressing what they perceive to be related events in single sentences. The coordinator and provides one such device for expressing relatedness. Note that this is not a simple case of transfer of an Indic language phonological, syntactic, or lexical feature; this is an example of a complex phenomenon. And is the least marked conjunction in English; hence the choice of and for marking relations which are not otherwise expressible in English is understandable. This, however, does not mean that there is no effect of language contact discernible here. In part, the reason for choosing and to express an adversative or concessive relationship may be that coordinating and concessive structures in Kannada employ clitics on the verb which are phonological identical.[10] Note that the first and the fourth instances of boxed ands could be replaced by a concessive structure, which would also bring out the contrast in the clauses being conjoined.[11]

What this discussion brings out is the fact that the grammar of Indian English is different in some respects from the grammar of the native varieties of English. But, then, it is by now well-recognized that just as the native varieties differ from each other, the 'interference' varieties (Quirk et. al., 1972) likewise differ from the native varieties.

As regards paragraph structure, the above passage again violates the norms of native English expository writing. It has the loose structure of an oral narrative where a great deal is left to inferences the audience is expected to be able to draw. The paragraph does not lack coherence; only the linguistic expression of the thoughts is 'deviant'.

The greater toleration of digression is not confined only to the writings by scholars of Indic languages. Consider the following paragraph from a well-known Indian literary critic and Professor of English.

15. Several such 'Indian' themes have emerged to form recurrent patterns in Indo-Anglian fiction, and the patterns are more easily discernible today than they were even ten years ago. The novels laid in the nineteen-thirties and 'forties invariably touch upon the national movement for political independence. This is inevitable because the long years of struggle and sacrifice have shaped and coloured every experience of modern India. A great national experience must surely help in maturing the novel form, because an experience shared by the people at large becomes the matrix of a society and the novel flourisned best in a society that is integrated. The struggle for independence became one such unifying force in the two decades preceding the actual achievement of political freedom, and no novelist living in or dealing with this period could avoid writing about it. This is not a situation unique to Indo-Anglian fiction, because novels in other Indian languages also testify to their intense concern with the national movement. But the phenomenon assumes greater significance

in English because this is one of the few pan-Indian experiences of our time and English remains the only pan-Indian language of modern India.[#] Northrop Frye has noted the "alliance of time and the western man" as the defining characteristic of the novel as distinct from other genres of literature. The very genre is western, and it is perhaps a sign of maturity that Indo-Anglian fiction reflects this characteristic orientation of modern thought. E. M. Forster sees the portrayal of "life by time" as the special role which the novel has added to literature's more ancient preoccupation with portraying "life by values." The concern of the Indo-Anglian novel today is the "ultra-historical" modern man whose individuality and personal life are shaped by factors of history [Mukherjee, 1971, p. 26].

Note the break in the tight structure of the paragraph marked by [#] in line 19. The topic of "Indian themes" suddenly gives way to the topics "the novel as a western literary genre" and "the novel as concerned with modern man". Again, the topics fit together in the structure of the longer section even though their occurrence makes the paragraph quoted above 'deviant'.

Translations into English of Indic language texts exhibit similar deviations from norms of grammatical cohesion and discourse coherence generally followed by native speaking writers of English. Consider the following from a translation of a Hindi short story by a native speaker of English.

16. Suddenly the doorbell rang. I had just been thinking that I'd saved some time from the office, and was wondering what to do if she wasn't free... Still buttoning my shirt, I opened the door and was taken by surprise - she was standing right in front of me. Eyeing her from head to toe, I couldn't figure out which aspect of my surprise to express first - her unexpected arrival or that outfit of hers.
"I just couldn't believe it was you!" I stammered. "What gave you the courage to come at this hour?"
She had seated herself casually on the sofa, after throwing books on my table... [Roadarmel, 1972, pp. 176-177].

The past tense in the first sentences of the narrator's quoted speech (line 7) as well as the past perfect in the last sentence of the text (line 9) are unexpected. One has to presuppose that the seating took place before the speech was over to make any sense of this use of the past perfect in line 9. Also, one has to presuppose something similar to "when I opened the door and saw you..." to account for the use of the past tense in the first sentence of the direct quote in line 7.

In the original Hindi version of the above text, the entire narrative portion is written in the past perfect in order to make it clear that the protagonist is 'reliving' a past experience. The excerpt quoted here is part of a long beginning paragraph of the original; the paragraph structure in English reflects the translator's organization. The tense sequence in the Hindi story is different. For instance,

the first sentence of the direct quote has no tense marker in the Hindi version; the tense marker can be dropped in negative sentences in Hindi, as it is recoverable from the linguistic context. In the original text in Hindi, this absence of the tense marker in the direct quote creates an interesting ambiguity between present versus past, as both are possible in direct quotes, e.g., "I cannot imagine..." vs. "I could not imagine...". In the English text cited above, however, the translator is forced to choose a tense in the first sentence of the direct quote because a tense-less finite clause in the indicative mood is ungrammatical in English, and he elects to use the past tense. In the last narrative sentence of the passage, the translator decides to keep the same tense (past perfect) as in the Hindi original to maintain the 'flavor' of the original. Note, however, the consequences of these choices. The translation gives the impression that the sentences with simple past represent the 'main line' events of the story whereas the ones with past perfect or past perfect progressive indicate the 'background' events (Aristar and Dry, 1982). This, however, is not true of the original. The entire excerpt quoted here represents 'background' events. Also, it is worth noting that unlike English, past perfect is not just a 'backgrounding' tense in Hindi.[12] If the translator had attempted to preserve the tense sequence of the original to the extent that it was possible, the English text would have been incomprehensible. The tension between the need to produce a reasonably transparent English text on the one hand and the attempt to maintain the backgrounding function of the passage under discussion on the other hand has resulted in the specific choice of tense forms in 16. The tense forms in the above translation are thus indicators of a process of accommodation on the part of the translator.

In addition to structural and rhetorical conventions, Indian English texts display characteristic conventions of use of familiar English structures and lexicon which are likely to be missed completely by readers not familiar with these conventions. Consider the following paragraphs.

17. When they got to the jeep, they saw a sikh peasant talking to the boy they had left behind. He was obviously waiting for them. When the man saw what the boys had brought, he spat on the gound: "Sardarji, why did you have to take the life of this poor creature? Is anyone going to eat it?" He spoke to Sher Singh as Sher Singh was the only one carrying a gun.

"Oi Sardara, what do you know about these things? Be on your way, " answered the boy holding one end of the crane's wings. ...He [Sher Singh] put his arm around the peasant's shoulder and took him aside: "Come along. Lambardar Sahib, you have become angry for no reason...

"I am your slave," said the peasant, touching Sher Singh's knee. "The slave of your slaves. You must come to my humble home for some water or something."

"That is very kind of you; we will another day. Do see my license. And this is for your children."

"No, no, Sardar Sahib," protested the headman, "Do not shame me. I am not short of money. By the Guru's blessing I have plenty to eat and drink. I only need your kindness. If you step into the hut of Jhimma Singh I will ask nothing more. Your slave is named Jhimma Singh."

..."We will ask you when the shooting season opens," answered Madan.

"Now you are making fun of me, I was only doing my duty as a headman. Sardar Buta Singh is the king of this district, who dare tell his son when he can or can not shoot? Isn't that so Babujii... Babujii... What is our name?" [Kushwant Singh, 1959, pp. 9-11].

Notice the patterns of address in the passages quoted above. The peasant addresses Sher Singh respectfully, but Sher Singh's companion uses the vulgar style of address, "Oi Sardara" which is reserved for one's inferiors or intimate equals. As it becomes clear that the peasant is the headman of the village and has the authority to question the boys with regard to their possession of fire arms and out-of-season shooting, Sher Singh makes a friendly gesture and addresses him with his official title and the honorific 'sahib'. This and the information that Sher Singh is District Magistrate Buta Singh's son provides the clue for the headman to switch to an extremely formal style. The passages relating to the declaration "I am your slave", the reference to "humble home", the offer of "some water or something", the manner in which the headman's name is revealed and the final question "What is our name?" are all direct translations for the extremely formal style employed by Hindi-Urdu and Panjabi speakers in selected contexts. The word 'slave' has nothing to do with one's status; even a noble would apply the term to himself in his interactions with an equal or superior. Offering food and drink is an integral part of Indian hospitality. And expressions such as "What is your name?" and "my name is..." do not exist in the formal style. Even in normal speech, people prefer to say something like "(they) call me..." instead of "My name is...". Without the cultural context, the sentence "What is our name" as a genuine question addressed to an adult is semantically anomalous in native varieties of English. It is not the case that the first person forms are never used for an addressee in native varieties of English. They are used when addressing children and in certain social contexts for polite suggestions. But all such contexts have one thing in common, the speaker controls the situation. This is not true of Indian English. The domain of such use in Indic languages is much wider, and this is reflected in Indian English texts such as the one quoted above.

The following stanzas from Ramanujan's poem "Prayers to Lord Murugan" present similar problems of interpretation.

18. Twelve etched arrowheads
    for eyes and six unforeseen
    faces, and you were not embarrassed.

Unlike other gods
you found work
for every face
and made
eyes at only one
woman. And your arms
are like faces with proper
names. [Ramanujan, 1971, pp. 57-58]

This is a strange prayer. As observed by Parthasarathy (1982), the tone throughout is bantering and the poem is full of verbal paradoxes. That is, however, not unique in the Indian context. Indian devotional poetry is full of instances of "the ambivalent, invective-like invocations or prayers to a god" (Ramanujan, 1973, f.n. 23, p. 192). One such instance is provided by the Kannada devotional poet Basavaṇṇa (1106-1167/68).

19. he's really the whore who takes every last bit
of her night's wages,
and will take no words
for payment,
he, my lord of the meeting rivers. [Ramanujan, 1973, p. 81]

The "lord of the meeting rivers" is a form of Shiva, Basavaṇṇa's chosen personal god. Kūḍalsaṅgama is a holy place in North Karṇatake where two rivers meet and Basavaṇṇa addresses Shiva as Kūḍalsaṅgamadeva "Lord of the meeting rivers". Devotion to a personal god in Indian tradition is of several forms, one of which is the devotion of an intimate friend (Sakhyabhāva). Intimate friends use a vulgar style, full of insults and curses, to show their solidarity. Examples of this are available in several texts, including the following two from Roadarmel (1972).

20. Kedar had been speaking on the other end of the phone: "Worthless wretch! Jackass! I hear you've become a real big shot along with your Minister Sahab. Phone a dozen times and your secretary says the Sahab's doing this or doing that. If I'd not reached you this time, I wouldn't have spoken to you the rest of my life, you bastard."

The two creases on Nath's forehead had deepened into troughs. 'Yess . . . yes. . ." he stammered, "I didn't recognize you."

"Of course, of course, you grandson of a governor, why would you recognize even your own father now?" came the response.

The voice was very familiar but he couldn't quite place it. The operator must be listening. Suppressing his irritation, he said, "Look, I'm hanging up the phone, you..."

Lest the connection actually be cut off, the speaker on the other end identified himself. "Hey, what are you doing? Don't you recognize the venerable Kedarji?"

"Oh, it's you Kedarji! Well, when did you arrive?" How he produced that sentence, only he knew. Internally he had been rocked by an explosion that made him want to wave the receiver and start dancing - Hey, you bastard Kedarey! Where are you, old pal? When did you get in? Come over right away... [Roadarmel, 1972, pp. 82-83].

21. For example, at a meal, one would urge the other on with full courtly gestures. He would speak very slowly in Hindi - "You bastard, if you have to do things your way, then glut yourself with this cattle fodder." With equal solemnity the other would reply, "Thank you, you son of a bitch. First give me something to drink, though, you sister-____." There was great pleasure in having their own language, unintelligible to those around. Nevertheless the words were spoken in such a way that even someone knowing the language could not have understood.

Ever since childhood, there was almost no abusive term they had not tried on each other, repressing their laughter as they softened the cursing with English words such as "sorry...sure...thank you." Back in seventh class, the two once arrived in class dressed as Ram and Lakshman and carrying real bows and arrows. Ever since, they had kept practicing the art of keeping a straight face during their devilry. Recalling all this, they both rocked with laughter. [Roadarmel, 1972, pp. 85-86].

The texts represent the habitual speech patterns of two intimate friends. Saint poets of Indic languages have adopted this social behavior pattern with great effect, and a whole genre of nindaastuti 'praise through defamation' exists in almost all Indic languages.

Conclusion. The discussion so far makes it clear that a number of factors are involved in producing discourse in Indian English. One major factor is the habitual ways of encoding conceptual material in language. English is a second language in India. Linguistic competence in English is acquired by the Indians within the socio-cultural and intellectual contexts of India and not in the Anglo-European Judeo-Christian sociocultural and intellectual milieu of the native varieties of English. It is clear that the discourse strategies developed along with the acquisition of Indic languages are discernible in Indian English discourse as well (B. Kachru, 1982, 1983; Y. Kachru, 1983). A second related factor that needs to be recognized is that Indian English discourse expresses the experiences, beliefs, and knowledge gained in the Indian context, or at least, against the background of the Indian context in the case of the expatriate Indian writers. This makes the adoption of Indic discourse strategies even more appropriate for Indian English discourse (B. Kachru, 1983; Mukherjee, 1971). A similar situation obtains in other non-native varieties, too (e.g., for Nigerian culture in the Nigerian English novel, see Taiwo, 1976).

Having identified the factors that are responsible for the characteristic discourse structures of Indian English, let us look at the factors that enter into their interpretation. In this paper, I have discussed two sets of relevant factors. One set is related to the grammatical structure and discourse patterns of Indic languages and their influence on Indian English. These include grammatical deviation, non-native lexicalization, and non-native style features. Obviously, a reader of Indian English literary texts needs to be informed of these characteristics of Indian English. Otherwise, texts

such as the ones cited in this paper will be evaluated as poor examples of writing and hence not worth taking seriously. The second set of factors is related to the sociocultural and intellectual traditions of India. Just as learners of English all over the world have to familiarize themselves with the sociocultural traditions and intellectual heritage of the native varieties, readers of Indian English have to develop the necessary textual competence (Beaugrande, 1980) for this variety. This would involve three types of knowledge: (a) knowledge of the linguistic characteristics of Indian English, (b) familiarity with the beliefs, expectations, experiences, and knowledge of the world of the Indian people, and (c) knowledge of the text types in Indic literatures. The examples quoted and analyzed in this paper make it clear that all three types of knowledge listed above are required for an adequate interpretation of these texts.

It is obvious that unless such textual competence as discussed above is developed, works such as the ones created by Raja Rao, Ramanujan, Parthasarathy, Narayana, Markandaya, Anand, and others will remain to a large extent uninterpretable to users of other varieties of English. In fact, a reader lacking textual competence in world varieties of English will only react to texts created in them with puzzlement, bewilderment, shock, or even resentment, depending upon the nature of the text.

I have confined my discussion of cross-cultural texts and interpretation to the written mode. Note, however, that the same factors are relevant for cross-cultural conversational interaction, too. For the latter, of course, certain phonological features and conventions of conversational interaction such as pause, turn-taking and tempo will be relevant as well. Only the factors common to both modes of interaction have been discussed in this paper. Also, I have discussed the question of interpretation from the point of view of the optimum level of competence required for interpreting literary texts. This does not mean that I am overlooking the fact that different levels of interpretation exist, or that texts create their own context. Note, however, that inspite of the context-creating capacity of texts, in cross-cultural situations, extensive cultural notes are still felt to be essential for an adequate level of interpretation.

Even this brief discussion raises several important theoretical and empirical questions. Theoretically, it raises questions about the place of pragmatics in linguistic descriptions, especially in descriptions of a bilingual's (or multilingual's) linguistic repertoire. Empirically, it raises two sets of questions. One set has to do with research on cross-cultural texts, whether oral or written, and the other with the teaching of textual competence, which subsumes communicative competence, in cross-cultural contexts. Such research - and the incorporation of the research findings into activities leading to an awareness of sociocultural factors in communicative acts - is essential for achieving adequate levels of cross-cultural communication.

NOTES

*An earlier version of this paper was presented at the East-West Center, Honolulu, Hawaii, on June 7, 1983 at the Conference on English as an International Language: Discourse Patterns Across Cultures, June 1-7, 1983.

[1]The same position has been taken by others working in this area, e.g., Tannen (1980).

[2]This is nothing new. The active participation of the reader/hearer in interpreting discourse is well-established in psychological and psycholinguistic literature.

[3]This discussion of clausalization and subjecthood is based on Bernardo (1980).

[4]This is an oversimplification. In fact, the relationship may be of temporal sequence, simultaneity, manner of performing an action, or cause-effect.

[5]For convenience, all the examples of syntax in Indic languages cited in this paper are from Hindi, one of India's official languages and the most widely known and understood language in India.

[6]I am not claiming here that there are no versions of possible translation equivalents in English which would have only one finite verb. I am only claiming here that participialization of this kind is much less common or frequent in English as compared to Indic languages. This is clear from the grammatical descriptions of phenomena such as relativization, too.

[7]The (m) and (f) in the glosses indicate the masculine and the feminine gender, respectively. Note that the subject does not always control verbal agreement in Hindi.

[8]In addition to the sentence-level grammatical facts discussed here, it would be useful to consider discourse-level phenomena such as staging, foregrounding, and backgrounding as well. Unfortunately, not much research is available on these topics in Indic languages as yet. Moreover, the limitation on space makes it difficult to discuss all relevant facts in detail. Nevertheless, the sentence-level phenomena discussed here are of considerable value in understanding the structure of Indian English texts.

[9]Sanskrit and Ancient Greek also have similar structures. For Sanskrit, see the sources referred to in Y. Kachru (1983). The Greek facts were mentioned to me by Ladislav Zgusta.

[10]I am grateful to S. N. Sridhar for this information. Note that the concessive in Kannada has one other element, too, in addition to the clitic, which keeps the two structures distinct.

[11]The two sentences would then read as follows:

Although Kannada, among Indian languages, is next only to Sanskrit and Tamil in its antiquity, its claims for attention are not based only on its antiquity.

Although the authors of these epics borrow the framework from Sanskrit, the feel of their versions differs from that of the Sanskrit epics on the one hand and from that of the versions of the same epics in other Indian languages on the other hand.

[12]See Hackman (1976) for a description of the Hindi tense-aspect system.

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LEXICAL MODERNIZATION IN BAHASA INDONESIA: FUNCTIONAL ALLOCATION AND VARIATION IN BORROWING*

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This paper focuses on a controversy among Indonesia's language specialists as to the most desirable strategy for utilizing borrowings from foreign languages in modernizing the lexicon of Indonesia's national language, Bahasa Indonesia. The main question is: when such borrowing is considered necessary, should lexical items be borrowed (1) from foreign languages through which Indonesian languages have traditionally been modernized, particularly Sanskrit, or (2) from modern European languages, principally English as the present internationally dominant code of modernization? After a review of the linguistic feasibility and sociolinguistic appropriateness of each strategy, evidence is provided that the two approaches are currently being used -- both in lexical items "officially" borrowed by agencies concerned with language standardization and in the more numerous "spontaneous" borrowings by different sectors of Indonesian society -- with each approach predominating in particular registers and domains of language use.

1. INTRODUCTION

Endeavors at language modernization in Indonesia have focused chiefly on equipping the lexicon of the most widely shared Indonesian language, Bahasa Indonesia, to function as the national and official language of a modern nation-state. Thousands of new terms have been needed in the domains of industry, commerce, government administration, science and technology, the mass media, and higher education. Most of these new lexical items have been derived from words and morphemes already present in Bahasa Indonesia and other Indonesian languages or through loan translations of foreign words.

However, since Indonesia's independence in 1945, the lexicon of Bahasa Indonesia has been further expanded by a large number of direct borrowings from foreign languages. This influx of foreign words has spawned a major controversy among Indonesia's language specialists: should such loan-words from non-Indonesian languages come primarily from the foreign languages from which the Indonesian languages have traditionally borrowed, especially Sanskrit, or should greater use be made of the European languages, particularly English, so often associated with "modernity" around the world? After a brief introduction to the sociolinguistic context in which this borrowing is occurring, this paper will review the arguments given in support of both positions and will then demonstrate how each of these strategies for borrowing is currently being applied in different domains and registers of language use in Indonesia, often resulting in significant semantic changes in the borrowed items.

2. THE LANGUAGES OF INDONESIA

Indonesia consists of over 13,000 islands, 900 of which are inhabited by more than 300 ethnic groups comprising a total population of 146.7 million (Soedijarto et al. 1980; Diah 1982). Estimates of the number of regional vernacular languages in current use range from 250 to 500, depending on criteria employed to distinguish languages from dialects; in 1972, Indonesia's National Language Institute officially listed 418 distinct languages. Except in the easternmost province of Irian Jaya (the western half of the island of New Guinea), these languages are generally related through the Malayo-Polynesian language family, but few of them are mutually intelligible (Stevens 1973; Vreeland et al. 1975; Nababan 1983).

The majority of these languages are used in the sparsely populated eastern islands by at most a few thousand speakers each. However, several languages on the more populous islands to the west have over two million speakers; these include Javanese in Central and East Java, Sundanese in West Java, Madurese in East Java and the neighboring island of Madura, Bugis/Makassar in Sulawesi, Balinese in Bali, and Minangkabau and Batak in Sumatra. In addition, a significant number of Indonesia's three million Chinese, who reside mainly in the seaports and the larger cities, use Hokkien, Hakka, and Cantonese (Nababan 1979; 1982; 1983).

The speakers of these diverse regional and ethnic languages, connected since pre-history by inter-island trade, have for over 1,000 years shared a common lingua franca, Malay. During the Netherlands' colonization of present-day Indonesia (1600-1942), although Dutch was the main language of the colony, Malay was adopted as the second official language for local administration and inter-ethnic communication. As an ethnically neutral indigenous language, Malay also became the language of opposition to the Dutch colonial regime, culminating in its adoption by nationalists in 1928 as Bahasa Indonesia, "the Indonesian Language." The Japanese occupied Indonesia from 1942 to 1945 and used Bahasa Indonesia as the official language of the islands for law, administration, education, science, and industry. Hence, when Indonesia proclaimed its independence in 1945, Bahasa Indonesia had become the primary pan-Indonesian language and, with virtually no opposition, was declared Indonesia's single national and official language (Alisjahbana 1976; Abas 1978; Asmah 1982; Diah 1982).[1]

The islands of contemporary Indonesia have also had a long history of contact with foreign languages. In the pre-colonial era, the two languages having the greatest linguistic influence on the area were Sanskrit, introduced by Hindu priests accompanying Indian merchants who settled on the coasts of Sumatra and Java in the early centuries A.D., and Arabic, brought as the language of Islam by Gujarati traders who began arriving in the eleventh and twelfth centuries. The adoption and spread of Hinduism and Islam by the powerful kingdoms of Srivijaya and Malacca, respectively, gave to these languages tremendous prestige and resulted in the adoption of many Sanskrit and Arabic words in the lexicons of Malay and the regional languages (Meyer 1965; Gonda 1973; Beg 1979).

Though the Portuguese explorers and missionaries of the sixteenth century likewise contributed many borrowings from their tongue to the languages of the archipelago, Dutch was the first European language to have a major impact on the Indonesian people. During the colonial era, many Western-oriented urban elites began speaking Dutch in their homes, and Dutch was used as a code of modernity for domains in which the lexicons of Malay and the regional languages were not yet equipped, such as writing love letters and discussing Western fashions, amusements, and conveniences (Anderson 1966; Alisjahbana 1976).

Meanwhile, during Indonesia's latter colonial period, in other parts of the world, English was rapidly becoming the primary medium of science and technology, diplomacy, and international business and communication. Closer to home, at the end of the colonial era, English was the dominant language of Indonesia's immediate neighbors -- Malaysia, Singapore, the Philippines, Papua-New Guinea, and Australia. In addition, English is the primary language of the United States, which has exerted tremendous political and economic influence on Indonesia almost from the time of Indonesia's independence. Thus, for several reasons, English has now replaced Dutch among the Indonesian elites as Indonesia's "first foreign language" (Sadtono 1976:32; see also Tanner 1967).

Under Indonesia's current language policy, adopted in 1976, Bahasa Indonesia remains the national and official language; it is the symbol of national identity and unity, the language of law and government administration, the medium of instruction in education, and a tool for national planning and for the development of science, technology, and national culture. In complementary distribution with Bahasa Indonesia, the regional languages are maintained for intra-regional communication and to preserve and develop local culture (Nababan 1979; 1982; Diah 1982). A primary function of the foreign languages is to provide linguistic resources for the lexical development of Bahasa Indonesia as a "modern language" (Diah 1982:26).

3. THE CONTROVERSY SURROUNDING BORROWING

The relative status of Bahasa Indonesia, the regional languages, and foreign languages as specified in this language policy has never been very controversial (Nababan 1979; 1982). In addition, there is general agreement among Indonesia's language specialists that, whenever feasible, new lexical items should be derived morphologically from stems already present in Bahasa Indonesia or through loan translations of foreign terms, since such constructions are the most immediately comprehensible to the majority of Indonesians (Abas 1978). What have been disputed, however, are the particular foreign languages to be resorted to when borrowing is considered necessary. One faction argues for using principally resources from the foreign languages traditionally used in Indonesia, especially Sanskrit. The other faction favors the use of borrowings from European languages, mainly English (see Alisjahbana 1976; Vikor 1978).

3.1 PHONOLOGICAL AND MORPHOLOGICAL CONSIDERATIONS

On grounds of ease and regularity of phonological nativization into Bahasa Indonesia, both of these approaches to borrowing are feasible. With regard to non-European sources, Malay's long history of borrowing from Sanskrit and Arabic has resulted in well-established rules for nativizing words from these languages, as reflected in Table 1.

TABLE 1

NATIVIZATION OF BORROWINGS FROM SANSKRIT AND ARABIC

Sanskrit		Bahasa Indonesia	
bhāṣā	(language)	bahasa	(language)
śāstra	(theory, learning)	sastera	(literature)
sahodara	(brother)	saudara	(brother, you)
varṇa	(color)	warna	(color)
		berwarna	(colored)
		mewarnai	(to paint)
Arabic		**Bahasa Indonesia**	
'adat	(habit)	adat	(traditional law)
fikr	(thought)	pikir	(think)
ṣiḥḥat	(health)	sehat	(healthy)
šart	(condition)	syarat	(condition)
		bersyarat	(conditional)
		mensyaratkan	(to set conditions)

Pre-colonial nativization often involved substitution for foreign sounds from the phonological inventory of Malay, as in /w/ and /b/ for Sanskrit /v/ and /bh/ and /p/ for Arabic /f/. Similarly, the absence in Malay of long vowels and syllable-internal consonant clusters was likewise maintained.

In contrast to Sanskrit and Arabic, processes for borrowing words from the modern European languages have not been so consistent, as shown in Table 2.

TABLE 2

NATIVIZATION OF BORROWINGS FROM DUTCH AND ENGLISH

Dutch		Bahasa Indonesia	
fabriek	(factory)	paberik	
fotographie		fotografi	
universiteit		universitas	
electrisiteit		listerik	
coöperatie	(cooperation)	koperasi	(cooperation)
		berkoperasi	(to cooperate)
		perkoperasian	(system of cooperation)

English	Bahasa Indonesia	
television	televisi	
orientation	orientasi	
stop	setop	
class	kelas	
	mengelaskan	(to classify)
	pengelasan	(classification)

While Dutch fabriek becomes paberik in Bahasa Indonesia, similar to the change observed in the borrowing of Arabic fikr in Table 1, fotografi and universitas retain the [f] and [v] from their Dutch sources, reflecting, according to Pratt (1970), the introduction of /f/ and /v/ into the Indonesian phonological inventory during the colonial era. In addition, the constraint against syllable-internal consonant clusters in Malay is frequently relaxed in borrowings of four or more syllables (Alisjahbana 1976), as in fotografi.

Nonetheless, the other examples from Dutch and English indicate that borrowings from these languages can generally be nativized into Bahasa Indonesia as easily as lexical items from Sanskrit and Arabic. Moreover, the final entries for each language in Tables 1 and 2 demonstrate that borrowings from European and non-European languages have also been nativized with equal facility into the morphological structures of Bahasa Indonesia.

3.2 ATTITUDES TOWARD FOREIGN LANGUAGES

Apparently, phonological and morphological features of European and non-European languages provide little basis for borrowing from one set over the other. Rather, the basic issues underlying this controversy are attitudinal. Proponents of borrowings from European languages note that lexical items from these languages are fast becoming the basis for a developing international terminology of modernization. They argue that a modern Indonesian lexicon based on this terminology will help Indonesia to interact with other nations, particularly the more advanced countries, and to benefit more quickly from international advances in science and technology. A strong supporter of this approach, Alisjahbana (1976), suggests that the incorporation of this international terminology into Bahasa Indonesia will also help Indonesians learn to read and communicate in European languages.

Advocates of the opposing view hold that Indonesia's lexicon should remain more in keeping with Indonesian traditions and culture. As noted earlier, Malay has long borrowed extensively from Sanskrit and Arabic. Sanskrit in particular has a special status due to the vestiges of classical Hindu civilizations that still pervade contemporary Indonesian culture. Sutjipto (1969) observes that the average Indonesian, even if illiterate, has memorized the many names of the heroes of the Rāmāyana and the Mahābhārata and that such names as Krishna, Laksmana, Indrajit, and Bima are commonly used by Indonesians despite the fact that ninety per cent of the population are Muslim. Similarly, houses, stores, and government buildings throughout the country are often given Sanskrit names (Soebadio 1969). Hence, the argument goes,

borrowings from Sanskrit and the coining of new terms from Sanskrit morphemes stand a greater chance of being understood and adopted by most of the Indonesian people, thereby facilitating widespread participation in Indonesia's modernization. In contrast, borrowing from European languages can result in the linguistic segregation of Indonesia's elite technocrats from the non-elite masses unfamiliar with these terms. Ultimately, large-scale adoption of a strongly Westernized vocabulary could make Bahasa Indonesia inaccessible to the large majority of the Indonesian people who still do not complete an elementary education (Vikor 1978).

Both arguments notwithstanding, as will now be demonstrated, each of these approaches is being utilized in the expansion of the Indonesian lexicon, both in the deliberate borrowing of new terminology by Indonesia's language planning agencies and in the more spontaneous innovations by certain sectors of Indonesian society.

4. BORROWINGS THROUGH LANGUAGE PLANNING

Since the Japanese occupation of Indonesia (1942-1945), a succession of official committees and agencies, the most recent being the National Center for Language Development, have been delegated to formally adopt new terminology for Bahasa Indonesia. These bodies have generally tried to base their decisions on suggestions from experts representing a variety of disciplines, including law, education, economics, the physical sciences and the humanities (see Alisjahbana 1976; Abas 1978). As noted earlier, whenever possible, this new terminology has drawn on elements already available in Bahasa Indonesia and the regional languages. In cases where borrowing from foreign languages has been considered necessary, the strategy of incorporating words from European or non-European languages has depended largely on the domain and register of language use.

In literature, culture, and scholarship -- areas most likely to reflect Indonesian traditions and values -- the language planners have repeatedly turned to Sanskrit, the language of Indonesia's cultural "Golden Age" of Hindu influence, the seventh through the fourteenth centuries (Spitzbardt 1970). As Stevens notes (1973:78), "Indonesians somehow feel that the Sanskrit words are more indigenous, as well as more learned, than their Western equivalents." Examples of such planned borrowings are kebudayaan, "culture" (from buddhi, "intellect, reason"); mencipta, "to create" (from citta, "mind"); mahāguru, "professor" (from mahāguru, "great teacher"); mahasiswa, "university student" (from mahāsiṣya, "great disciple"); sutradara, "director of a play or movie" (from sutradhāra, "director"); and hastakarya, "handicrafts" (from hastakārya, "handmade things") (Sutjipto 1966; Soebadio 1969; Spitzbardt 1970; Stevens 1973). In contrast, terminology used in the modern sciences and technology has generally drawn on borrowings from the European languages, such as atom, elektron, logistik ("logistics"), sistem, and fundamental (Abas 1978).

5. "SPONTANEOUS" BORROWINGS

Over 320,000 new terms have been adopted or coined in the past forty years by the National Center for Language Development and its predecessors (Alisjahbana 1976). However, many of these officially accepted lexical items are seldom used (Kaehler 1978). For, as Stevens (1973:74) observes it is difficult "to legislate language use." Rather, Stevens reports, most lexical innovations in modern Indonesia have been "spontaneous" rather than planned. In general, this second, less planned body of terminology has been borrowed or coined on an ad hoc basis by different sectors of Indonesian society as they have encountered needs for new lexical items.

5.1 SANSKRIT

One group which has provided many new terms are the "solidarity makers" (Herbert Feith in Vikor 1978:124), Indonesia's political and military leaders, who generally attempt to promote feelings of nationalism among the population. These leaders frequently utilize Sanskrit sources since the era of Hindu influence is generally considered not only the flowering of Indonesian culture but also the zenith of Indonesian political power in Southeast Asia (Alisjahbana 1976). Words derived from Sanskrit therefore command considerable respect as legacies of the powerful kingdoms of Indonesia's past. Hence, beginning with Indonesia's first President, Sukarno, and increasingly since current President Suharto took power in 1966, Indonesia's political and military leaders have introduced numerous Sanskrit-based words. These terms have primarily been symbols of the nation-state, intended to legitimize the power of these leaders and to promote nationalistic sentiments in support of their policies.

A few such borrowings retain their original Sanskrit meanings, such as Perdana Menteri "Prime Minister" (from pradhāna mantrī, "minister of highest rank") (Spitzbardt 1970:46-47). However, Sanskrit words borrowed directly into Bahasa Indonesia generally undergo a semantic shift in order to express modern concepts. Sometimes this shift is relatively minor, as in duta, "ambassador" (from dūta, "messenger") (Spitzbardt 1970:40). In other cases, this change in meaning can be more pronounced. An example is Sanskrit vaṃśa, "clan," for which Bahasa Indonesia has inherited suku from Malay. In modern Indonesia, suku has been retained to denote an Indonesian's traditional regional identity (eg. Javanese or Balinese), while vaṃśa has been nativized into bangsa and then elevated to express one's national identity as an Indonesian in kebangsaan, "nationality" (Spitzbardt 1970:32).

The majority of Sanskritic innovations in the lexicon of Bahasa Indonesia consist not of single words borrowed intact but rather of new combinations of productive Sanskrit morphemes, such as purnawirawan, "pensioned military officer or veteran" (from purṇa, "complete" + vīryavān, "warrior") (Alisjahbana 1976:119). Participation in government enterprises and programs is elevated with Sanskrit bhakti, "participation,

devotion," as in darmabakti, "duty," and kerjabakti, "nationally organized working service" (Spitzbardt 1970:32, 45; see also Sutjipto 1969). Compounds of Sanskrit roots and the prefix tuna- are frequently coined to euphemize social problems confronting the government, as in tunasusila, "without morals" (for prostitutes); tunawisma, "without home" (for the urban squatters); and tunakarya, "without work" (for the unemployed) (Schmidgall-Tellings and Stevens 1981:342-343).

A very productive use of Sanskrit in this domain of forging Indonesian identity has been the combination of Sanskrit numbers with other Sanskrit morphemes to express nationalism. Indonesia's national flag is the two-colored Dwiwarna. On signs at entrances to villages throughout the country Indonesians are exhorted to obey the Pancasila, the five fundamental principles of the Indonesian state (Monotheism, Nationalism, Humanism, Social Justice, and Democracy). All members of the Indonesian Army are expected to honor the seven pledges of the Saptamarga. Two major government programs in the 1960's were named the Dwi Darma (two basic necessities for Indonesia's development: political and economic stability) and the Tjatur Karya (four national goals proclaimed by then-General Suharto in 1966). Anniversaries of important national events are likewise commemorated in new Sanskrit-based compounds, such as the Dasawarsa AA (the tenth anniversary of the 1955 Bandung Conference of Asian and African countries) and the Dwidasawarsa (the twentieth anniversary of the Indonesian Republic)(Sutjipto 1966; Spitzbardt 1970).

5.2 ENGLISH

In contrast to the political and military leaders' resort to the status and authority of Sanskrit, other sectors of Indonesian society are looking to the European languages, particularly English, to acquire the prestige associated with modernity and internationalism. Chief among these have been the new bureaucratic elites who direct Indonesia's larger businesses, academic institutions, and government agencies. This class, comprising only one to three per cent of Indonesia's population, generally graduate from Indonesia's best universities and often study in English-speaking countries as well. For example, between 1956 and 1964, from just two major Indonesian universities -- the University of Indonesia in Jakarta and the Institute of Technology in Bandung -- over 750 staff members studied in American colleges and universities under USAID and Ford Foundation programs (Douglas 1970). Scholars, business executives, and government officials who have studied in the United States report using English in discussions and writing in their area of specialization because, in the words of one such returnee, "the terms are English, we studied it in English, and it's easier to talk about the concepts in English" (Tanner 1967:35).

Such use of English by Indonesia's leaders has had a considerable impact on the many Indonesians who have not mastered English in the school system. A large sector of Indonesia's non-elite population emulate the speech patterns of the elites, following a tendency noticed

fifty years ago by Bloomfield (in Bokamba 1977:194-195): "the speaker of a language favors the forms which he has heard from certain other speakers who, for some reason of prestige, influence his habits of speech... a speaker will imitate those whom he believes to have the highest social standing." In Indonesia it has been observed that "because government leaders and educated people are held up as examples to be followed, their habit of mixing English words into their speech in their own languages is imitated by others who have little or no knowledge of English" (Quinn 1975:46).

The result is widespread borrowing of English words into Bahasa Indonesia, especially in the written mass media (Kaehler 1978). These borrowings are used not only by the journalists who write regularly in these publications, but also by many of the readers, as reflected in English loan-words in "Letters-to-the-Editor" sections. Yet even in the press, English borrowings do not occur indiscriminately but rather tend to concentrate in specific registers associated with modern, cosmopolitan topics, such as fashion, films, science and technology, and national and international politics and trade. For example, Stevens (1973:75-76) reports several loan-words in a short newspaper article in which an Indonesian writer describes aspects of mysticism in Indonesia in terms of modern Western psychology. Some borrowings express concepts new to Indonesia for which there have not previously been lexical items in Bahasa Indonesia or the regional languages, such as psikoanalisa "psychoanalysis," and irasionil, "irrational." However, a far larger number of loan-words refer to notions for which there are similar words or phrases in Bahasa Indonesia (cited in parentheses after each borrowing):[2] upper class (kalangan atas); fixed (tertentu, pasti); astroloji, "astrology" (ilmu nujum perbintangan); intellijensi, "intelligence" (kecerdasan); and proporsi, "proportion" (ukuran). In some of these cases, English words are used simply because they add to the status of the writer. But in many instances, the Bahasa Indonesia terms may carry a particular connotation acquired in other, more traditional domains and registers. In contrast, the English borrowings have no prior meaning for most Indonesians and are therefore more appropriate to convey new meanings in this new topic of language use.

Another domain in which English borrowings are used both for status and to carry new meanings is in modern commercial enterprises, such as factories, large trading companies, department stores, and beauty salons. Again, after each of the following examples of English borrowings, a similar but not identical equivalent from Bahasa Indonesia is given in parentheses:[3] bisnis, "business" (dagang); efektif, "effective" (tepatguna); efisien, "efficient" (tepatdaya); kredit, "credit" (piutang); manajer, "manager" (pemimpin). If these same concepts are used in discussing a small, traditional business, such as a tailor shop or a small restaurant, the English words will be less likely to replace words from Bahasa Indonesia.

English borrowings frequently occur in hybrid compounds with words from Bahasa Indonesia. Examples are polusi udara, "air pollution," in which the English borrowing polusi replaces Bahasa Indonesia pengotoran,

and kontak Pembaca, "Reader Contact," where the English borrowing kontak replaces Bahasa Indonesia hubungan. In these cases again, the English words describe types of pollution and contact not found in traditional Indonesia (Tempo Oct. 23, 1982; Kontak Pembaca is similar but not identical to the "Letters-to-the-Editor" section in American newspapers and magazines).

As with Sanskrit borrowings, the semantic features of English words are often changed when borrowed into Bahasa Indonesia. In some cases, the semantic range is expanded. For example, Bahasa Indonesia is(y)u connotes not only English "issue" but also "rumor" (Schmidgall-Tellings and Stevens 1981). In other situations, the meaning of an English borrowing can be greatly restricted. An example is the borrowing of the second-person personal pronoun you. The highly stratified regional languages of Indonesia usually provide several second-person personal pronouns, each of which is used to reflect a particular age and traditional status relationship between speaker and addressee. However, urbanization and mass education are currently creating contexts in which men and women of approximately the same age, education, occupation, and achieved social status wish to address one another without concern for family background distinctions that are no longer as important as in former times. The Indonesian government has been promoting the use of a single pronoun, anda, in Bahasa Indonesia to perform this function of addressing another person without regard to status and rank. While anda is being adopted in the mass media, in personal conversations some members of the urban educated class are increasingly using the English pronoun you in order to neutralize background distinctions and to express identity with the modern, educated class of Indonesia. As in English, you in Bahasa Indonesia can be used by either sex to speak to either sex and can be used in both singular and plural. However, in Bahasa Indonesia, the pragmatic range of you is greatly restricted. Whereas you in English can be used to address anyone regardless of his or her status relative to the speaker, in Bahasa Indonesia you can be used only in informal conversations between people of the same age, education, and achieved status. Moreover, like other English borrowings, you is most prevalent in certain domains, such as conversations between school teachers, and may be considered pompous and affected in other domains (Stevens 1973 and conversations with Indonesian professors and graduate students in the United States).

A third semantic change that can occur in Bahasa Indonesia is the assignment of totally new meanings to English borrowings, as in these examples: representatif (from English representative), "good-looking", "making a good impression on people" (as of a secretary or a receptionist); kompak (from English compact), "unified", "harmonious"; 'ngobyek (from English object), "to use property belonging to one's employer for the purpose of moonlighting"; and drop, "to give funds or goods to an area which needs them". Here again, English loan-words are used in contexts related to modernization that have only recently developed in Indonesia (Stevens 1973; Tempo Oct. 23, 1982).

6. CONCLUSION

Thus, both in the planned and "spontaneous" lexical modernization of Bahasa Indonesia, the controversy concerning the use of European or non-European languages is generally resolved according to the domain and the function of the borrowing. A further striking example of how these criteria determine which foreign words enter Bahasa Indonesia is a small set of hybrids containing borrowings from both Sanskrit and European languages.[4] For example, one government of Indonesia prior to the present administration called itself the Kabinet Karya, "Work Cabinet" (Sutjipto 1966:170), a compound in which the European borrowing kabinet connotes modernity while the Sanskrit root kārya (as opposed to Malay kerja) links the government with its prestigious Hindu predecessors. Similarly, in dwifungsi, "two functions" (Alisjahbana 1976:119), the Sanskrit prefix dvi legitimizes the fact that in addition to its military role, the Indonesian Army is also performing the modern function of coordinating the economic, social, and cultural development of the nation.

These final borrowings demonstrate a pattern that has pervaded Indonesian society and culture throughout Indonesia's history: the adaptation and combination of elements from seemingly conflicting sources to serve specifically Indonesian objectives. In the lexical modernization of Bahasa Indonesia, despite the apparent irreconcilability of the two approaches to the use of foreign borrowings, Indonesians are effectively utilizing in a systematic manner the diverse foreign languages that their rich and varied history has made available to them.

Looking beyond Indonesia, functionally structured variation in borrowing for language modernization of the sort described in this paper provides illuminating insights into the dynamics of language change. Further such language-specific case studies in other sociolinguistic contexts can contribute to the development of typologies of language modernization and language change across languages and cultures.

NOTES

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[1]Since Indonesia's independence, Malay has also been adopted as the national and official language of Malaysia, where it is called Bahasa Malaysia, and of Brunei. In Singapore, it is the national language and one of four official languages. Differences in the varieties of Malay spoken and written in these countries are slightly greater than the differences between British and American English, but these varieties are all mutually comprehensible (Stevens 1975). Combined, these varieties of Malay are used by almost 150 million people in Southeast Asia, making Malay the sixth most widely-spoken language in the world (Alisjahbana 1977).

[2]In this and the following descriptions of English borrowings, the determination of whether English loan-words have lexical equivalents in Bahasa Indonesia and, if so, what these equivalents are is based on conversations with Indonesian professors and graduate students studying in the United States and on definitions given in four Bahasa Indonesia-English bilingual dictionaries: Echols and Shadily 1963; Echols and Shadily 1975; Johannes 1981; and Schmidgall-Tellings and Stevens 1981.

[3]The sources of these borrowings are Johannes 1981; Schmidgall-Tellings and Stevens 1981; and Tempo Oct. 23, 1982, a leading national weekly news magazine similar in content and format to Time and Newsweek.

[4]While all of the European loan-words borrowings cited in 5.2 above can be traced directly to English, the European borrowings in this final section may well come from Dutch. I am grateful to Henry and Renée Kahane and to Peter Ananda for cautioning me as to this possibility.

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LANGUAGE VARIATION AND LANGUAGE STANDARDIZATION: THE CASE OF SHONA IN ZIMBABWE

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This paper discusses the sociolinguistic problems that resulted from the unification of Shona dialects into one 'standard' language - Shona. It starts with the rationale behind the standardization of Shona, looks at C.M. Doke's classification of Shona dialects, and criticizes his notion of language, language group, language cluster, and dialects. It then examines the weaknesses and inconsistencies in what is 'standard' phonologically and lexically. The inconsistencies are approached from the point of view of the relationship between the writing system and the phonology of the spoken forms of Shona. The weaknesses are seen in the exclusion of lexical, phonological, and tonal patterns of some dialects. These weaknesses generate certain problems and implications educationally, and with regards to mass communication.

INTRODUCTION: The heterogeneous linguistic situation of Africa has always been construed as a serious problem for language planning.[1] But if multilingualism is a problem on regional basis, the multidialectal nature of most local languages compounds the problem even more. The case of Shona, a language spoken in Zimbabwe, demonstrates this. Traditionally, it is thought that the predominant problems in African languages are orthographic (Tucker 1948, 1971, Wolf 1971 among others.) However, the growing interest in vernacular education and the subsequent concern about the study, teaching and uses of local languages have uncovered new areas of great interest.

In this paper, I would like to critically look at some sociolinguistic realities vis-a-vis education in Standard Shona. First, I will discuss how local African languages were used to promote functional literacy during the colonial period.[2] Secondly, I will try to demonstrate how written Shona does not quite map out the spoken language. Thirdly, I will describe how this failure to establish a one-to-one correspondence between spoken and written forms hampers functional literacy, particularly adult literacy. Finally, I will also show how an orthography and written form of Shona favors one dialect and hence, discriminating against other dialects. All this, generates some very interesting sociolinguistic issues.

1.0 Language Education: To put the local Zimbabwe language education into some perspective, a brief educational history is necessary. At the time of the white settlers' arrival into Zimbabwe around 1980, there were three major ethnic groups in Zimbabwe. The first group comprised the Shona, who inhabited mainly the east and north east plateau of the country. The second group was that of the Kalanga, who actually are a splinter group of the Shona. These were found in the south and west of Zimbabwe. Third, came the Ndebele who inhabited an area within a radius of about

fifty miles of modern Bulawayo.

At the time of the white occupation of Zimbabwe, there was no evidence of a written language. The ensuing work and efforts of various missionary groups put these languages into written form. In the Ndebele-speaking area, the founding of the Inyati mission station, facilitated the London Missionary Society to establish, under very unusual difficulties, facilities for schooling. These missionaries were concerned with the usual missionary obligation of promoting literacy so as to enable their converts to read and understand the Bible and service books of the church (Atkinson 1972: 21.) A beginning, though small in scale, was made as early as 1861 when the Reverend T. Thomas produced plans for a written form of the Ndebele language. Amidst varied problems, Thomas was able to come up with copies of a hymn-book and a lesson book in Ndebele, the first of its kind. The Reverend is said to have remarked:

> May they be the first of tens of thousands in that language (Atkinson 1972: 22).

If the London Missionary Society's enterprise among the Ndebele monopolized initiative in some basic Ndebele literature, the Anglican missionaries of the Society for the Propagation of the Gospel had an equally reputable share in literacy among the Shona.

Bishop George Knight-Bruce, then, Anglican Bishop of Bloemfontein in South Africa, came over to Zimbabwe and found a ready willingness for education among the Shona. In the Anglican view of education, the aim was to establish institutions for the training of teachers within the confines of Mashonaland, an area where Zezuru, a dialect of Shona, is spoken. But because Shona was markedly different from other established Bantu languages spoken and already catered for in South Africa, such an education as was espoused by the Anglican church, attracted the attention of linguistics attracted experts working on the spot. This dream came true with the founding of the Knight-Bruce Memorial College. The entire mission staff flung itself to the study of the local Shona dialects. In the South-east of the country, the Dutch Reformed Church, with their mission station at Morgenster (morning star) near the Zimbabwe Ruins, had spearheaded work on the Karanga dialect (not to be confused with Kalanga.)

Evident from these early innovations in local language education are some very important and noteworthy factors. First, in order to introduce literacy and literacy programs to a people who did not have a written form of language at hand, the missionary educators had to make use of the native dialect of the local group to be educated. Second, the ideal language on which formal African education was founded was either Ndebele or Shona depending on what the target group spoke. Such an ambitious beginning at language teaching and vicariously literacy programs, was soon hampered by the ensuing conflicting educational policies. Third, success and progress in these literacy programs were not hampered by the use of these local languages *per se* but rather by the people's attitude toward education then. For among other things, people were relectant to attend school because it threatened their own social set-up. Moreover, they refused to attend school for either fear of repraisals from the chiefs, as in the story of the Ndebele around Inyati (London Miss. Society 1865: 1/2/C44). Others merely

disliked the rigors of school discipline as was mostly the case in Mashonaland.

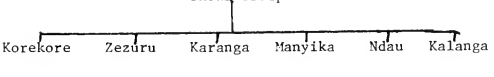
Whatever was accomplished in as far as language teaching was concerned at that point, the aims were twofold. To missionaries, the teaching and learning of reading and writing in Ndebele and Shona, was to implant Christian moral instruction. To non-missionaries, mostly settlers of varied trades, industrial education was the most vital aim in education. Since political and major policy-making powers lay in the hands of this group, emphasis on local language teaching and learning was not at all geared toward helping the particular language-speaking population. Obviously such an industrial-oriented education was intended to serve the economic interests of the settlers.

So much for the history of local language teaching, let us now consider the present situation. All local African languages in Zimbabwe are taught as subjects in the school curriculum. English is the medium of instruction from the first year of school through university level. Whether this is the ideal situation or not is not an issue of our immediate concern here. For further views on this topic the reader is referred to Bokamba and Tlou (1980) and Magura (1981). With this overview, let us turn our attention to Shona. The reason for critically analyzing the form and subsequent teaching of Shona is dictated by several factors. Out of all the local languages spoken and used in Zimbabwe, Shona enjoys the privilege of more literature, both oral and written, than any other language in the country. It also covers and caters for more than three-quarters (3/4) of the area and population. Furthermore, if Zimbabwe were to take the route pioneered by some other African states (Tanzania, Somalia, Ethiopia) of picking a local language as the national language, Shona would, undoubtedly, be among the obvious choices. Naturally, Ndebele cannot be simply ignored since it is the main language used in Matebeleland, a province of Zimbabwe. And most importantly, Shona should be discussed in connection with education since it was used, until the 60's, and is still being used now (though unofficially) as the medium of instruction. It is also the main language used for the greater part of the country in adult literacy programs.

1.2 The Shona Language: As is the case with many other languages, Shona consists of many dialects. Although these dialects are mutually intelligible in many respects, there are some areas of remarkable diversity. In an effort to unify these dialects, Doke (1931) embarked on a major task of classifying the various Shona dialects.

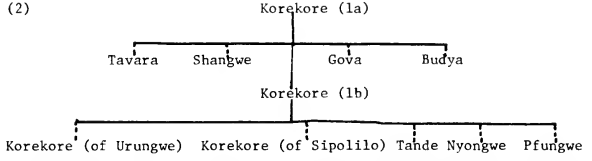
1.1.1 Classification of Shona Dialects: Mkanganwi (1975: 227) notes that what we call 'Shona" are actually a number of speech forms with varying phonologies. Since complete Shona language standardization has not yet been completely achieved, 'standard Shona' has no "common" sound system. Doke's (1931: 20) classification system has grouped the various Shona speech forms or dialects under the following clusters:

(1)



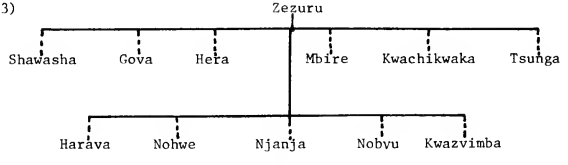
These six sub-divisions of the Shona language group could actually be treated as clusters of sub-languages. Each of these sub-languages has its own dialects.

(2)



Such a classification gives a total of nine dialectal varieties for Korekore only. Out of these nine, the first four display certain definite divergencies from the central forms while the last five are typical.

(3)



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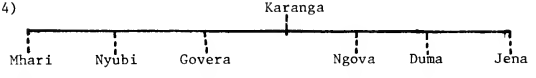
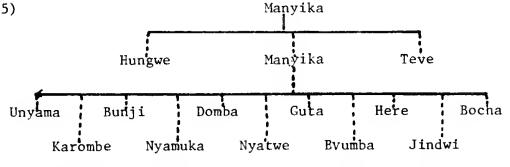


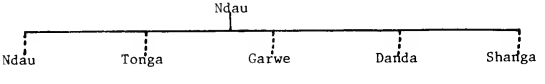
Mhari and Nyubi are the typical Karanga dialects while the other four are rather extreme types.

(5)



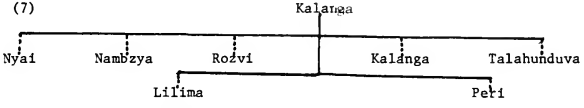
The classification for Ndau repeats Ndau as one of the dialects as was also done for Manyika. We have the following dialectal relationship:

(6)



The final grouping is that of Kalanga. Doke (1931: 27) strongly feels that although this group is very much akin to Shona, and really belongs to the Shona group, it should not be included in the unification of Shona. Apparently, it has had considerable influence from the Nguni (specifically, Ndebele) and Sotho languages. Such influence has resulted in quite divergent lexical and phonetic characteristics. The dialectal picture of Kalanga stands as follows:

(7)



1.2.2 Rationale Behind Shona Classification: It has to be noted from the outset that the unification of Shona dialects into a somewhat standardized form was prompted by the disparity in the orthographies and word divisions used by various missionary groups that were forerunners in literacy programs in Shona. Language study and literature production was in the hands of missionary societies which worked independently using four distinct dialects, viz: Karanga; Zezuru, Manyika; and, Ndau, as their media.

As far back as 1905 Springer (1905) had noted that "there is no more difference between the different dialects .....Therefore, if local idioms are avoided, it is possible to have one Bible....." No reconstruction methods were used to confirm the similarity among these various dialects. Doke (1931: 2) followed this same layman's approach when he retorted that "even a cursory study of the publications in these dialects convinces one of their inherent unity."

It is true that there were diversities in early orthographies. For instance, Father Biehler's 1906 Zezuru dictionary edition indicated the denti-labial voiced fricative as v̄ and the bi-labial voiced fricative as plain v. For Karanga orthography, on the other hand, Louw (1926) represented the same sounds as v and v̲, respectively. Many other variations in orthography appeared.

Doke's method of the Shona language classification was in part a result of recommendations of the Language Committee appointed by the government, and also partly a result of his findings from the sociolinguistic questionnaire he prepared as a tool for gathering more data. Basically, the questionnaire was intended to discover "whether one of the dialects showed greater virility and natural predominance than any of the others, with a view to choosing such a dialect for standardization" (Doke 1931: 5). Such an approach was bound to be highly subjective and lacking in scientific precision. The next best method was field work. In his fieldwork, Doke claimed similarity among dialects on the basis of (a) underlying unity of vocabulary; (b) common sharing of particular phonetic features; and (c) common sharing of grammatical features. It was on this basis that the various dialectal clusters were grouped. In some cases such cluster grouping seems arbitrary, hence the reduplication of Manyika and Ndau, both as dialectal clusters and also as dialects under the same clusters.

Of special interest to us in this paper is the fact that almost all the

speakers of the various dialectal groups noted in the foregoing cluster groups hold the view that their mode is really not a dialect, but a language in its own right. This is clearly the emotive nature that LePage (1964 says is found in any discussion of the language question. In any case, the varied nature of the dialectal situation does not only suggest the differences in speech forms, but rather implies difficulties that are likely to arise from any attempt at standardization. Such a problem overflows into education and literacy programs. It also implies certain problems in mass communication.

1.2.3 Criticism of Shona Classification: Before moving into any details about dialectal differences and what they suggest, a cursory look at some of these differences may suffice. Functional differentiation and discrepancies are evident at the following surface levels: lexical, and phonology.

1.2.3.1 Lexical: One of the criteria used by Doke in arriving at the unity of the varying dialects of Shona was "the underlying unity of vocabulary" (Doke 1931: 22). At a time when literacy was considered a privilege of a few, the presence of unidentical lexical items could have been easily overlooked without much inconvenience. But as all people from all dialectal groupings are encouraged to acquire literacy, differences in lexicalization may raise some problems. Consider the following lexical differences between some of the dialects:

Dialect:	Shanga	Ndau	Duma	Karanga	Manyika	Korekore	
Lexis	mphaka	chimangowe	kiti	kiti	bishau		'cat'
	bruta	bwizhi	gwai	shoni (Zezuru)	hwai		'sheep'
				gudo	mutiro	bveni	'baboon'

1.2.3.2 Phonology: The present orthography of Shona, which, incidentally, is expected to reflect certain generalizations about 'Shona phonology' seems to miss or overlook some 'truths' about the language. Mkanganwi (1975: notes that if the graphemes p,t,k, were regarded as 'single-valued' in Shona, then at least six phonemes would be unrepresented in the Shona orthography. I am in agreement with this observation as examples from various dialects can attest to this. Ndau, Buja, and Kalanga, for instance, distinguish between ejected and unejected voiceless stops. Thus /p' t' k'/ and /p t k/ differ as in the following words (Mkanganwi 1975: 233)

/p/ /panga/ rob		/pondo/ pound	
/p'/ /p'anga/ advise		/p'ondo/ knee	
/t/ /teta/ flick away		/tuka/ scold	
/t'/ /t'et'a/ fear pain		/t'uka/ jump	
/k/ /kamba/ leopard			
/k'/ /k'amba/ procure magic			

Further examples are taken from the Manyika dialect. In this dialect, /p^h t^h k^h/ show that they are different phonemes from /p t k/. A few examples which Mkanganwi (1975: 233) gives demonstrate this:

/p/ mapanga/ 'knives
/p^h/ /map^{h}anga/ trolleys
/k/ /kora/ 'be plumb/
/k^h/ /k^{h}ora/ 'girl's sleeping hut'

/t/ /matikiti/ 'pumpkins'
/t^h/ /mat^{h}ikit^{h}i/ 'tickets'

One could come up with many more discrepancies. But with these in mind, one might ask what implications they may have on the education of the various dialectal subjects when one standardized form of the language is used. Furthermore, what implications might this situation have on the printed mass communication media? What problems does this linguistic picture have for adult literacy? No doubt, Doke's approach was the most economic and probably the quickest solution at that time and under those circumstances. Education was then a privilege of the fortunate few. Mass communication was not an issue of prime concern to the government of the 1930s. This situation has now changed.

2.0 Standardization of Shona: One of the questions that often recurs among scholars in language planning concerns the extent to which there is agreement on what constitutes the standard in a language. Standardization of language has been unvariably defined as:

> the branch of LP [Language Planning] concerned with unifying underlying linguistic diversity, often in the interest of making a chosen language fit to be a national or regional language. A language that has been standardized has been written down (graphized), normalized, and refined as representing an amalgam of its dialects (Eastman 1983: 121).

Garvin and Mathiot (1956: 365) defined a standard language as a "codified form of a language accepted by and serving as a model to a larger speech community." In an attempt to emphasize development, Lay (1962: 754) saw standardization as "the way to make language an efficient and functional tool of development."

Much standardization theory is geared toward improvement and development. What the so called Standard Shona is, is captured in the third aim of the Standard Shona Dictionary (2nd ed.) by Hannan. This aim is expressed as an attempt to provide as complete as possible the words used in speech and writing by speakers of the Karanga, Korekore, Manyika, and Zezuru dialects. Such an approach presents some immediate problems. First it immediately excludes the Ndau group with its five sub-dialects (see 1.2.1 (7)). This dialectal group has some very distinct phonetic phenomena. For instance, the 'peak dialect' of Ndau uses the aspiration of affricates and explosives semantically, a feature overlooked in Standard Shona. The unvoiced aspirate following the voiced bilabial stop and voiced dental/alveolar stop is another distinct feature. The Danda and Shanga dialects tend to use the lateral liquid in place of the trilled liquid. In its lexicon, the Ndau group has a distinctive type of vocabulary that is divergent from the other four groups used in the unification.

Second, the Karanga group, though included in the unification of Shona dialects, has its outstanding features which distinguish it from other Shona groups. These differences lie in:

(i) the use of monosyllabic nouns where other groups use disyllabic e.g.,
bwe vs i-bwe (boulder stone)
mbwe vs i-mbwa (dog)

(ii) use of the voiced alveo-palatal fricative where other groups use alveo-palatal (depressor) nasal. e.g.,
zhara vs nzara (grought)
zhira vs nzira (way, path)

(iii) consistent employment of the bi-labial fricative

(iv) general avoidance of the <u>ka</u>- <u>tu</u>- diminutive class

(v) vocabulary

Third, Shona is a tonal language. Standard Shona has chosen the lexical tone of the Zezuru dialect. But even by basing tone assignment to a speech form that is basically Zezuru, tone marking has been regarded as having very little practical value. The Standard dictionary does not indicate all possible tone markings with their corresponding meanings. Yet, Shona aothography without tone marking can be very confusing even within the same Zezuru dialect. Consider the following possibilities:

11. Single Lexical Items
    a) gara
       1. many, much (used as an adjective)
       2. interjective of sceptical assent
       3. inaccessible place
       4. ember
       5. big deadly thing
       6. savage person
       7. convulsion
       8. sit

    b) guru
       1. big
       2. big underground hole
       3. stomach of ruminant

    c) tera
       1. pay tax
       2. ideophone of running away

    d) para
       1. commit crime
       2. scrape off

12. Phrasal Items
    a) Vafamba
       1. they walked
       2. the ones who walked
       3. if they have walked

    b) Vana vana vana vana vana
       Four children have four children

    c) Vana vana vana vana
       Four children have children

These facts show two major problems with the written Standard Shona. First, selection of lexical items from only a few of the many dialects of the language immediately ignores the use and existence of such dialects. As such, Standard Shona only becomes the language of the fortunate sector of the population. Second, tone marking has been regarded as of little value in a tonal language. Yet the various semantic possibilities in both lexical and phrasal items could be more easily explicated if tone marking was carefully implemented.

The lexicon in the various dialects has been seriously compromised. Yet, in so doing, intelligibility in communication is sacrificed. Buja speakers, for example, may not know what 'pondo' or 'tuka' mean. Likewise, the Ndau may not understand what 'panga', or 'teta' or 'kamba' mean. Similarly, in the absence of an obvious context, the Manyika may not know what 'mapanga' or 'matikiti' or 'kora' mean.

This discussion of semantic confusion between speakers of Shona from different dialects is not just a made up problem. A more revealing story is told of two travelling Shona speakers, one of the Karanga dialect and the other of the Manyika dialect. As they were walking along they came across a tortoise entering into a hole. For a Karanga speaker, a tortoise is known as hambakubvu and a hole is referred to as mwena. To a Manyika, a tortoise is simply kamba and a hole is buwe. So the chiManyika speaker asked his chiKaranga speaker friend what had entered the hole. So he went:

Chii chapinda mubuwe?
(What has got into the hole?)

Karanga speaker: Hamba. (tortoise)
Manyika speaker: Kuhamba tinohamba asi ndabvunza chapinda mubuwe:

(Of course we are walking, but I am asking what has entered the hole.)

A Manyika speaker understands hamba as 'walk' or 'move.' So the exchange went on and on without any apparent understanding, until they lost their temper and began fighting. A battle of dialects:

To this end then, Standardized Shona fails to distinguish all the sounds of the dialects it purports to represent. Hence speakers of various dialects find written Standard Shona not representative of the speech it is supposed to record. An immediate implication of this is that sociolinguistically, Standard Shona may not be properly regarded as a representation of all the various dialects, but rather just a reflection of, at best, one. In fact, in his brief review of the language situation in Zimbabwe, Doke (1931: 2) writes:

> Probably because administrative headquarters were established in Salisbury [now Harare], the Zezuru dialect, known commonly as chiShona has received more recognition than any of the others as the official language of Mashonaland; this despite the fact that Karanga commands a much greater population than any other single dialect, and that Manyika has produced more numerous publications.

3.0 Implications of Present Standardization: The first implication that comes to mind is that a critical study of the differing phonologies of each of the dialects that form the Shona language may either suggest a much more complicated standardized orthographical system than the one currently available, or alternatively, such a study may also confirm the fact that the type of dialects found in Shona do not easily lend themselves to collective standardization.

A second observation is that no standardized unification of as numerous dialects as what we have in Shona can be done without some heavy leaning toward one particular dialect. If this happens, no pretense should be made about the chosen dialect being the dominant one by some criteria. Even if this is the case, some all-embracing and accomodating approach should be allowed in the orthography to facilitate those cases of the other dialects that are technically left out in the choice of one prominent one.

The third implication is that if one unified orthographical form is to be used, it might be a good idea to have a primer that attempts to detail the differences, mainly phonological, that do exist between these dialects. Such a primer would then help in showing cases where the standard form deviates from the other individual dialects. Again this is only possible if people have a thorough knowledge of the phonological, morphological, and lexical features of the dialects in question.

The fourth point that comes to mind has to do with adult literacy. Generally, most literacy programs are directed toward those people who cannot go through the normal formal school system to acquire their literacy. Instead, they depend quite heavily on literature written in their own language and preferably in their own dialects. Work provided in the learner's dialect has the double advantage of presenting to them both lexical and phonological items that they are familiar with [in their own speech forms]. McQuown (1941) points out that it may be easier to read an orthography that has a regular morphene-grapheme relationship. In addition, Keislar (1971), Piaget and Inhelder (1969) and Weinreich (1967) also claim that a learner may recognize letters more easily if the language form is familiar. What comes out of this implication is a further implication that, perhaps, in a multi-dialectal language as Shona, a more feasible orthographic system would be morphemic. An immediate reaction to this would be the cost factor. But what is more costly to a nation than illiteracy?

Thus, if a unified orthography of the dialects is seen as more advantageous than other approaches, then it would be wise to move away from the phonemic type of orthography to some other form. For with a phonemic orthography, there is no way it can remain neutral to dialectal differences. Such failure to remain neutral has a number of sociological repercursions. The case of the English language orthographic system attests to this. In the main, each major English variety, specifically British English and American English, chose to unify their respective dialects in a non-phonemic basis or much less phonemic form. Failture to remain neutral leads to dialectal consciousness and awareness. One of the basic ways of differentiating between British and American written English is to look at the way each spells some of its words. Sometimes, awareness of dialectal differences may lead to dialectal strife and ill-feelings among speakers of the dialects. Moreover, for the sake of social mobility, some speakers will need to forsake their own dialects in favor of the recognized standard dialect.

CONCLUSION: Language problems involving orthography have serious educational and sociolinguistic implications. Much as these problems are real and do affect people daily, Society chooses to be complacent about them, partly because of the conservative nature of the problem and partly because man cannot or does not want to ignore the millions of written material that may hold back possible changes. Even then, I hope my discussion of the problem with regards to Shona will not be construed as a futile enlistment in a worthless cause.

NOTES

[1]This term is far from precise. For lack of better terminology I am using it. In linguistic jargon, it refers to the development, implementation, and evaluation of particular approaches to specific problems. Of course countries do have certain language policies, but those are purely political decisions and not linguistic.

[2]Functional literacy here refers to the ability to read and write in, at least, one's own language to the point that one meets the many practical needs of daily life in his cultural group and also in his communion with the outer world separate from his culture.

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MIXING AND CREATIVITY IN MULTILINGUAL INDIA

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This paper focuses on the following question in the context of code-mixing of two languages: a) when languages A and B are mixed whether the type of linguistic material involved in the mixture is relevant for determining the function of the mixed code, or b) whether a combination of any linguistic material would have the same linguistic/sociolinguistic function. In this paper I will discuss data from the Hindi-Marathi mixed code used by the Marathi speaking community in Maharashtra, India. It will be demonstrated that there are at least three types of linguistic features of borrowings from Hindi which play a crucial role in determining the function of the mixed codes. These features operate as strategies for "foregrounding" the religious, class, and regional identity of the speaker.

1.0 Introduction. In the last decade there has been a great deal of interest in the form and function of code-mixing. Code-mixing has been claimed to be a mixture of two or more languages which according to Kachru (1978) "clearly shows formal cohesion and functional dependency". Gumperz (1978), Hymes (1972), Kachru (1980, 1982), Pandharipande (1978, 1980, 1981), and Sankoff and Poplock (1980) have pointed out the following major features of a code-mixed language: (a) the mixed code has a sociolinguistic function, (b) there are constraints on mixing of codes, (c) the function of a code-mixed variety is better understood in the context of the linguistic repertoire of the speech community. If we assume that each code (mixed or otherwise) available to the speech community has a sociolinguistic function then an analysis of the linguistic features of the code should give us clues for determining its function.

The question which needs to be asked in this context is as follows: when languages A and B are mixed whether the type of linguistic material involved in the mixture is relevant for determining the function of the mixed code or whether a combination of any linguistic material would have the same linguistic/sociolinguistic function.

In this paper I will discuss data from the Hindi-Marathi mixed code used by the Marathi speaking community in Maharashtra, India and point out that the answer to the above question is 'yes', i.e., the type of linguistic material involved in the 'mixed code' affects its

function. In this context I will specifically analyze the linguistic features of Hindi borrowed into Marathi in the process of code-mixing. It will be demonstrated that there are at least three types of linguistic features of borrowings which play a crucial role in determining the function of the mixed codes. These features operate as strategies for 'foregrounding'[1] the religious, class, and regional identity of the speaker.

In principle, it is possible that linguistic features of the host language or the borrowing language Marathi also play a role in determining the function of the 'mixed code'. At this point, however, I will not investigate those features and focus only on the three main features of borrowings from Hindi which determine particular extralinguistic function(s) of the codes irrespective (and this is the key word) of differences in the linguistic features of the borrowing language Marathi).

Before I discuss the Marathi-Hindi 'mixed codes' a note on the Marathi-Hindi bilingualism in the Maharashtra State, India, is in order. Marathi is the state language of Maharashtra, India. However, a majority of the people at the northeastern border of Maharashtra (the Nagpur area) are bilinguals, i.e., they speak Marathi and Hindi since the geographic border of Maharashtra intersects with Madhyapradesh in the Nagpur area. The language of Madhyapradesh is Hindi. Centuries of Marathi-Hindi bilingualism in this area has resulted in the convergence of Marathi-and Hindi in this area (for further discussion see Pandharipande 1981). Another group of people who are Marathi-Hindi bilinguals are the Moslems living in Maharashtra. Hindi is the language of the army and police in India. In Maharashtra a police officer is generally marked by his Hindi-Marathi mixed code.

1.1 The Process of Creativity and Hindi-Marathi. If our above-mentioned hypothesis is correct, i.e., if it is in fact the case that certain linguistic features of the borrowed material are correlates for the extralinguistic meaning conveyed by particular 'mixed codes',then, an analysis of literary works which use the 'mixed codes' would be extremely useful for investigating the validity of the claim about the relationship between the linguistic form and its function.

It is in this context that I will discuss the role of Hindi-Marathi 'mixed codes' in the process of creativity of a creative writer.

Two major questions are under focus: (a) whether a creative writer uses different types of mixed codes; and (b) what does he do with them? In other words, what is the function of those mixed codes in the context of creative writing? If we find that a creative writer in Marathi uses a variety of linguistic patterns in borrowed material from Hindi in order to convey various extralinguistic meanings, then, our hypothesis would be further strengthened and we can argue that the particular meaning potential is attributable to particular linguistic patterns.

At this point a brief note on 'the process of creativity' is in order. We assume that a creative writer's job is to transfer his own aesthetic experience to the reader through the media of a linguistic complex or through an art-design created with different linguistic patterns. Notice that there are three different processes of creativity involved here: (a) the process, which creates the pre-linguistic aesthetic experience in the creative writer. (It is this experience which the creative writer tries to convert into the linguistic complex, i.e., (c)). (b) the process by which the reader undergoes the aesthetic experience (the process which creates the aesthetic experience in the reader), and (c) the process of creating the above-mentioned linguistic complex by the creative writer. This linguistic complex has a dual function. The linguistic material (vocabulary, etc.) serve both as linguistic symbols expressing their referential meaning and also as art symbols which function as objective correlatives (Eliot 1920:100) or vyãjakas (objects suggestive) of the aesthetic experience, Anandavardhana 9 A.D.). Eliot's (1920) objective correlatives are functionally similar to vyãjakas[2] in the sense that they both are claimed to have the potential to invoke the aesthetic experience-dhvani (Anandavardhana, 9th century A.D.) in the reader. A creative writer's skill lies in choosing linguistic symbols suitable for creating the aesthetic experience in the reader. This process of creating a linguistic complex is referred to as 'the process of creativity' in the following discussion. This process necessarily involves selection of the appropriate linguistic strategies in order to create the desirable effect. This selection again is based on the assumption that linguistic patterns/structures have an extralinguistic meaning potential, i.e., the capacity to convey extrareferential/extralinguistic meaning, which Darbyshire (1971:32) calls 'myth creativeness' of language. Myth in this case is the extralinguistic meaning conveyed by the sentence. Darbyshire (1971:33) proposes, "...a very large number indeed, perhaps all of the sentences of a language embody the creation of myths of some kind. I believe that this proposition is true because a sentence is something made out of language substance and symbolizes some idea, notion, concept or feeling apprehended in the central nervous system of the author!"

Darbyshire (1971:36-37) further goes on to say, "Indeed, the proposition that almost every use of language is the creation of some kind of myth implies that almost every use of language has some kind of style. For every use of language has its own raison d'etre for its position on the scale of grammaticality as well as on the scale of referentiality and emotiveness, and every use of language arises in some kind of situational context in the wider non-linguistic activity of the man in the universe".

Two major points are in focus in the above passage, i.e., (a) languages are used to convey extrareferential meaning, and (b) the extralinguistic use of language arises in some kind of situational context.

According to Fish (1972:139) an ideal reader is the one who possesses 'literary competence'. The notion of literary competence includes "the semantic knowledge that a mature...listener brings to his task of comprehension. This includes the knowledge (that is the experience, both as a producer and comprehender) of lexical sets, collocation probabilities, idioms, professional and other dialects, etc."

While discussing the extralinguistic meaning encoded in the linguistic structures, Fowler (1975:93) argues that "the reader possesses the areas of coded knowledge, mediated through the structure of language, which are more abstract and of broader range than the lexical code." Notice that in the above remark Fowler points out the extrareferential meaning (i.e., coded knowledge) conveyed by the writer to the reader. Fowler (1975:93) further calls language structure as "mediating larger, and interpretively significant formal structures, these structures being validated in the ideal reader's experience because they reflect culturally coded knowledge activated in the process of reading."

The selection of the appropriate linguistic patterns to convey particular extralinguistic meaning is then part of the process of creating the linguistic complex which in turn is part of the whole process of the transfer of the aesthetic experience to the reader.

In what follows I shall discuss linguistic patterns of a code-mixed language and the 'culturally coded knowledge' suggested by them. The assumption in the discussion is that by examining the form and function of a code-mixed language in creative writing we can make predictions about the relationship between its form and function outside the domain of the literary work.

2.1 Linguistic Patterns and Their Function. In the following discussion I will discuss three linguistic features of the material borrowed from Hindi into Marathi and point out their extralinguistic function. The first feature is the use of Persianized Hindi kinship terms in particular, and Persianized Hindi vocabulary in general. The 'mixed code', i.e., Marathi mixed with the above vocabulary marks the speaker as Moslem. Thus the use of Persianized Hindi kinship terms can be labelled as a marker of the religious identity of the speaker. In contrast to this, the use of the native Marathi kinship terms marks the speaker non-Moslem.

Examples under focus are (1)-(5). These examples are taken from the play Kaṭyār Kaḷzāt Ghuslī 'Dagger pierced the heart', (the fatal blow) written by Darvhekar (1969). The major theme of the play is the contrast between two predominant traditions of Indian classical music, i.e., the Moslem tradition and the Hindu tradition. The contrast is not only restricted to the traditions of music but it also includes personalities, their life styles, etc. In this context the Moslem characters, i.e., Ustād (the musician), his daughter Zarīnā and his nephew Chānd use kinship terms from Persianized Hindi while the Hindu characters such as Panditjī (the musician), his daughter

Umā, and student bāke typically use native Marathi kinship terms. Consider examples (1)-(5). Notice the use of Persianized Hindi kinship terms (underlined in the examples) such as abbājān 'father' (1) and (4), cacājān 'uncle' (2) and (5), and ammī 'mother' (3). Also observe the abundance of Persianized vocabulary in general: insāf 'justice' (5), dard 'pain' (3), raham 'mercy' (4), dafnānā 'to bury' (3) and kasūr 'fault' (3).

(1) Zarīnā - Abbājān! Tyāčī takrār barobar āhe (page 22)
'Father, his complaint is justified.'

(2) Chānd - Cacājān! Riyāz hoṇār āta? (page 22)
'Uncle, will there be a practice now ?'

(3) Ustād - Tužyā ammīcā kasūr? Jāne do beṭī! Kuch dard aise hote hāī jīnhē dafnā denā hī acchā hotā hai. (page 69)
'Your mother's fault) Let us not talk about it, daughter! Some wounds/pains are such that it is better to bury them.'

(4) Zarīnā - Raham karo Abbājān! Raham! (page 82)
'Have mercy, father, have mercy.'

(5) Usmān - Nahī cacājān raham nahī insāf honā cāhiye. (page 82)
'No, uncle there should be justice not mercy!'

Now contrast examples (1)-(5) with (6)-(9). In (6)-(9) the kinship terms are from native Marathi stock. For example, bābā 'father' (6), kākā 'uncle' (7), mulī 'daughter' (8), and āī 'mother' (9).

(6) Umā - Kāl bābānī swatāhāhoūn rāǰgāyakpad soḍla (page 3)
'Yesterday father himself left the position of the court-musician.'

(7) Umā - Diwāṇkākā! Agryālā kāy āhe? (page 5)
'Uncle Diwān, what is there in Agra?'

(8) Diwān - Kāhī nāhī mulī ---- sahaz āṭhawla mhaṇūn... (page 5)
'Nothing my daughter - I just remembered it therefore...'

(9) Mhaṇǰe zarīnāčī āī āgryāčī! (page 5)
'That means Zarīnā's mother is from Agra.'

The contrast between the two sets of kinship terms can be clearly seen in the following table.

Kinship Terms

Persianized Hindi/Hindi	Native Marathi
(a) abbājān 'father'	(a) bābā 'father'
(b) ammī 'mother'	(b) āī 'mother'
(c) cacājan 'uncle'	(c) kākā 'uncle'
(d) beṭī! 'daughter'	(d) mulī! 'daughter'

2.2 Borrowings of Bound Morphemes and Uneducated Speech. Now I will discuss a linguistic feature of borrowed material from Hindi which marks an uneducated person's speech. When bound-morphemes are borrowed from Hindi and are added onto native Marathi vocabulary, the 'code-mixed' variety of Marathi marks an unsophisticated/uneducated speech and consequently marks the speaker as an uneducated person. In the class of the bound morphemes I have included tense, aspect, infinitive markers/suffixes as well as postpositions. Although postpositions are written independently of the nouns which precede them, they functionally are similar to the above bound morphemes in the sense that they cannot occur/or function independently of the words to which they are attached.

Consider example (11) which is taken from the play Bhalyakākā. Bhalyākākā is a low-level police officer. The police officer is very low in the Maharashtrian society. He is considered to be an unsophisticated, uneducated person who lacks everything that marks sophistication, i.e., dress, values, personality, and above all, speech, which marks a policer officer good only for beating up thieves and robbers. In this code-mixed variety of Marathi we find that the bound morphemes from Hindi are freely added onto the native Marathi vocabulary. Consider examples (11a)-(11d).

(11a) Bhalyākākā - Ab kyā urā? (page 42)
'What is left now?'
Urā = Ur + ā (past tense 3 p. mas. sg. marker Hindi)
Ur - ṇe 'to remain' (Marathi verb)
Verb (Marathi) + Past tense marker (Hindi)

(11b) Bhalyākākā - Kāy kī hans? (page 42)
'What is the desire for?'
kāykī = kāy + kī
what of
Marathi+ Hindi
Question word (Marathi) + Possessive suffix (Hindi)

(11c) Bhalyākākā - Koṭ zarā chātīlā ṭāit zālā, bākī sab māpke barābar (page 43)
'The coat was a little tight in the chest but the rest of it was just right (according to the measurements).'
māpḳe barābar 'according to the measurements'
māp + ke
measurement of
Marathi + Hindi
Marathi noun + Possessive suffix (Hindi)

(11d) Bhalyākākā - āī bāpkā aiknā acchā nahī̃ lagtā haī kyā? (page 13)
'Don't you like to listen to your parents?'
āī bāp kā aiknā
mother father of listen-infinitive marker
poss.
āī bāp + kā aiḳ + nā
Marathi Hindi Marathi Hindi

Notice that in (11a) the native Marathi verb takes the past tense marker of Hindi. In (11b) the question word is from Marathi while the possessive suffix is from Hindi. In (11c) the possessive suffix from Hindi is added onto the noun of the native Marathi stock. (11d) shows that the possessive suffix as well as the infinitive marker are added onto the native Marathi vocabulary.

The linguistic features in (11a)-(11d) mark the speech of an uneducated person. Similar is the case in example (12) which is taken from a novel entitled Bhanḍārwāḍi written by Bajirao Patil. This novel is primarily oriented toward describing life on a farm in the village Bhanḍārwāḍi, located near Akola (about 120 miles west of Nagpur). Almost all the characters are from the village and they all share the joys and pains of village life. Their speech, among other characteristics, marks them as uneducated people. Consider Bayrām's speech in example (12).

(12) Bayrām - Tum bhāu gharkoī arām se baiṭho ekhā̃de ko žoī mẽ ghāl ke bhej dẽge (page 46)
'You brother, you rest at home. We will put someone in the bag and send him'

The underlined vocabulary items in (12) are analyzed in (12a)-(12c) below.

(12a) ekhā̃de ko
ekhā̃da ('someone' + ko (object marker))
Marathi + Hindi
'someone'

(12b) žoī mẽ
žoī 'bag' + mẽ 'in'
Marathi + Hindi
'in the bag'

(12c) ghālke
ghāl 'put' + ke 'after putting'
Marathi + Hindi
'after putting into it'

Notice that in example (12a) where the Hindi postposition ko is added onto the Marathi noun ekhada ('someone'), in (12b) the Hindi postposition mẽ 'in ' is added onto the Marathi noun žoī 'bag'. In (12c) the verbal participial Hindi marker kar 'after doing' is added onto the native Marathi verb root ghāl ('to put').

Now consider examples (13), (13a), and (14).

(13) Paṇ B.A. tar pāhiǰe nā kamīt kamī. Mā̃ī kahtā thā ise B.A. mat karo, tum ne sunā hī nahī̃. (page 11)
'But he should at least be a B.A. I used to say do not let her get the B.A. degree, but you did not listen to me.'

(13a) Bevakufī mat karo. Mulgā āz chindwāḍyālā āhe udyā amrāvatīlā, ākolyālā zāīl - thoḍā bāwḷaṭ āhe lekin durust ho jāegā (page 12-13)
'Don't be silly. The boy is at Chindwāḍā today. Tomorrow he will go to Amravati or Akola. He is a little shy but he will be all right.'

(14) Kākājī - Yah idhar āyā merā hāthī khelo bacce khelo. Are koṇī tarī reḍiyo kā nāhī miṭvun det? (page 2)
'Here comes my elephant. Play, child, play. Oh, why doesn't anyone turn the radio off?'

Examples (13)-(14) involve a code-mixed variety of Marathi-Hindi used by educated speakers of Marathi. Examples (13) and (13a) are taken from the novel entitled Māžī Tīnše mula ('My three hundred children') written by Brajwasi. The speaker of (13) and (13a) is a D.S.P. (Deputy Superintendent of Police) who generally is a highly educated person. Example (14) is taken from a play entitled Tuza Ahe Tuzpāšī ('You have your own (identity)'). The speaker is kākajī who is an educated/sophisticated person genuinely interested in Indian classical music. The code-mixed variety of Marathi in (13)-(14) does not show any borrowings of bound morphemes in Hindi added onto the native Marathi vocabulary. Instead, the bound morphemes occur along with the Hindi vocabulary, with which they are borrowed into Marathi. For example in (13) and (13a) the imperative marker/o/ is added onto the Hindi verb kar 'to do' (i.e., karo 'do!') and the past tense marker /ā/ is added onto the verb sun 'to hear, listen' (i.e., sunā 'heard, listened'). Similarly, in (13a) the future tense marker is added onto the Hindi verb jā 'to go'. In (14) the past tense marker /ā/ and the imperative marker /o/ are added onto the Hindi verbs /ā/ 'to come' (i.e., āyā 'came') and khel 'to play' (i.e., khelo 'play!').

Examples (11)-(14) point out that when a bound morpheme from Hindi is added onto a native Marathi vocabulary item the speech marks the speaker unsophisticated and uneducated. On the other hand, in the speech of an educated person, a bound morpheme from Hindi is added onto the vocabulary item from Hindi. Thus the data presented here shows that a linguistic feature of borrowed material marks the social class of speakers.

Again, I would like to add here that the features of Marathi involved in the mixture are not relevant for determining the function of the code. However, it is only as expected that the Marathi involved in the above-mentioned mixture or code (examples (11) and (12)) generally has features of speech of an uneducated class of people.

2.3 Nativization of Syntactic Patterns and Regional Identity. Certain syntactic patterns borrowed from Hindi and nativized into Marathi mark the regional identity of the speaker. For example, in a mixed code, if we find syntactic patterns from Hindi such as the progressive construction, negation, then, we can label the speaker as a resident of Central India or more popularly known as the Nagpur area. Whereas, the verb agreement pattern as well as the use of the verb māgnā 'to ask for' marks the speech of a person from the Bombay area.

This point is clearly exemplified in examples (15) and (16).

(15) Bhayyā - Āiye janāb tashrīf lāiye. Are kāy yār tū tar bilkul hīro hoūn rāhilā āhes. (page 69)
'Come in sir. Please come in. Oh friend, you are really becoming a hero (these days).'

(16) Kāhī lakšimyā dhānya daḷūn rāhilyā hotyā. Kāhī nisūn rāhilyā hotyā, kāhī nustyāc basūn rāhilyā hotyā va awghyāc bolūn rāhilyā hotyā.
'Some women were grinding the grains; some were cleaning it, some were just sitting and all of them were talking.'

Example (15) is taken from Vyaktī āṇi vallī 'Personalities and their unique traits' written by P. L. Deshpande. This is a collection of articles each of which depicts one personality type. Example (15) is taken from the article entitled 'Bhayyā Nagpurkar' a character from the Nagpur area. His speech shows features of Nagpur Marathi - Marathi spoken in Central India. In this example, the use of the auxiliary verb rāhṇe 'to be' in a progressive construction is modelled on the use of the verb rahnā 'to be' in Hindi.

Now consider example (16) which is taken from Bhandarwadī written by Bajirao Patil which depicts the life of people in a village in the Nagpur area. The writer uses Nagpuri Marathi to describe the life of villagers in the Nagpur area. Notice the use of the progressive construction with the auxiliary verb rāhṇe 'to be'. The use of the progressive construction with rāhṇe 'to be' is found both in educated (15) as well as uneducated speech (16). The progressive construction in Standard Marathi does not take the auxiliary rahṇe, example (17), while the same construction in Standard Hindi does, example (18).

(17) Standard Marathi:
kāhī bāykā daḷat āhet
some women are grinding the grain

(18) Standard Hindi:
kuch aurtẽ anāj pīs rahī hẽ
some women are grinding the grain

Now consider example (19) taken from the play Bhalyākākā (recall (11a-11d)). Bhalyākākā is a typical police officer from Bombay. His speech, i.e., the mixed code in (19)-(19b) lacks the progressive construction with rahṇe 'to remain, to be' which marks a speaker from Nagpur. Instead his speech is marked by (a) the use of the verb māgṇā 'to want' (where Standard Hindi uses cāhnā 'to want' and Standard Marathi uses pāhiĵe and/or hava (asṇe) 'to want'), and (b) the lack of verb agreement, i.e., the use of the unmarked form of the verb (3 p. masc., sg.) in all contexts.

(19) tākad kā khel dekhnā māgtā hai kyā? (page 12)
'Do you want to see a display of my strength?'

(19a) gharse bhagnā māgtā hai ā? (page 13)
'You want to run away from home, don't you?'

(19b) thoḍīsī tamākhū māgtī thī
'I needed some tobacco.'

3.1 Implications of the Proposal. In the discussion so far, it was pointed out that (a) in order to determine the function of a 'code-mixed' language it is essential to closely examine the linguistic form of that 'mixed-code', (b) the linguistic features of the borrowed material (Hindi in this case) may determine the function of the code (at least in some cases) without any reference to the linguistic features of the host/borrowing language, (c) a code-mixed language is a system within which several systems of grammar such as the grammar of educated vs. uneducated speech, are embedded. In order to understand an overall grammatical pattern of a code-mixed language it is essential to take into account the grammar(s) of the subsystems.

This discussion gives rise to the following questions. The first question is on the problem of defining constraints on code-mixing, i.e., whether constraints on code-mixing can be defined without any reference to the function of the code-mixed variety. We have observed that borrowing of bound morphemes from Hindi into Marathi is well accepted in the speech of uneducated people. However, it is blocked in the speech of educated people. Is it necessary, then, to define constraints differently for each of the socially defined subsystems? - (such as the speech of the educated vs. uneducated class of people). Is there any other alternative to accommodate this variation?

The second question is: Why does Marathi spoken in different parts of Maharashtra (i.e., Nagpur, Bombay, etc.) borrow different syntactic patterns from Hindi? This question further leads us to a theoretical question, namely, whether there are any conditions which determine the types of borrowing possible in a given language. Are these conditions universal or are they language-particular? Should we define them purely within the linguistic structure of languages involved in the process of code-mixing or do extralinguistic factors play a role in this decision?

In Joshi's (1982) recent work he discusses some constraints on mixing of two codes, i.e., Marathi and English. According to Joshi (1982) closed class items (e.g., determiners, quantifiers, postpositions, possessives, auxiliaries, tense, helping verbs, etc.) cannot be switched. For example, (Joshi (1982:9)) a phrase such as (20) where a noun from Marathi is followed by an English postposition is unacceptable.

(20) *khurčyā on
chairs on
Marathi English

Our data shows that while this constraint operates in the speech of the educated (recall examples (13) and (14)) it fails to do so in the speech of the uneducated people (examples (11) and (12)). This again leads us to a theoretical question such as whether the above constraint proposed by Joshi (1982) is a universal one or whether it is determined by sociological factors such as (a) education of the speaker, (b) speaker's degree of bilingual competence in two languages, etc. Should we assume that educated bilinguals are familiar with two independent grammatical systems while uneducated bilinguals are not? Therefore, educated bilinguals do not add a bound morpheme from one language onto the vocabulary from another. A great deal of empirical research is needed to be done in order to answer questions such as (a) whether there are two independent systems of grammar involved in a mixed code as proposed in Doron (1981), (b) whether there is a third code resulting as a mixing of two codes as mentioned in Joshi (1981), or (c) whether there are three codes involved as Woolford (1980) proposes. Our discussion shows that whatever the number of codes may be, an insightful hypothesis about the constraints on code-mixing must refer to the sociolinguistic function of the resulting codes.

4.1 Extralinguistic Function of Language - Indian Tradition. Bhatṛhari, as early as in the seventh century proposed that the relationship between words and their meaning(s) is not always based on tarka 'logic', (Vākyapadīyaṃ 1:30). Bhartṛhari mentions three major extralinguistic conditions which determine the meaning of a word, i.e., (a) deśa 'place', (b) kāla 'time', and (c) avasthā 'situation' (Vākyapadīyaṃ 1:32). He further claims that the meaning of a word is fully understood only in the context of the above factors.

Ānandavardhana (9 A.D. Dhvanyāloka:3) as well as later critics had well accepted the fact that words express referential (vācya) as well as extrareferential (vyāgya) meaning. Bharata (2 A.D.) and Viśvanātha (14th century A.D.) clearly refer to the form and function of variation in language and recognize the fact that a language represents sex, position, and the professional identity of the speaker. both Bharata (Nāṭyaśāstra 17:121-23, 21:131-32, 27:46) and Viśvanātha (Sāhityadarpaṇa 6:158-70) claim that distribution of languages in a play should be based on factors such as sex, position, and the professional identity of the speaker. For example, Sāhityadarpaṇa (6:158-69) prescribes Sanskrit for men of higher social positions (i.e., kings, Brahmins, etc.), Śaurasenī Prākṛt for women of high prestige, Ardhamāgadhī for soldiers, etc., the Prācyā for Viḍūṣaka and Dravidī for southerners, etc. For woodcutters and goldsmiths ābhirī is prescribed.

Viśvanātha also points out that the distribution of language is based on the function of the characters in the play (Kāryataścottamādīnāṃ kāryo bhāṣāviparyayaḥ, Sāhityadarpaṇa 6:168). Although women and children are supposed to speak Prākṛt in the play (Sāhityadarpaṇa 6:169) they may mix Sanskrit in their variety of Prākṛt if their intellectual abilities are to be displayed (Vaidagdhyārthaṃ pradātavyaṃ sanskṛtaṃ cāntarātarā - Sāhityadarpaṇa 6:169). This clearly shows that (a) code-mixing was well accepted in a play and (b) the mixed

code had an extralinguistic function, i.e., it identifies an intelligent woman. Notice that code-mixing has been considered here as a linguistic strategy for conveying an extralinguistic effect, i.e., to create an image of an intelligent woman.

A good example of the above is the character of a courtesan named Vasantasenā in the play Mṛcchakaṭikaṃ 'clay cart' (8 A.D.). Vasantasenā mixes Sanskrit with Saurāsenī Prākṛt. This code-mixing in her speech marks her an intelligent, sophisticated, and cultured person. Also, it sets her apart from other courtesans who are very much looked down upon in the society. This image of Vasantasenā is carefully created by the playwright Sudraka to justify the hero's interest in her. Cārudatta, the hero of the play, is a very learned, dignified, and cultured person. He is attracted to Vasantasenā's kind, affectionate nature and her extraordinary beauty, but most of all he is attracted to her because of her intelligence and sophisticated behavior. This personality of Vasantasenā is enhanced by the mixture of Sanskrit with Prākṛt. It is the knowledge of Sanskrit which marks her a cultured woman. At the time, (8 A.D.), when Sanskrit was the symbol of knowledge and culture, code-mixing with Sanskrit must have created an image of a cultured person. Among other qualities, it was indeed the knowledge of Sanskrit displayed in the mixed code, which marks Vasantasenā as an unusual courtesan. Vidūṣaka (the hero's friend) makes it a point to remark on Vasantasenā's speech, which depicts her knowledge of Sanskrit (Mṛccakaṭkaṃ 3:148). His remark, though not complimentary, focuses on the unusual quality of the courtesan to speak Sanskrit:

> māṃ tāvat dvābhyāmeva hāsyaṃ jāyate, <u>striyā sanskṛtaṃ pathantyā</u>
>
> manuṣyeṇa ca kākalīṃgāyatā.
>
> The two really make me laugh, one, a woman speaking Sanskrit and a man singing in a soft voice. (Mṛcchakaṭikaṃ 3:148)

In contrast to the above, we find references in Vātsāyana (cf. Keith 1924:334) to the code-mixing of Sanskrit with vernacular by Nāgaraka - a worldy wise, well-respected man in the society. Vātsāyana clearly points out that if Nāgaraka wants to be well-accepted in the society, he cannot confine himself to the use of Sanskrit only, but rather, he should mix Sanskrit with a vernacular spoken by the local population. Here again, we find the use of a code-mixed language to perform a social function (for further discussion refer to Keith 1924:326:338).

One of the major principles of the literary criticism (in the Indian tradition) is of <u>aucitya</u> 'propriety'. Bhoja 12 A.D. (Sṛngāraprakāsa, p. 411) mentions two major characteristics of the concept of <u>aucitya</u> 'propriety': (a) it is a functional relation which holds all the components of the external structure of drama, i.e., dramatic speech should be appropriate to the nature and rank of the characters (Pātraucitya); and (b) the whole linguistic complex should be appropriate for the Rasa (sentiment) to be evoked in the reader through the linguistic complex.

The above discussion points out the two-fold function of language in the process of creativity, i.e., an appropriate language is necessary to create the image of a particular character-type. It also is part of the larger linguistic complex of a piece of creative writing which stands as an objective correlative for the Rasa or sentiment to be evoked in the reader. Bhoja (Sṛngāraprakāsa) mentions apada 'inappropriate vocabulary' as a flaw when a poet uses vocabulary not appropriate for the character.

The discussion in this paper thus points out that an analysis of the form and function of code-mixing in a literary text is important both for a better understanding of the process of creativity in particular, and the function of code-mixing in the society in general.

NOTES

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[1]Foregrounding: the term 'foregrounding' is used here in the sense Murkarovsky (1970:43) uses it in his paper 'Standard language and poetic language'. While differentiating the poetic language from the standard language, Mukarovsky says, "the function of poetic language consists in the maximum of foregrounding of the utterance. Foregrounding is the opposite of automatization, that is the deautomatization of an act... Objectively speaking, automatization schematizes an event, foregrounding means the violation of the scheme." Mukarovsky (1970:44) further points out that "...foregrounding of a component implies precisely its being placed in the foreground. The unit in the foreground, however, occupies this position by comparison with another unit or units that remain in the background."

In this paper the term 'foregrounding' is used in the above context. It refers to linguistic devices, i.e., certain types of vocabulary, syntactic features, etc., used by a creative writer for foregrounding the religious, social, and regional identity of the speaker. In other words, it is shown that certain linguistic features are markers of a speaker's religious, social and regional identity.

[2]Vyãjaka objective correlative and dhvani. In the Indian tradition of poetics, i.e., starting from Bharata to Viśvanātha, the theory of suggestion has had an enormous impact. Ānandavardhana (9.A.D.) clearly formulated the theory of suggestion in his work entitled "dhvanyāloka". According to Ānandavardhana the relationship between the linguistic complex and the aesthetic experience of the reader is that of suggestor 'vyãjaka' and suggested 'vyajya'.

Poetic meaning according to Ānandavardhana is suggested through the power of suggestion (vyãjana). Dhvani 'resonance' is the suggested meaning. Dhvani theory argues that (a) the transfer of poetic experience from the linguistic complex to the reader cannot take place through propositional statements, it is invoked in the reader through the creative organization of the linguistic complex which stands as vyãjaka for the dhvani 'the suggested meaning'. Ānandavardhana (Dhvanyāloka I.13, III.35) points out that "the learned call that particular kind of poetry dhvani (dhvani kāvya where the expressed

word and meaning subordinate themselves and give rise to the suggested meaning". (b) The suggested sense can be an idea or an event (Vastu dhvani) a figure of speech (Alaṃkāra dhvani) or a feeling (Raṣa dhvani). It is the 'suggestion of feeling' which is held as the essence of poetry. The suggestion of Raṣa (feeling) is the guiding principle in the composition of word and sense (Dhvanyāloka:148). Thus it is claimed that every linguistic component (phonetic, syntactic, etc.) stands in the functional relationship with the 'feeling' to be suggested by the linguistic complex.

This concept of the functional relationship between the suggested and the suggestor is similar to Eliot's (1950:100) concept of 'objective correlative'. According to Eliot, "The only way of expressing emotion in the form of art is be finding an 'objective correlative', in other words a set of objects, a situation, a chain of events which shall be the formula of that particular emotion; such that when the external facts, which must terminate in sensory experience, are given, the emotion is immediately evoked". Eliot (1950:101) further points out the 'external' (language, etc.) should be suitable for the emotion to be suggested in a piece of art. According to Eliot "the artistic inevitability lies in this complete adequacy of the external to the emotion". The language used by characters in a play is thus an objective correlative - suggestive of the characteristics of the character and the theme of the play act which in turn are suggestive of a feeling. While stressing the importance of language in a play, Eliot (1950:101) remarks "if you examine any of Shakespeare's more successful tragedies you will find this exact equivalence; you will find that the state of mind of Lady Macbeth walking in her sleep has been communicated to you by a skillful accumulation of imagined sensory impressions; the words of Macbeth on hearing of his wife's death strike as if, given the sequence of events, these words were automatically released by the last event in the series".

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BAZAAR VARIETIES OF HINDI

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This paper seeks to describe Bazaar Hindi as it is used in North East India particularly in Shillong the capital of Meghalaya. This variety of Hindi is the link language in a community consisting of a large number of different linguistic groups. The phonology, lexicon, and grammar of Bazaar Hindi is presented and BH is compared to other pidginized varieties of Hindi. Finally a case is made for accepting BH as a language in its own right even though it is extremely simplified and restricted in its grammar and lexicon.

The linguistic scene in India Presents a bewildering variety and complexity. The complexity is caused to a large extent by the multiplicity of languages and dialects and the inevitable interaction across languages which makes most Indians bidialectal, bilingual, or multilingual. Most people living in big cities like Delhi, Bangalore, Bombay, Calcutta, and Hyderabad, which attract a large number of migrant laborers and white-collar workers from the other parts of the country, use (or can use) in addition to their native language, either some form of Hindi or English, or varieties of both of these languages, and often at least one more language. There is a discernible pattern in the use and employment of the languages in these speakers repertoires.

In big urban centers, large industrial establishments, public sector undertakings, central (federal) government organizations, cantonment areas, and defense establishments, myriad linguistic groups work together, and their jobs and roles are hierarchically patterned according to their qualifications, skills, and education. This pattern has its socio-economic and linguistic correlates. A common medium that links the top and the base of the speech community is a simplified variety of Hindi-Urdu or what has been termed "Hindustani".

The focus of this study, however, is the link language in a small community populated by a large number of linguistic groups living together with the local Khasi tribe, who form the majority of the population. The sociolinguistic situation studied here replicates, though in miniature the situation in the large multilingual populations referred to above.

This paper presents a study of that Hindi-Urdu/Hindustani-based simplified code which seems to have a lineage of several centuries and functions as a medium of non-expressive communication (i) between the English knowing bi(multi)-lingual elite (Group A) and the uneducated or less educated, usually monolingual, lower strata of the community (Group B), and (ii) among the various sub-groups of the latter.

Shillong, with a population of about 175 thousand is now the capital of the hill state Meghalaya, situated to the north of Bangladesh. Earlier it was the capital of larger Assam. For over a century it has welcomed migrants from different parts of undivided India who have come and settled, or who come and work here, mainly for economic reasons. Shillong is a big educational center and is the regional headquarters of many Central Government departments. It has large defense and para-military establishments. It gets on transfer, government servants from different parts of India, many of whom settle down here on retirement.

People living in Shillong speak a great variety of languages, some of which are Khasi, Hindi, many regional dialects of Hindi, Bengali, Assamese, Nepali, Manipuri, Mizo, Garo, dialects spoken in Nagaland and Arunachal Pradesh, Punjabi, Malayalam, Marwari, Mikir, and Cachari. It is impossible for anyone to know all these languages. And although most people use more than one language, they still need, especially in the lower socio-economic strata, a common link language other than English. A Hindi/Hindustani based language commonly known as Bazaar Hindi (hereafter BH) performs the function of a link language in Shillong. It also performs the extremely useful role of a bridge between (A) the English knowing educated elite and (B) the socially, economically, and educationally backward linguistic groups engaged in menial service. Whereas the members of group A can manage communication with the other members of their group with the help of English, especially when they do not share a common language, they have to resort to BH in order to interact with the members of group B, who cannot reciprocate their use of English. As will be shown below, this link language, apart from being very simple, is a conglomeration of the influence of the major languages spoken in this area.

It is worth speculating why the link language used in Shillong is based on Hindi/Hindustani and not on Khasi, the language spoken by the natives of the area, or on one of the dominant languages used in this area, i.e. either Asssamese or Bengali. Several plausible explanations can be ventured:

The first explanation is that Hindi-Urdu/Hindustani has a long tradition of being a bazaar language. Its history goes back to the Middle Ages (Chatterji--178-86).[1] It appears that with the extension of the Muslim conquest to the east, the camp language of the Muslim conquerors and later the language of their court, came with them and stayed on. This might explain the history and origin of Calcutta--Hindustani (see Chatterji). Influence and institutions have traveled inwards and upwards to the north-east from Dacca and Calcutta and it is quite likely that BH came to Shillong with the visitors to and from first Dacca, later Calcutta, and still later other large urban centers of India. It is interesting to know that the people of present-day Meghalaya came in contact with the Bengalis of eastern Bengal (now Bangladesh) much earlier than they came in contact with the Bengalis of western Bengal or the Assamese.

The second reason is that a sizable number of the local population, especially of group B, comes from Bihar. These people are employed as washermen, barbers, vegetable sellers, cobblers, mattress-makers, domestic servants, cowshed attendants, workers in bakeries, and liveried attendants in offices. They have little social mobility and education. They can speak no other language than their own dialects. Since they render useful services to the society, it is only inevitable that people should resort to a language which is intelligible to these migrants from the Hindi-speaking areas.

Whether BH descends from the lingua franca originating during the Middle Ages, is the language brought with them by the Hindi-speaking migrants, or originates from an interaction of both these factors, this language cannot have escaped the influence of the other major languages spoken in this area. Consequently BH carries in it the influence of Khasi, Bengali, and Assamese, and probably Nepali, too. BH is a language which has assimilated features from various sources but has its own unique identity. It is not the corrupted form of any language. Although extremely simplified and restricted in its grammar and lexicon, it is a language in its own right. A description of this language follows:

GRAMMAR

A. SENTENCES

The syntax of BH is marked by extreme simplification. Most sentences have only two words, usually a noun or pronoun and a verb, although one word sentences are also frequently used.[2]

ham gaya:.[3] - I went.
baza:r kharid. - Market buy. I bought (something) at the market.
pani bon. - Water stop. The water has stopped.
babu māgta? - Sir, want? Do you want to buy it, Sir?
a:p bola: - You asked [me to do something]?

It is not necessary however that a two word utterance contain a noun and a verb. The following are some examples of other patterns:

babu kutta. - Sir, dog. Beware of the dog, Sir.

Sometimes a slightly expanded structure is used with an adverb or another noun in it, or with an expanded verb phrase:

ham gaya: udhar. - I went that side/there.
[pani] bharti ho gaya. - (The tin) is filled (with water)
admi aya: duka:n. - Man came shop. Customers came (to my) shop.
ba:t bhi nahi sakta:. - Talk even not can. I can/could not even talk to them.

In a number of situations just a one-word utterance such as khushi suffices. khushi is originally a Hindi-Urdu word meaning happiness, joy, delight, and is used in expressions like;

a:p [jaisa:] khushi. - As/if you please.

In BH this one-word response may, according to the context, mean:

Choose whichever you like.
If you please.
As you think proper.
Pay whatever you like.
It is all right if you don't want to buy it.

Some other instances of single-word sentences/utterances are:

lega:?	take?	Will you buy/take it?
ma:lum	know	I know that.
hoga:	will do	(Something) will do/will be done.
kaisa:?	how?	How are you?

All these words are invariant in their linguistic form.

B. COMPLEX SENTENCES

Necessity to communicate complex meaning makes the speakers of BH elaborate the sentence by agglutinating clauses.

To express the meanings:

(a) I was looking for a small one but could not get it, and
(b) I shall go on the day my brother comes here,
the following complex sentences were spoken by one of the informants:

(c) ham thora chhota: tala:shi nahi mila:.
I a little small (one) look(ed) for (but) not got.

(d) bhai a:ne ka din me jaega:.
Brother coming of day (in) (on) will go.

It is noteworthy that these clauses are not linked by any formal linking devices.

The need to communicate may lead to ludicrous utterances and sometimes to misunderstanding.

C. VERBS

BH uses three invariant and uninflected verb forms which correspond to the three divisions of time: past, present, and future.

i)	ham bolta: hai.	I say.	present tense (both simple and progressive)
ii)	ham bola:.	I said.	past tense
iii)	ham bolega:.	I shall speak.	future tense

These verbs are invariable in the sense that they are not inflected to signal number, gender, person, aspect, or case. Some Khasi speakers use the present tense verb even when referring to a past action. This may be due to the influence of Khasi grammar (Singh: 1978--209-10). Often the reduced form ham bolta: is used in place of (i) above. Thus the grammar of many

speakers of BH has a uniform system of one-word verb phrase (dispensing with the tense-marking morphemes used in Standard Hindi (SH).[4]

bolta:
bola:
bolega:

What is noteworthy here is that BH is different from many other pidgins in not using a detached particle to signal tense.

This simple three-form system is applied to a limited number of words which form the verb repertoire of BH. Comments on the verb system of BH are given below:

Verb + ga:

BH suffixes the morpheme ga: to verb stems to signal some kind of modality. The meaning of the invariable ga: ranges over a wide spectrum. Its meaning in a given situation depends on the specific context in which the communication, which is invariably oral, takes place. The participants mutually share the context.

Verb	Communicative intent	Example
dega:.	promise	I will give ... .
dikhlayega:	condition willingness willingness	I can show if ... . I am willing to show provided ... .
thahrega:?	soliciting [instruction or advice]	Shall I wait?
ayega: (as in dusra: din ayega:.)	request	Please come some other day.

hoga:

In standard Hindi the verb hona:, from which the future tense form hoga: is derived, means to be, to occur.

In BH the verb hoga: is used as a single word response to signal confirmation, affirmation, acceptance, and other allied meanings. Depending on the context, the sentence hoga: can be translated as:

Yes, I will be able to do this.
Yes, this is available.
Yes, I accept this.
Yes, this is all right.
This will do.

This in these sentences may refer to 'going', 'doing', 'selling', or whatever is the topic of interlocution. Use of the formula hoga: spares the speaker the bother of using more words or of naming the action by using a lexeme.

A cognate, single-word expression frequently used like hoga: is hogiya: (hoga: + past) meaning (something) has been done/carried out,' etc.

BH usually deletes the copula in sentences such as:

The boy is at home.
He is a doctor.

hoga:,[5] along with sakna: and māgta: forms a system of one word utterances in BH. (See also the section on sentences above.)

With the negative marker nahi: before hoga:, the meaning conveyed can be the opposite of the statements listed above.

hoga: occurs in the following negative utterances also:

1) nahi: hone se bhi: dega:.
2) nahi: dene se bhi: hoga:.
which mean:

1) I shall (somehow arrange to) supply/give you the thing even if I do not have it (at that time or at some other time).
2) Even if you can't pay (for something) now, you can have it. (I shall let you have it if you can pay later.)

māgta:

Another example of a single word sentence is the verb māgta which is used in BH as a formula for inquiring or finding out what someone wants. It can be translated into English as:

Do you	wish want desire	to have to buy to get	something?
	like need	___ ___	
	want	to fight?	___ ___

Often the verb is used along with babu:, an equivalent of 'sir', when it is used transitively. The object, of course, is not expressed:

babu:, māgta:?

sakna:

In SH sakna: is used as a modal auxiliary and follows a lexical verb in the sentence. In BH sakna: mostly occurs independently, sparing the speakers the necessity of using a lexeme.

nahi saka:. - Could not.
(I/someone else) could not (do something).
a:j nahi sakega:. - Won't be able to (do something) today.
sakega:. - (I shall) be able to do (something).

The implied lexeme is inferred from the context. This use of sakna: in BH appears to be a transfer in it of the usage of its Bengali equivalent pa:rna:. A similar usage is found in some dialects of Hindi spoken in Bihar.

bol(n)a:

The verb bola: is used both as an intransitive verb and as a subordinating/reporting verb.

When used as a reporting verb, no complimentizer such as 'ki', which is usually obligatory in standard Hindi, follows bola:.

ham bola: jayega:?
(I asked him whether he wanted/was willing to do.)

The verb bola: is used in BH to signify all those semantically related verbs which express meanings associated with the acts of speaking, including asking, inquiring, informing, advising, answering, demanding, instructing, reporting, etc.

Karna: and the 'Noun + Do' formula for the verb phrase

Like sakna: the verb karna: occurs without a preceding lexeme more frequently in BH than in standard Hindi.

picche karega:.
after (will) do. I shall do it later on.

To signify the doing of something, standard Hindi adopts one of the following three devices:

1. maĩ ba:t karu:nga:.
I talk will do. I shall talk [to you].

Here the verb 'do' signifies the action corresponding to ba:t = talk. The infinitive form is 'ba:t karna:' = to talk.

2. maĩ jharoo lagau:nga:.
I broom will apply. I will sweep [something].

Here the doing verb following the noun refers to the appropriate nature of action.

3. maĩ nahau:nga:.
I will have a bath.

Here the lexical verb with the ga: inflection coalesces in it the meanings of the act as well as the doing of it. This is done by inflecting the verb.

BH tends to simplify this system by economizing on the use of the lexeme and using rather uniformly the pattern exemplified above. This spares the speaker the trouble of using an appropriate doing verb (example in 2 above) or inflecting the verb (example in 3 above).

gusal karega:
bath will do.° I will have a bath.

Absence of verb inflection is made up for by using the cognate nominal form in conjunction with the doing verb karega:, as in

kharid karega:.
buy (will) do. Shall buy.

In standard Hindi the inflected form khari:dega: will be used.

Thus BH almost systematically uses the standard formula 'Noun + karna: (to do) as a verb phrase.

D. POST POSITIONS

BH dispenses with all words that express grammatical or structural relationships. However it uses a time and place pre/post position which has no parallel in SH:

andar me; ba:har me; idhar me; u:dar me; ka:l me.[6]

In standard Hindi, mẽ after these adverbs is redundant. In pidgins, it has been noted, there is a tendency to use an overt/extra particle to mark relationships.

In line with BH's tendency to have extremely simple rules, there is a simplification of the post-positional system also. There is a tendency to use a limited set of post-positions to signal a number of case relations:

pulis me dega:.
Police in (will) give.
(I) shall hand you over to the police.

This use of me is a feature of BH grammar.[7]

ka:/ki:

Occasionally, BH users use post-positions to signal case relations not used in Hindi, e.g. the use of ki: in the slogan:

. . . parti ki: murda:ba:d. - Let party X perish!

This use of ki: along with that of me, and the use of ne as exemplified below, constitute features of BH grammar not derived from the base language but emanating from the interaction and convergence of languages.

ne

It may be noted that BH does not use the standard Hindi case marker ne, which follows the subject of a transitive verb in the past tense:

ali:ne patra likha:
Ali (case marker) letter wrote.

Bombay Hindi-Urdu (BHU) also dispenses with this ne. (Apte 1974:32).

A different morpheme ne, however, is the feature of the nominal-verb usage in BH.

bolne	nahi:	sakta:.	
to speak	not	can	I can't tell you.
dene	nahi:	sakta:.	
to give	not	can	I can't give (it to you).

se

In BH this particle is used to imply condition expressed in English by 'if', 'in case' etc.

hone se dega:.
To be (?) give

I shall give (you something) if (I) have (it), or if it is there.

E. PARTICLE 'TO'

The particle to in BH is used as a tag to sentences, functions as some kind of sentence modifier, and carries some implication. The implication is signalled by the use of a rising intonation on 'to:'.[8]

diya: to.
Gave ?
(But) I gave it (to you).

This tag is frequently used in spoken Bengali and appears to have been borrowed from there.

F. NOUNS

BH has a core of a limited set of nouns which are frequently used. They are the words indispensable in transactional and phatic exchanges. A list of these nouns is given below (see Lexicon). The nouns are not inflected for number and case. They are invariably used in their singular form.

G. PRONOUNS

There are three sets of pronouns used in BH; personal, possessive and demonstrative.

Personal		Possessive		Demonstrative	
ham	- I, we	hamra:	- my/mine/our	iṭhu	- this
hamlug[9]	- we	ham lugka:	- our		
a:p	- you	a:p lugka:	- your	uṭhu	- that
a:p lug	- you people	tumka:	- hour		
u(:)	- he/she				

iṭhu and uṭhu are very convenient expressions as they save the speaker the labor of naming the article, person, place, etc. With the

help of these expressions the users of BH can manage to communicate using only a limited set of words.

Many BH speakers can't derive the possessive forms of the first person and second person pronouns.[10] For "Your hen was on my verandah," the following sentence was spoken:

tum murgi ham baranda: upar.
you hen I varandah on

Your hen was on my verandah.

As BH is used both by the native speakers of Hindi and by those who use Hindi as a second language with varying degrees of proficiency, the range of vocabulary in the BH of a particular speaker depends on his linguistic background. However, on the basis of the words used by those who know little Hindi, a core lexicon of BH has been compiled. English equivalents are given in brackets.

VERBS (infinitive form)		PRONOUNS	
a:na:	'to come'	ham	'I, we'
baithna:	'to live, to sit'	a:p	'you'
bharti	'to fill'	hamra	'our'
bolna:	'to speak'	ithu	'this'
dena:	'to give'	uthu	'that'
hona:	'to be, happen'	u:	'that'
ja:na:	'to go'	ham lug	'we, plural'
kha:na	'to eat'	a:p lug	'you, plural'
la:na:	'to bring'		
lena:	'to take'		
ma:lum	'to know'		
mangna:	'to want'		
sakna:	'to be able to'		
samajhana:	'to understand'		

(Note: Many of these infinitive forms occur in BH only in a derived form.)

NOUNS		ADJ/ADVERBS	
admi	'man'	achchha:	'good'
a:lu	'potato'	bara:	'big'
aurat	'woman'	bharti	'filled'
bakhat	'time'	chhuta:	'small'
basti	'village'	dusra:	'another'
baza:r	'market'	jya:sti	'more, much'
bha:t	'rice/food'	ka:la:	'black'
bikri	'sale'	khali	'only'
chhuti	'holiday'	khara:b	'bad'
chor/churi	'theft'	kijin	'perhaps'
dastur	'rule'	kamti:	'less'
dikdari	'problem'	la:l	'red'
din	'day'	ma:fik	'like'
duka:n	'shop'	naya:	'new'
ghar	'house'	nichu	'down, below'
ghi:/khi:	'clarified butter'	nu:tun	'new'
gusal	'bath'	picche	'behind'
ka:chri	'court'	thora	'less, little'
ka:m	'work'	upar	'above'

NOUNS (cont.)

kharid	'purchase'
kisim	'kind'
khabor	'news'
khushi	'pleasure'
khutia	'change/money'
kwai/goa	'beyel nut and leaf'
maha:jan	'businessman'
maida:n	'flat land'
ma:ma	'uncle'
paisa:	'money'
pani	'water'
phaida	'gain/profit'
phajir	'morning'
ra:t	'night'
rupia:	'rupee'
sha:m	'evening'
sharam/shuram	'shyness/shame'
sorka:r	'government'
soṛak/suṛak	'road'
thok	'thug'

NUMERALS

ek	'one'
dui	'two'
tin	'three'
sha:r/cha:r	'four'
pa:ch	'five'
chhe	'six'
sa:t(i)	'seven' etc.
ega:ro	'eleven'
baro	'twelve' etc.
ara:i	'one and a half'

FORMS OF ADDRESS

babu
babuni
didi
sa:heb

POST-POSITIONS

ki:	'of'
ko	'to'
me	'in'

NEGATIVE

nahi	'not'

INTERJECTIONS

are:
julum

PARTICLE/TAG

to

A classification of the items of the lexicon according to the areas of human activity with which they are associated would help us to perceive clearly the nature and role of BH.

EVERYDAY LIFE

places:	ghar; maida:n; suṛak/soṛak; basti
time:	phaje:r; sha:m; din; ra:t; bakhat
location and direction:	picche; upar; nichu
activity:	a:na:; ja:na:; hona:; bolna:; la:na; lena:; baiṭhna; uṭhana; kha:na; tala:sh(na:)
pointing:	iṭhu; uṭhu

TRANSACTION

lena:; dena:; māgna:; paisa:; khutia; rupia; bikri:; maha:jan; faida

PERCEPTION

ma:lum

MODIFICATION/QUANTIFICATION

kamti:, thora:, jya:sti:

SIMILARITY

ma:fik

UNCERTAINTY/MITIGATION

kijin

LAW AND GOVERNMENT

sorka:r, ka:chri, dastur, niyom

CRIME

thok, churi, chor

INTERPERSONAL REFERNCE

ham, a:p, hamara:, hamlug, a:plug

FORMS OF ADDRESS

ma:ma:, didi, babu, babumi, sa:heb, kong (Khasi word for a girl/ woman meaning 'sister')

FOOD AND DRINK

bha:t, a:lu, kwai/goa:, pani, ghi:

PEOPLE

maha:jan, admi, aurat, babu

SIZE AND QUALITY

chhuta:, bara: khara:b, achcha:, nu:tun, naya:

INTENSIFICATION

are, julum

The distribution of these items indicates the situations in which BH is used and the functions it performs. The lexicon has no words that can be associated with such things as agriculture, law, geography, science, art, poetry, community activities, intense human feelings, or abstract ideas. It is not used to perform the functions of expressing gratitude, threat, sympathy, assertiveness, conviction, apology, disgust, derision, etc. or of presenting an argument. In fact BH is inadequate for use even in a sustained conversation.

SOURCES OF THE LEXICAL ITEMS

Most of these words belong to Hindi-Urdu/Hindustani, i.e. they are derived through Urdu ultimately from Arabic and Persian sources. Words of Sanskritic origin are few. This throws light on the history and lineage of BH. In addition to the words from Hindi-Urdu/Hindustani, the lexicon consists of a fairly large number of words used in Bengali. (See Bengali influence below.) The items of the BH lexicon have come to it through the Hindustani lingua franca which developed during the late medieval period. The language appears to have come to Shillong from the eastern part of undivided Bengal, which was ruled by Muslim rulers. Despite BH's strong resemblance to Hindi/Urdu, its lexicon carries a distinct phonological and semantic stamp of the languages in contact, as will be shown below.

The Bengali Influence

BH carries a strong influence of Bengali. This influence is noticeable in its phonology, usage, and vocabulary.

Phonology

As in Bengali, the central vowels in BH are rounded, e.g.,

sarka:r (unrounded)
sorka:r (rounded)

Usage and Semantic Categorization

The following verbs of BH derive their usage and meaning from Bengali:

baiṭhna:	in the sense of 'living or putting up at some place'.
uṭhna:	in the sense of 'boarding a bus'.
khana:	as a synonym for both eating and drinking.
sakna:	in the sense of 'being able to'.
bharti	in the sense of 'filled up'.

Vocabulary

The following words seem to have come to BH from Bengali:

Nouns	Others
bha:t	nu:tun
khuṭia (Sylhet Bengali)	nichu
didi	

THE CORE LEXICON AND THE EXTENDED VOCABULARY

The above lexical items are the core vocabulary of BH. With this limited vocabulary an illiterate person, usually from the lower strata of society and ignorant of standard Hindi and English, can manage to communicate in a situation where BH has to be resorted to. But most users of BH find this core lexicon inadequate. Therefore, in order to meet the exigencies of specific situations, they expand it by adding to

it items from their other languages, especially from the common vocabulary of English-Hindi and their mother tongue. This common vocabulary consists mainly of loan words from English. But Hindi-Urdu loan words in Khasi, Nepali etc. are also common. Some examples of English loan words are:

bus, police, market, college, school, book, hospital, cigarette, bread, drink, hotel, case, food, fish, meat, ticket, paper, number.

The examples of Hindi-Urdu loan words are:

dawai (medicine), duk (unhappiness), ga:ri (vehicle), ijhar (report), juta (shoes), kajor (carrot), khulom (pen), mithai (sweets), mokotduma (law suit), mistri (craftsman/mechanic), niyom (law), taraju (pair of scales), tarik (date) shabi (key), suk (happiness).

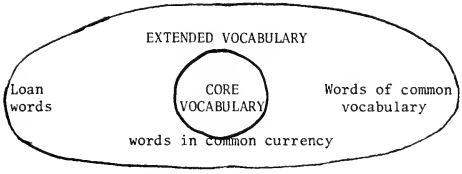
Thus BH has a limited core of lexical items which is extended by a range of common vocabulary. These words are used within the framework of the simplified grammar of BH. In this way the lexical resources of BH are supplemented by groups of words selected from sources available to the speaker to make communication easier. It is not possible to give a comprehensive list of the items of this extended vocabulary as its range depends on the educational background of the users of BH and their knowledge of Hindi (and English) as well as their contact with Hindi-speaking people. Persons who know Hindi or often deal with Hindi-knowing people will find it easier to draw on the Hindi vocabulary in common use and thus extend and expand their own vocabulary of BH. The common vocabularies referred to above may not consist of loan words from English and Hindi alone. They can also include Hindi-Bengali common vocabulary consisting of loan words from either. Apart from the loan words that belong to the common vocabularies, there may be other words in common currency. These words are often employed to extend the core lexicon of BH. Examples of these are:

English:	breakfast, butter, saloon
Bengali:	singara
Hindi:	puri, kha:na:
Assamese:	mad (wine), la:he la:he (adv. = slowly)
Khasi:	kiad (drink distilled from rice and millet)
	khublei (greeting)

Also, there are words in circulation from the common Indo-Aryan source which Assamese, Bengali, and Hindi have equally exploited. Some examples of such words are:

chor	(thief)
mantri	(myntri in Khasi) (minister, counselor)
sur	(music)

From the core to the periphery is a continuum of vocabulary. Whereas a clear line can be drawn between the core and extended vocabularies, it is difficult to circumscribe the outer limit of the extended vocabulary. The edges of the extended vocabulary are marked by fluidity. This can be represented by the following diagram:



As in the case of vocabulary, the syntax of BH represents one end of a continuum between it and the standard Hindi syntax. Depending on the speaker's linguistic resources and his familiarity with standard Hindi, the syntax of his BH may either be limited or approach the fuller repertoire of the syntax of standard Hindi.

SEMANTICS AND USAGE

If the users of BH have to force communication with an extremely restricted vocabulary, it is inevitable that each lexical item will have a high frequency in conversations, and will be used to convey a number of related meanings identifiable only in the context in which the interlocution takes place.

Some examples of these heavy-duty items have already been given under 'verbs' above. (See bola:, māgta:, hoga:,

The point to be noted here is the convergence of semantic categories of the major languages in contact: Hindi, Bengali, and Khasi. As Hindi is the base language of BH, only features not native to Hindi will be commented on here. (See also the section on 'usage' below.)

1)	tuṭa: note.	: torn currency note
2)	chhuṭa pani[12]	: water with low pressure
3)	baṛa: pani:	: large quantity of water as in lakes, etc.
4)	thoṛa: thoṛa: baiṭho	: squeeze in
5)	ghaṛi mur gaya:	: The watch has stopped. (Lit.--The watch is dead.)
6)	sha:/cha: khayega:?	: Will you have some tea?

Each of these examples violates the selectional restrictions followed in Hindi (and, incidentally, in English, too).

1) A mutilated currency note is referred to in BH as broken, not 'torn'.

2) Water coming with weak pressure is called chhuṭa 'small'.

3) To ask people to sit in close proximity so that less space is taken, the expression 'a little' (thoṛa: thoṛa: baiṭho) is used.

4) In Hindi and English a watch stops, it does not die. Death is usually attributed to animates. The ticking of the clock has all the semblance of animacy and the metaphorical force of the usage is not difficult to see. These semantic categories are derived from Khasi.

It appears that the Khasi speakers of BH under pressure to communicate have transferred semantic categories from their native language and occasionally from Bengali, one of the dominant languages of the northeast.

5. As in Bengali, kha:na: rather than pi:na: is used for tea and other drinks.

USAGE

BH has developed its own usage of certain expressions, which is at variance with SH usage:

picche

Picche in SH meaning after or behind refers to spatial position. In BH it refers to temporal order (later/after) as in

tin din ka picche.
(After three days)

Do ghanta: ka picche.
(After two hours)

Bengali Usage: The usage of the following words seems to be derived from Bengali:

bharti

In standard Hindi the verb bharana means to fill but bhar(a)ti means recruitment. BH uses bharti in the sense of to fill (active and passive).

bharti kia:. (I have) filled (the tin with water).
bharti ho giya:. (The tin) has been filled (with water).

baiṭhana:

In BH this verb means 'to live', as in kahã: baiṭha:? Where (do you) live?

This meaning of the verb is identical with that of the Bengali verb tha:ke.

bha:t

Similarly, bha:t which in some dialects of Hindi means cooked rice, in BH means 'a meal'.

uṭhana

This verb is used in the context of boarding a bus and means to get on to (a bus).

kahã: uṭha? At which stage (did you) board the bus?

PHONOLOGY

The tendency in BH to simplify and reduce the rules of grammar to their bare minimum and exercise extreme economy in vocabulary is reflected in the area of pronunciation also. Three clear tendencies are noticed:

VOWELS

i) shortening of vowels,
ii) deletion of vowels in words derived from the base language, and
iii) insertion of vowels to facilitate the pronunciation of consonant clusters.

Shortening (This however is not consistent.)

a:dmi:	(man)	--	admi
ba:bu:	(sir)	--	babu
chhota:	(small)	--	chhuṭa
chori:	(theft)	--	churi
du:sra:	(other)	--	dusra
gaya:	(went)	--	giya
jhola:	(bag)	--	jhula
kaun	(who)	--	kun

Deletion

taraf	(towards)	--	traf
thora:	(little)	--	thra

Insertion[13]

do:	(give)	--	deu
mard	(male)	--	murad

These three features are the result of speech habits of the speakers of the languages in contact, but more particularly Khasi.

Rounding of vowels

Under the influence of Bengali phonology, central vowels in BH words are usually rounded, especially by those whose mother-tongue is not standard Hindi (Cf. sarka:r → sorka:r).

Chatterji--(1931:197) mentions similar shortening of vowels in Calcutta Hindi, but attributes it to the Bengali habit of vocalic harmony.

kuṛhi for koṛhi: = leper
juṛi for joṛi: = pair

A tendency similar to the insertion of vowels commented on above was noticed in Calcutta Hindi. Chatterji--(1931:197) refers to it as 'intrusive vowels':

marad for mard (man/male)
kisim for qism (type)

Chatterji (1931:195) says 'In the matter of Sounds, CH [Calcutta Hindi] has a wide range, the speakers (unless making a conscious effort) using the sound system of their own speech.' The same holds true of BH. The pronunciation commented on in this section is typical of the BH spoken by the non-Hindi knowing illiterate population of Shillong.

Consonants

Pronunciation of consonants is often influenced by the mother-tongue phonology. The Khasis substitute

g by k as in 'thug' which becomes thok; ga:jar → ka:jor (carrot)
gh by kh as in 'ghee' which becomes khi:
The Assamese mix up ch and sh, (cha:r → sha:r) and the Nagas p and b. Chatterji (1931:197) has noticed similar tendencies in CH.

Intonation

Implied meaning and modality are often signaled not through understatements, which of necessity require a comparatively rich linguistic repertoire, but by using a rising intonation. For example,

jayega: with rising intonation may imply:
"I will certainly go (to do something) if you want me to."

Communication with the help of intonation, gestures, repetition and circumlocution rather than exact vocabulary is an important feature of the strategy employed by the speakers of BH to get over the difficulty caused by the narrow range of vocabulary.

In addition one notices features such as the following:

Periphrasis and Repetition: The need to communicate and the constraint of an extremely limited linguistic repertoire lead the speaker of BH to resort to considerable circumlocution and repetition, in addition to the use of gestures, in order to be understood by others. An example of this is the stock phrase used for circumventing the lexical verb.

aisa: ma:fik karne se...
This like doing by
By doing like this...

Lack of adequate and exact vocabulary leads BH speakers to resort to periphrasis. One common device is to introduce a descriptive phrase with the help of:

u jo ... + a descriptive phrase in place of the exact word,
that which ...

An example of the use of repetition occurs in the following account of an intensive search:

tala:sh,	tala:sh,	sab taraf	tala:sh
search(ed)	search(ed)	everywhere	search(ed)

I looked [for my hen] all around.

Gestures: As BH exists only, or primarily, as a spoken language, inadequacy of vocabulary is compensated for by the frequent use of gestures.

Writing: It is only occasionally that one sees BH in written form. These instances are signboards, notices, bills, and posters for the benefit of the Hindi-knowing people (for example, the members of an employees' union). First information reports lodged at police stations have been spoken in BH and taken down in the Roman script.

The above description of BH shows that BH is not a corrupted or broken form of Hindi, but a language in its own right having its distinctive features of grammar and usage, semantic categorization, and phonology.

Although the base of BH is the lingua franca Hindustani with borrowings from a number of sources, it has, as used in Shillong, derived words and semantic categories from the languages that have come in contact with it, the dominant among them being Bengali and Khasi. The Bengali influence is more likely to have been assimilated during the process of BH's pidginization in Bengal during the 17th to 19th centuries.

In functional terms it is used almost entirely as a medium for bazaar negotiations and similar transactions, and for phatic communion. It exists only as a spoken language in which gestures and repetitions are used as aids to expression. Substitute words/phrases obviate the need to use precise words. Context helps communication of meaning. It has a defined pradigm of users and use. (Singh: 1982) (cf. the pattern observed by Chatterji (1931:188-9) and Apte (1974:23.) It is not used as a mother tongue. It is spoken by its users in addition to their own languages. Members of the same linguistic group do not use it among themselves, but it is resorted to for communication across socio-economic strata by people who could use a common dialect. BH performs an extremely useful role as a 'contact' vernacular' (DeCamp 1971:15) in a community where people neither know nor speak each other's native languages.

CALCUTTA HINDUSTANI, BOMBAY-HINDI-URDU AND BAZAR HINDI

The Calcutta Hindustani (CH) that Chatterji describes has a great deal in common with BH although it is a more elaborate language than BH, as the texts appended to his paper indicate (1931:293-33). About the nature of CH, Chatterji says:

> The Bazar Hindustani of Calcutta ... is ... the ungrammatical Hindustani of the masses, mostly illiterate, of Eastern UP and Bihar, already colored by Eastern Hindi and Bihari, and further modified in Bengal under the influence of Bengali vocabulary and idiom ..."

It appears that Chatterji has not been able to isolate the Calcutta pidgin from the eastern illiterate dialects of Hindi spoken by the migrant workers in Calcutta at the lower social strata. This observation finds support in the quotatioq given above. And yet Chatterji is very near the mark, for in his description of CH all the features of a pidgin occur.

About the pidgin character of CH, he makes the following comment (1931:189):

> Bazar Hindustani varies in both its degree as well as kind of corruption from the standard norm of the speech, according to the native language or dialect of its speakers and the extent of their proficiency in it. The Bengali, the Englishman, the Oriya, the Chinaman, the Tamilian--each naturally colors this pidgin dialect [italics added] in his own way. But there is a link which binds them all when using this speech--a basis which is common to all, which makes for intelligibility, and which prevents extreme forms of it from defeating the very purpose of the language. This link or bond of unity is the ABSOLUTE MINIMUM OF GRAMMATICAL FORMS and the ABSOLUTE MINIMUM OF COMMON WORDS OF AN ELEMENTARY AND NON TECHNICAL CHARACTER, AND OF COMMON IDIOMS AND EXPRESSIONS.

The following is a list of the major features of CH as described by Chatterji:

Simplification of grammar (p. 192)
Absence of grammatical gender (p. 202)
Absence of inflected plurals (p. 204)
Case differentiation not usually noticed (p. 205)
Simplified system of pronouns (pp. 209-12)
Simplified system of verbs (pp. 212-7)
No serious literature attempted in it (p. 192)
Used in comic scenes in Bangla plays (p. 193)

Specific points of similarity between CH and BH have been noted at relevant places in the description of BH.

From CH to BH there appears to be continuum, BH representing the extremity of reduction and curtailment of all redundancy. This continuum has in it several layers and stages of pidginization. Chatterji does in fact refer to the 'infinite varieties' of Bazar Hindustani (1931:194-5).

CH and BH are different from each other only in detail and degree of elaboration and restriction, not in their essential character. Both are bazaar varieties performing a useful role. However, CH as described by Chatterji has a pidgin core overlaid by layers of extended vocabularies and grammatical rules.

It would be appropriate to have a look at the features of the Hindi-Urdu spoken in Bombay as analyzed by Apte (1974), i.e. Level II Hindi-Urdu of Bombay (BHU) spoken by the less educated sections of the population at the lower strata of the socio-economic scale.

1) Frequent use of singular number forms of nouns even where plurality is to be indicated.

2) No distinction between the nominative and the oblique forms of nouns is maintained.

3) Gender system of Hindi-Urdu is not strictly followed.

4) Pronoun usage of BHU has its unique features, e.g. the use of apne ku. (Apte suggests that this is due to the influence of Marathi.)

5) Lack of the oblique form of the variable adjectives.

6) BHU uses a simplified paradign of verbs. Only one form in each tense is used for main verbs and auxiliaries.

7) It has its own usage of such lexemes as magta: and hona:.

8) BHU has developed certain syntactic devices of its own, on many of which influence of Marathi grammar is obvious.

Comparing the characteristic features of CU and BHU, especially in relation to the influence of the dominant languages of the region, Bengali and Marathi, Apte concludes "it is obvious that when Hindi-Urdu is used in multilingual settings of big urban centers of speakers of different linguistic backgrounds, the process of simplification runs a parallel course."

This process of simplification is more exhaustive in the BH of Shillong, which has a multilingual setting (although it is not a big urban center). Perhaps, the identification of similar processes in CH, BHU, and BH will give us a clearer picture of the process of simplification and help us to identify the features of a pan-Indian bazaar variety, or even of an international pidgin when the features of the varieties of Hindi spoken in the Andaman and Nicobar islands, in Fiji, Mauritius, and the West Indies are examined and studied.

In the discussion that follows the analysis of the grammar of BHU, Apte arrives at conclusions which with certain modifications, our own description of BH leads us to. Apte says:

> As mentioned in the introduction, the Bombay Hindi-Urdu speech described here appears to share many characteristic features of the languages generally labeled as pidgins and creoles.[14]

The two special features of BHU that Apte recognizes deserve attention: First, the dominant language involved in the contact situation which has given rise to Bombay Hindi-Urdu speech is not a colonial language, although it is not a lingua franca. Bombay Hindi-Urdu thus differs from a large number of pidgin languages which appear to have developed as a result of contact between the speakers of one of the European languages, such as English, French, Spanish, or German, and a non-Western language. Another difference is that in the case of Bombay

Hindi-Urdu, the native speakers of Hindi-Urdu do not seem to have a higher socio-economic status than the non-Hindi-Urdu speakers.

These statements are only partly true. They are true in the sense that Hindi pidgins are not the result of an interaction between a European language and some local language. This is the assumption that Western scholars have in their general statements about pidgins. And yet the imperial origin of Hindi pidgins cannot be overlooked. Hindi pidgins do seem to have an imperial origin in that they were born during the Moghul days as a result of the interaction or need for interaction between the rulers and the ruled. In the present context the expression 'imperial origin' needs to be interpreted in a broader sense. Pidgins will not result if an attempt is not made by at least one linguistic group to come in contact with another which is dominant, advanced or possessed of superior skills. In the language contact situation one group makes a greater effort to learn another's language in order to communicate with it and therein lies the relative status and importance of the linguistic groups forging a new medium of communication.[15]

The second of Apte's two statements once again appears to be only partly true. It may be true that the speakers of BHU do not have a higher socio-economic status. But BHU can hardly be the native language of any authentic social group. Apte is perhaps confusing between the use of L1 Hindi dialects and the pidgin BHU. A distinction between how the pidgin originated and who its users are is necessary.

WESTERN SCHOLARS AND THE HINDI-PIDGINS

An extensive survey of the features of pidgins available in writings on the subject leads us to the conclusion that BH is beyond doubt a pidgin. (See for example DeCamp 1971:15; Hudson 1980:61-2, Hymes 1971:3, Smith 1972:63, Todd 1974:1-2, and the Random House Dictionary.)[16] Western scholars in their study of pidgins have been so occupied with the pidginization of European languages that they have paid scant attention to Hindi pidgins.

Hancock in his A survey of the pidgins and creoles of the world (1971) lists eighty instances of pidgins and creoles all over the world. The pidgins among these are generally based on the major western European languages--English, French, Portuguese, Spanish, etc. He identifies the following pidgins and creoles used in India:

1) No. 55: "Goanese--the creole Portuguese of Goa, now probably extinct."

2) No. 56: "Creole Portuguese of Diu and Daman, both possibly extinct." ...

3) No. 57(a): "Hobson-Jobson, 'Babu English' or 'Chi-chi'. A rudimentary pidgin employed during the period of British rule in India. Some Hindi influence." ...

4) No. 58: "Madras, English Pidgin, or 'Butler English', similar to the preceding in form and function, but with strong Dravidian influence."

It is surprising that no Hindi-Urdu/Hindustani-based pidgin finds a place on his map, although in the same volume Reineck (1981:499) suggests 'Bazaar Hindustani' as a potential field for research.

Another contributor to this volume, DeCamp (1971:15) generalizes that "most creoles, like most pidgins, are European based, i.e. each has derived most of its vocabulary from one or more European languages." Although he does add that "some pidgins and creoles are not European based" he does not refer to any pidgins based on Indian languages. Todd (1974), though mainly concerned with the pidgins and creoles based on European languages, especially English, does not so much as mention at any point that pidgin varieties of Hindi-Urdu/Hindustani exist. The two maps in her book (pp. 8 and 14) show no dots over the Indian sub-continent.

Pidgin scholars have been more concerned with describing the structural features of the pidgins. They have not viewed them in the sociological perspective (Singh 1983). Their attempt to formalize these descriptions has led them to overlook the rich diversity.

FUTURE OF BH

It would be interesting to speculate on the future of BH. Will it survive or become extinct? Will it in due course be creolized?

BH will survive as long as multilingual communities not sharing a common language continue to live and work together in Shillong, as long as inter-lingual contact between the educated and less- or un-educated sections of the society is necessary, and as long as illiteracy among certain sections of the population continues.

The chances of Shillong Hindi (BH) getting creolized are very remote for the following reasons:

One likely chance of BH being used as mother tongue is by the children of those parents who do not share a common language and do not possess a knowledge of English either. Such mixed marriages are common, mostly between Khasi women and Nepali men. Inquiry about the languages spoken by their children, however, reveals that they invariably learn as their first language the language of their mother. This is because of the predominant position of the mother in north-eastern India. Mother cult is prevalent in this area. The Catholics honor Mother Mary, the Bengalis worship Kali and other manifestations of the divine Mother. The Khasis have a matrilineal society. Mothers, and women in general, have a high position in the family. Also because an infant spends more time with his mother, his first language inevitably is the language that the mother speaks. BH, in such marginal cases, can be learned as a second language or an alternative language in which to communicate with the father, but not as the first language. The locality (Khasi speaking, Bengali speaking, etc.) has sometimes been responsible for minor variations in the situation described above, but there is no known instance of children acquiring BH as their first language, though one can hear even young children using it.

Thus the likelihood mentioned at the beginning of the foregoing paragraph has not been seen turning into actuality. Uneducated Biharis and Nepalese, usually in the lowest social strata, who have lived in Shillong for more than one generation and been cut off from the source of their native culture, are noticed using BH frequently, even in the home. Slow social mobility and reluctance to code switch seem to have made them more reliant on BH than are some other ethnic groups in the community. There is a theoretical possibility of their children using BH as first language. However, this tendency will constantly be checked by the lack of prestige of BH, and the spread of literacy and education. This latter phenomenon will take these children to schools where they will learn SH. Owing to their social backwardness, their families do not aspire to give their children Western education. They are sent to Hindi or Nepali schools. (Social stratification of schools in Shillong is well defined and rather rigid.) The close similarity to Hindi of the dialects of Bihar and the Nepali language and the widespread use of SH in Shillong make it easy for these children to learn SH, although this learning faces interference from BH phonology and grammar (Singh:1978).

The prestige that standard Hindi enjoys, the dominant position that it has in Northern India, its status as the official language, its use in Hindi movies (which are very popular), and the ease with which SH is acquired by those who are the likeliest to replace their mother tongue by BH--all these factors will motivate people to learn standard Hindi. In short, the chances of BH getting creolized are extremely remote.

In the foreseeable future BH will continue to perform the useful role that it presently does, and thus will survie as a pidgin. Owing to the spread and growing utility of SH, BH may gradually move closer to it and finally become indistinguishable from it except in its indexical features, such as pronunciation. The chances of its getting creolized are remote. Nonetheless, the current forms and functions of BH are indeed fascinating and a promising source of new sociolinguistic insights concerning language contact and change.

NOTES

This is a revised and enlarged version of a paper presented at the seminar on Convergence, Pidginization, and Simplification held at the Central Institute of Indian Languages, Mysore, India in March 1981.

[1]Where only one publication of an author is listed under references, the citation following his/her name in the text refers only to the relevant page number(s). The year of publication is not given. The year of publication when given is preceded by a colon.

[2]A transcription of BH words and sentences (which are underlined) is followed by a word-for-word translation and, where necessary, an idiomatic translation in English.

[3]The notation used here for transcribing the BH words and sentences follows the system used in Chaturvedi and Tiwari, wherein a line mark over a vowel-symbol represents its nasalized form as in nahī = no/not, and a colon(:) indicates long vowels. Alveolar retroflex stops are marked by

an (.) below the letters. It is to be noted that in BH these stops are often pronounced so softly that they are indistinguishable from their dental counterparts.

The transcription tries to be faithful to the BH pronunciation although it has not been possible to indicate precisely the length of the vowels in such words from the base language as ghari(:) and pa:ni(:). It may be pointed out that in spoken Hindi there is a tendency to reduce the length of the final vowels although in writing they are represented as long vowels.

[4]At many places in this paper BH grammar has been contrasted with standard Hindi grammar. It is difficult to define and identify standard Hindi. For the purposes of this paper, however, we can say that the variety of Hindi used in such publications as, Dharmyug or spoken by educated native speakers of Hindi in the urban areas of NW India can be considered as the standard.

Although the references made here to Hindi in connection with BH, would more appropriately apply to Hindi-Urdu or Hindustani, the choice of Hindi has been preferred mainly due to its use in the name BH. As the lexicon of BH is derived chiefly from Arabic-Persian sources, references to Hindi should be taken as a reference to the pan-Indian lingua franca Hindustani.

[5]Apte (1974:30) referring to the use in BHU (Bazar Hindi-Urdu) of the auxiliary verb hona (to be), calls it 'an independent development, since there is no such usage and extension of meaning in Hindi-Urdu.'

[6]This expression is very close to SH phrases like din mẽ; ra:t mẽ. Nepali uses a similar post-position mã.

[7]Mohan (personal communication) points out that current pidgins/creoles elsewhere have a strong tendency to use nã (in Jamaican pon) as an all purpose locative. (French creole nã originally meant 'in'.)

[8]cf. Caribbean creole's 'na', a gentle emphatic.

[9]This plural pronoun is used in Calcutta Hindustani (CH) also (Chatterji 1931:209).

[10]It is a known feature of simplified languages, such as foreigner talk, to use the subject pronouns as possessives (e.g. 'She book' for 'Her book'). Caribbean creole has such usage.

[11]These might be the fossilized forms of the article tho used in CH (Chatterji 1931:200-1).

[12]Literal translation of Khasi 'umiam'.

[13]cf. Chatterji (1931:197).

[14]One would have liked Apte to be more specific here instead of lumping together 'pidgins and creoles'. The features he goes on to enumerate are roughly the same as given in note 16.

[15]See Spencer (1974:V) and Hudson (1980:62).

[16]The features of pidgins that these writers mention are summarized below: (The abbreviations stand for: DC--DeCamp; DH--Dell Hymes; DS--David Smith; LT--Loretto Todd; RH--R. Hudson; and RHD--The Random House Dictionary.)

(1) An auxiliary contact language (DE, DH, RH, RHD).
(2) Simplified and reduced in structure and use (DC, DH, DS, LT, RHD).
(3) Limited vocabulary (DC, DS, LT, RH).
(4) No one's first language (CH, DS).
(5) Used by people who have no common language (DC, LT, RH).
(6) Arises in multilingual situations (DC, RHD).
(7) Restricted communication needs (DS, LT, RH).
(8) Suited to the needs of its users (RH).
(9) Simple to learn (RH).
(10) Considerable variation in pronunciation (RHD).
(11) Many features (of pidgins) reflect usages of contact languages, other features are unique to the pidgins (LT).
(12) Vocabulary based on the vocabulary of the dominant group (RH).

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SEXISM IN HINDI: FORM, FUNCTION AND VARIATION

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Speech differences in the use of address and reference forms exist in male's and female's language in Hindi, an Indo-Aryan language of India. These differences are a result of various factors interacting in Indian society, i.e., contextual dimensions such as topic, situation, membership, role/status, etc. and cultural factors such as social convention, tradition, inequality of social,economic, and political status, attitudes, beliefs, and values, etc. of females and males. That these differences are systematic in Hindi suggests that language is an indicator of sexual identity and a marker of basic differences in the nature of females and males in Indian society.

The growing body of literature on language use of women in a variety of settings and cultures provides evidence that differences do exist in male's and female's speech in every social group and in every situation, as shown in such comprehensive resources as Berryman and Eman, eds. 1980, Eakins and Eakins 1978, Kramarae, ed. 1980, 1981, Lakoff 1975, McConnell-Ginet, et.al., eds. 1980, Meseguer 1977, Orasanu, et.al., eds. 1979, Thorne et.al., eds. 1983, Smith 1979, Vetterling-Braggin, ed. 1981, etc. These differences are due to the fact that all over the world women and men have different roles and different life experiences within their social groups, as observed by Borker 1980, Brown 1980, Nichols 1980, Tannen 1982, to name a few. As Hymes (1973) points out, certain social situations are available to some speakers and not to others, thus, this leads to inequality among speakers. These differences may then be seen in terms of functional domains.

This paper examines sex-linked linguistic forms in Hindi, an Indo-Aryan language of India, in social and cultural contexts. Given the force of sex-based power inequities and the traditional structure with regard to the sexes and to the well-defined and differentiated roles of women and men in Indian society (Everett 1979, Mies 1980, Mukherjee 1978, Omvedt 1980, Rosaldo 1974, Wadley 1976, 1978), fairly rich linguistic confirmation is expected. Linguistic forms such as address/reference terms in the language are an index of social reality and thus are expected to reflect social change. This paper will examine forms of address and reference by female and male speakers of Hindi in India. Linguistic forms with regard to gender differences are discussed: pronoun use, zero address, titles, honorifics, personal naming, diminutives, kinship terms, and endearing terms. Data is drawn from modern Hindi short stories by prominent Hindi authors. Such literary works reflect usage of terms by females and males and illustrate the range of options available to speakers of Hindi.

The choice of address forms, names, titles, and honorifics, is one way in which speakers of any language, in this case of Hindi, express and influence their own social position in relation to that of others. Address and reference forms symbolize a person's social position in relation to people around him/her. By the use of one term as opposed to another, the status of a speaker or hearer is readily recognized. To quote Hymes (1974:111),

> One value of terms, or modes of address as a focus is that it makes so clear that the relation of linguistic form to social setting is not merely a matter of correlation. Persons choose among alternative modes of address, and have a knowledge of what the meaning of doing so may be that can be formally explicated.

In essence, by looking at address and reference forms in Hindi, one can gain insight into how the use of language reflects women's and men's status in India.

Sociolinguists have been concerned with exploring the dimensions in the choice of address forms. However, linguistic models have had a tendency to favor static descriptions of systems rather than dynamic processes. Research on differences in language according to a particular social variable often assumes that language is classified in dichotomous terms. For example, with regard to address modes, Brown and Gilman (1968) device the scale of power and solidarity, Brown and Ford (1964) use intimacy and status, and Pride (1971) discusses formality-informality. However, dividing language into such categories is inappropriate and unreal. In this case, distinctions between female and male speech should be identified according to degrees of +female or +male depending on the social situation, context, etc. Two linguistic codes, i.e., male and female use of address/reference terms, is not in free variation in India. Rather the selection of a particular linguistic feature is governed by rules of social appropriateness and acceptability depending on factors such as topic, mode, status, convention, etc. There is a need to focus on variation within the speech of females and males and how she/he varies her/his speech according to the social situations, and what rules underly this behavior.

The use of address/reference terms is a complex phenomenon in India. Much variation exists depending on the following contextual dimensions: 1) topic of discourse, i.e., personal/impersonal, formal/informal, etc; 2) situation, i.e., between females/males, husband/wife, etc.; 3) group membership; 4) role/status, i.e., generation, age, sex, marital status, etc. Furthermore, gender differences in linguistic forms is a function of many various cultural factors interacting in India, i.e., convention, tradition, inequality of status at all societal levels, attitudes, beliefs, and values, etc. of females and males. By isolating the variable sex, and examining its interaction with other social variables, we can gain a perspective on the possible strength of this single variable and how it produces such complex effects in India.

When a person is addressed or referred to, a speaker of Hindi has, depending on situation, context, discourse, etc., many options available. These many options/forms can occur within a framework with no change in referential meaning, but their differential usage likely can carry special meaning. As Gumperz (1972:206) points out "the use of one term or another does not change the nature of the message as a form of address, but it does determine how the person addressed is to be treated, and to what social category he [/she] is to be assigned."

Nonreciprocal power distinctions exist mainly within the family structure of India where the preservation of asymmetry of dyads is seen. For example, the use of Hindi second person pronouns, tū, tum, and āp 'you', which I will not discuss in depth here but is investigated elsewhere with relation to South Asian languages (Apte 1970, 1974 (Marathi), Chandrasekhar 1970 (Malayalam), Das 1968 (Bengali), Jain 1973 (Hindi-Urdu), and Schmidt and Kharel 1972 (Nepali), is heavily loaded with respect, intimacy, and power. Differences in status and social distance are marked in these languages by a general pattern of two or three pronominal forms. A brief summary of the use of these pronouns in Hindi follows.

Tū 'you' can mean both +intimacy or +insult. The use depends on the social distance between speaker and addressee. Tū 'you' is used to express: (a) +intimacy, -distance between close friends, to children, to bhagwān 'god', etc.; (b) +distance, +intimacy from a person of higher status to lower status, e.g., husband to wife, father to child, teacher to student, master to servant, etc.; and (c) +distance, -intimacy from a person of lower to higher status to show the deliberate use of tū 'you' to exhibit insult. It is very rare if at all, for tū 'you' to be used from a wife to a husband, or a son to a father.

Tum 'you' is basically a pronoun of respect but is less formal and respectful than āp 'you'. It is the most commonly used pronoun and can be used in a greater number of social relationships and contexts than tū 'you' or āp 'you'. It is used between those of high and low status and among equals. It marks politeness, respect, and elegance depending on the relationship and the context used.

Āp 'you' shows maximum social distance and a sense of elevation between speaker and addressee. It expresses a high degree of respect, politeness, formality, and elegance when used between husband-wife, daughter-in-law-parents-in-law, student-teacher, stranger of equal or higher status, etc. and expresses flattery, sarcasm and taunting when used from a person of higher status to one of lower status, between equals, husband-wife, parents-children, friends, etc.

Examples 1-8 illustrate some uses of Hindi pronouns tū, tum, and āp 'you' among family members in India.

1. wife to husband
   āp ke liye bhī ek present hẽ ... āp jākar nahāiye...
   There's also a present for you... go and take your shower...

2. husband to wife
   tum kapre nahī̃ badalogī?
   Aren't you going to change your clothes?

3. young daughter to father
   pāpā hamẽ khāne ke liye bāhar le jā rahe hẽ
   Papa is taking us out to eat (3rd person plural).

4. father to young daughter
   kyõ beṭī, (tum) kuch aur khāogī?
   honey, do you want to eat more?

5. young daughter to mother
   tum kon-sī sārī pahanogī māmī?
   Which sari are you going to wear mami?

6. mother to young daughter
   (tum) acchā le lo
   Take a good one.
   (Examples 1-6: Priyamvada 1974)

7. father to young son
   tū āj hī yahā̃ ayā hai ?
   Did you arive today ?

8. pāpā tum mere janamdin kī parṭī mẽ kyõ nahī̃ aye?
   Papa, why didn't you come to my birthday party?
   (Examples 7-8: Rakesh 1974a)

However, variation in the use of these Hindi pronouns and other forms of address exists in India. For example, among the working class, both husband and wife share duties equally. This form of equality is reflected linguistically: Modes of address among spouses of the working class are reciprocal in nature, and it is not uncommon for a husband or a wife to address each other as tum 'you'. A scale of pronoun use, which has not as yet been worked out, exists in Indian society.

One obvious option a speaker has to address or to refer is by using the addressee's personal first name, and in Hindi with or without a title or honorific. (Ervin-Tripp 1971 and Brown and Ford 1964 address this issue thoroughly with respect to American English.) Among Hindi speakers, generally, names are not used to the same degree or extent as in American English. In fact, at times names are avoided due to tradition, politeness, respect, taboo, etc.; the use of different types of names convey different information in South Asia. The use of first name is determined by the relationship between speaker and addressee and the context in which they interact. As a rule, personal

names are used to address or to refer to one's younger or equal. However, like the use of pronouns, naming carries social meaning, e.g., the use of a full name exhibits sarcasm when said from a father to his son.

The use of personal names is remarkably complex in Indian society, particularly among spouses. First, traditionally and presumably still in a large majority of cases, husbands and wives do not address or refer to each other by name although, among educated urban speakers this trend is changing. The strategy of not naming is most strongly observed by a wife to her husband, but this observance may also include her older family members. One main difference between the two relationships is that a wife has a choice of using a kinship term of address for family members with whom she avoids naming, but she does not have such an option to address or to refer to her husband. Nevertheless, other strategies such as evocative expressions and other linguistic constructions which have no pronominal force or which have no reference to the person addressed, such as mãĩ ne kahã 'I said', suno/suniye 'listen!', are, kyõ re 'hey, listen!', etc. are commonly heard between spouses in Hindi.[1] (Examples 9-10). Similarly, in India, females address their husbands with evocative expressions such as aho 'polite evocative' in Marathi and ajĩ 'polite evocative' in Bengalĩ.

Secondly, in place of a first name, respect forms such as sāhab 'master, term of respect', sarkār 'term of respect', miyā 'honorific husband', jī 'honorific', patī dev 'honorific husband', ve and ye 'third person plural pronouns', etc. are spoken by women to address or to make reference to their husbands.[2] (Examples 11-15).

Thirdly, zero address, personal name, evocative expressions such as kyõ rī 'what?', or terms which make reference to one's wife's social position such as gharwālī 'householder', X kī mā 'X's mother', memsāhab 'madam, lady', are common strategies used by husbands to address or to refer to their spouses. (Examples 16-19).

9. zero address
arī, sun lo!
suniye!
Oh, you listen!

10. kyõ re,.../ Lo...!
Hey!

11. wife to husband address and reference forms
kyõ jī tum bhī us gorī daktarnī ko itnā pasand karne lage!
You (hon.) too began to like that white woman doctor! (Agnihotri 1975)

12. Or lipat gaī parõ se, 'he! swāmī!'
and grabbing his feet, (his wife says) 'Hey master'! (Sonriksa 1970)

13. sāhab ke kaprõ kā ye ḍher...
(My) husband's pile of clothes... (Rakesh 1975a)

14. aur patī dev ko miltā thā rukhā-sukhā bhojan
And my husband (hon.) will get dry food. (Verma 1974)

15. merā suhāg! merā chānd! merā rājā!
You (husband) are my good fortune! My moon! My king! (Rakesh 1974a)

16. are, e premā!
Oh, Prema! (Mathur 1972)

17. husband to wife reference forms
tumhārī jase sidhī strī bhī
a straightforward woman as you are. (Kaushik 1962)

18. terī māmī ne kahā...(father to son)
Your mother said... (Rakesh 1974a)

19. memsāhab to rakhnī nahī, kaun bhugtegā unke nakhrõ ko
I will not keep a lady who will have these whims. (Mathur 1972)

In conjunction with the above option, an additional choice of a speaker to address or to refer is the use of abbreviated forms of the addressee's first name, In India, diminutive forms of address are more frequently used for unmarried females than for married females or males. To illustrate: First, male friends commonly address each other by personal or abbreviated forms of names (examples 20-21). Second, parents or elders use diminutive forms of first names of daughters and of very young sons. According to Mehrotra (1981), the practice of naming girls in India is based on a diminutive pattern. For example, Siliyā is a diminutive form of Sīlā (examples 22-23).

20. male friends
are āp kedār jī hẽ
Oh it's you Kedarji. (Yadav 1968)

21. abe sāle kedāre tū kahā̃ merī jān
Hey you bastard Kedarey, where are you? (Yadav 1968)

22. mother to young daughter
ham sab khayege. Nītā bhī
We'll all eat. Navanītu too. (Priyamvada 1974)

23. father to young daughter
kyõ beṭī kuch aur khaogī?
Daughter, would you like something else? (Priyamvada, 1974)

24. father to young son
pāshī... pālāš, idhar ā mere pās
Palaš, come to me. (Rakesh 1974a)

25. hã̃ nã̃ beṭe
yes, son. (Rakesh 1974a)

Moreover, brothers address sisters by diminutive forms or by dīdī 'sister'. Sisters address brothers by their first names or more commonly by the kinship term bhāī 'brother'. Furthermore, elder sisters address younger sisters by diminutive forms, but younger sisters address older sisters by kinship terms such as bahen 'sister' or dīdī 'sister'. (Examples of family address forms will be discussed later.)

In view of the above, another form of address or of reference commonly used, particularly for females, and in this case for daughters, is that of 'endearing' childlike terms such as beṭī 'daughter' and in restricted situations laṛkī 'girl, daughter'.

In Hindi, beṭī and beṭā mean 'daughter' and 'son', respectively, and larkī and laṛkā mean 'girl/daughter' and 'boy/son', respectively. Generally, a female is addressed or referred to as beṭī or laṛkī until she is married (around twenty years), whereas a male is referred to or addressed as beṭā or laṛkā only when he is very young. Mothers more often than fathers refer to their sons in terms of kinship, e.g., beṭā 'son' or laṛkā 'boy'. Overall, sons are more frequently addressed by their first name, and when a boy is very young are diminutive forms such as Pāshī for Prakāsh or endearing terms beṭā 'son' or laṛkā 'boy/son' used by parents or elders.

To discuss this concept one step further to include females in general, some other observations need to be discussed. First, an older related or unrelated male or female can refer to a young unmarried female as beṭī 'daughter'. Second, a father sometimes addresses an unmarried daughter in masculine terms, such as beṭā 'son' or puṭā 'son' to show affection. Third, beṭī/beṭā 'daughter'/'son' can refer to what in American English is 'dear', an asymmetrical, nonreciprocal, -respect term. For example, a woman may say to another woman arī beṭā 'hey dear/son' in which case the address is the masculine form 'son'. Among urban educated speakers the English word diyar 'dear' is also fashionable. Examples 26-30 illustrate some contexts of the use of beṭī/beṭā 'daughter/son'. Compare these with above examples 23 and 25 above.

26. husband to wife
beṭā! bahū!
Son! Wife! (Sonriksa 1970)

27. father to young married daughter
uṭho beṭī!
Get up daughter! (Sonriksa 1970)

28. older woman to younger woman
kitnā kirāya beṭī?
How much rent my dear? (Bharati 1967)

29. woman to woman at a party
    ā ṭ ṭīg diyar
    That thing dear. (Rakesh 1974b)

30. male stranger to unmarriedwoman
    āpkī larkī h? lao beṭī...
    Your girl (daughter)? Bring (it) daughter! (Mathur 1972)

Although female addressess may be married, aged, etc. (+respect factors), -respect terms such as beṭī/beṭā 'daughter/son' and diminutive forms are used to address and to refer to them. This illustrates that an unmarried female is recognized as a young child or as a dependent by a speaker. Only until she is married does the mode of address change, in which case a female's status moves from beṭī/larkī 'young girl child' to that of bahū 'wife', a term or ranking of servile status to those above her. And only until a naī bahū 'new wife' or a choṭī bahū 'young wife' enters the family is her status altered in the social structure of India.

Furthermore, a female, after attaining marital status, becomes bhābhī 'brother's wife', mā/mātajī 'mother', dīdī/jījī 'sister after marriage', etc., kinship terms which confine her to the cover role of somebody's somebody, e.g., a brother's wife, a friend's sister, etc. Such uses of kinship terms reinforce and emphasize a female's role as mother, husband's wife, brother's wife. In contrast, a male, married or unmarried, is not recognized in such terms. His role is not based on marital status but is seen to be more broad, extending outside the home. Therefore, terms of address and of reference for a male are wider and more likely depict him with relation to his position in society (e.g., personal naming, titles, name + sāhab, occupational terms, etc.; see Valentine 1983 for a discussion on sexism and aspects of a male-centered pers-ective in Hindi.)

Another common form of address is of the use of the genitive, exhibited in Hindi by the linguistic possessive postpositions kā (masculine sg.) kī (feminine, sg. and pl.), ke (masculine, pl.) 'of'. When one is the addressee then the genitive of a second person pronoun is used, e.g., āp ke sāhab 'your husband', tumhāre jījī 'your elder sister's husband', etc.; however, when one is not the addressee or is not present, the name of a person related to the referent is used, e.g., rādhā kā bhāī 'Radha's brother'. Females are addressed or referred to in such a possessive manner, with relation to her husband's familial ties, such as rām kī bahū 'Ram's wife', Channī kī dādī 'Channi's father's mother', kisnu kī mā 'Kisnu's mother', etc.; but not in terms of a natal relation such as ramdayāl kī beṭī 'ramdayal's (father's name) daughter'. A female is addressed and referred to in such terms usually in relation to a family member - her brother, her husband, or her son. Similarly, one sees in American English, females are commonly referred to in such relational terms, but that of her father, her husband, or her son. The difference is that in India, due to the fact that once a woman marries, her natal familial ties are broken and her dependency shifts from her father's family to her husband's family. Therefore, men in the husband's

household become the prime source of protection of the wives. This appears linguistically in address and reference forms. Rarely are males referred to in such relational terms.

31. Rāmū ki mā̃, chintā kī kɔn sī bāt hɩ ?
Mother of Ramu, what's the problem? (There is nothing to worry about.) (Verma 1974)

32. Lālā Ghasīrām kī patohu ne billī mār ḍālī
Lala Ghasiram's son's wife killed a cat. (Verma 1974)

This brings the discussion to another option of address already hinted at, that of kinship terms in Hindi. It is important to understand that kinship forms in Hindi are not solely used for kin members; and that terms of address are very different from that of reference in the language. The use of a reference term implies a specific family member of whom one is speaking, e.g., a speaker making reference to bahū 'wife' only means the wife of bhāī 'brother'. Address terms in Hindi are used for either a kin or non-kin member, e.g., a shopkeeper may address a young woman as bahū/bahūjī 'wife' although these two persons are not related in the least. If clarification or specificity is needed in terms of reference, additional markers are attached, e.g., barī bhābhī 'the oldest brother's wife', gopāl bhayā 'brother Gopal', tumhare bhāī sāhab 'your(hon.) brother', jamuna devī 'Januma hon.', devar bhabhī 'husband's younger brother's wife'. To illustrate common family addresses refer to examples 33-39 below (Rakesh 1975a).

33. sister to brother
bhāī, ham nahī̃ kuch bhī paṛhte
Brother, we aren't reading anything.

34. sač pucho gōpāl
Ask truly Gopal.

35. brother to brother's wife
dekho vīnā!
Look Vina.

36. bhābhī, mī̃ zarā ḷaldī se ye pultis nigāl lū̃
Brother's wife, I will gulp this poultice down quickly.

37. older to younger brother
kyō bhāī, kyā bhar rahe ho koṭ kī ḷebō mē?
Oh brother, what did you fill your pockets up with?

38. aur tum kyā khākar mūh pōch rahe ho syām bābū?
And what have you eaten that you are wiping your mouth Syam babu?

39. younger to older brother
aiye, bhɩyā
Come brother.

40. brother's wife to brother's wife
rādhā jījī
Sister Radha.

41. kyā bāt jījī?
What's the matter sister?

42. ye leṭne kā vakt ṭhoṛe hī hai , bībī!
This isn't the time to sit sister!
(Examples 40-42: Rakesh 1975a)

43. a woman's descriptive narrative (Rakesh 1974b):
...sabhī strīyā pyār kartī thī... husbands unhē pahārō par chorkar... lavarz kī apnī bīvīyā thī... sārā din laṛkī kī pēṭīṅ karātī rahī. larkī aur dāmād āj hī wāpas jā rahe hē̃...
mē̃ ne apne dāmād se kahā... barī larkī kā patī...
...all wives had loved... husbands had left for the mountains... there were lover's wives... all day I had the girl do painting. My daughter and her husband are returning today... I said to my son-in-law... The older daughter's husband....

A final point to be made in this section deals with an overall, general concept of male terms expressing a universal meaning and female terms taking on a sex-specific meaning. Forms with male reference have a tendency to universalize and forms with female reference have a tendency to become homogenized, i.e., instead of losing sex specificity, females lose their special distinguishing characteristics that discriminate among females (McConnell-Ginet 1980). This is nicely illustrated by such Hindi masculine address terms as beṭā 'boy, son' and puṭā 'son' and the common evocative bhāī 'brother' used by females and males to address both males and females. On the other hand, female equivalences such as bahen 'sister', and beṭī 'girl, daughter', etc. are restricted to female address, and tend to lose discriminating characteristics such as age, sisterhood, etc. Similarly, this phenomenon is seen in the use of the honorific masculine term sāhab 'sir', which universalizes to names and titles of females, e.g., memsāhab 'lady, madam', dāḳṭar sāhab 'doctor' (+respect), profesar sāhab 'professor' +respect).

44. brother's sister to brother's sister
hā̃ bhāī, hum tumhārī tarah parhe-likhe to hē̃ nahī̃?
Yes, brother (sister) we aren't educated like you. (Rakesh 1975a)

45. nahī̃ bahen! hamārā bhī to pharz thā
No sister! It was our duty too. (Bharati 1967)

46. guddo dīdī wahā̃ nahī̃ hai ab!
Guddo (sister) wasn't there now. (Rakesh 1975b)

47. restaurant owner to female customer
profesar sāhab se milo
Meet Professor Sahab. (Priyamvada 1974)

In the previous discussion, it has been noted that female speakers are the predominant users and recipients of kinship terms, diminutive forms, and endearing terms as forms of reference and of address in Hindi. This is due to a number of reasons.

First, females treat females as members of an in-group, a friend, a kin, a person who possesses commonalities, therefore, identity markers (i.e., kinship terms) are predominantly used in India. Although, this may seem depersonalizing, kinship terms to women reveal membership of an in-group, which personal names do not do.

Second, kinship terms between women are more often of a reciprocal nature, i.e., two female strangers address each other equally by bahenjī 'sister' (hon) or dīdī 'sister', which is not unidirectional or status marked. Male address/reference options are greater and more likely personal names, sāhab 'term of respect', sar 'sir', honorifics, etc. are used. If a female wants to express distance, kinship terms are not likely to be used. Rather, the addressee's name, first + honorific jī, Mrs., etc. are more common. To illustrate: generally, a mother-in-law addresses her son's wife by the kinship term bahū 'wife'. However, the mother-in-law may switch forms to exhibit momentary emotion such as anger, love, sarcasm, e.g., her daughter-in-law is addressed by first name or sarcastically with such terms as bahūrānī 'queen wife'. Likewise, if an educated urban female uses bahījī 'sister'(hon) to an uneducated rural female, higher status is recognized. Similarly, among friends, women will use kinship terms among other females, such as dīdī 'sister'(+affection, +respect) whereas males are more likely to use first name (+jī (hon)) or surname. The use of addressing by last name is far more common among males than females, if done by females at all.

Third, with reciprocity comes solidarity. The fact that two females are of the same sex establishes a biological bond. A further example is found in schools and colleges in India. Female students address female teachers with kinship terms, such as dīdī 'sister' or bahenjī 'sister'(hon). Male teachers are never addressed by female or male students as bhāī sāhab 'brother (+respect) or bhaiyā 'brother'.

Fourth, that women and women's experiences hold much in common in Indian society, i.e., a general preference for male children, rankings in the family structure, marital status, widowhood, etc., invokes the use of group solidarity terms, such as bahen 'sister', thus exhibiting a sense of 'bahenhood'.

Fifth, that kinship terms are used more to and for women implies that females are recognized and recognize themselves and others as individuals only with respect to a family/household. Some illustrations of female as addressee are in examples 40-43 below.

The use of kinship terms can be finely illustrated by instances outside the family structure in India as well, in particular that of a relationship between one who receives a service and one who provides a service. According to Wolfson and Manes (1980) a person performing a service, such as a shopkeeper or a taxīwālā 'taxi driver', is in a position of at least temporary subordination to a person for whom the service is being performed. The use of address forms is linked to the relative positions of the participants in the situation.

In American English in service encounters, males are routinely addressed by the respect form sir. In Hindi, similarly, males are addressed by terms which relate to the male's position in society, and in terms of status, e.g., sāhab 'respect form', bābū sāhab 'father sir', hazur 'sir', sarkār 'sir', etc. In contrast, females who except for their sex, have the exact same status relation to the one who provides a service, do not receive respect terms. To illustrate in Hindi, a female is referred to by kinship terms of address. A young married woman is addressed as bahujī/bahū 'wife'; an older woman is addressed as mātājī 'mother'; a young unmarried female is addressed as beṭī 'child'. Similarly, a non-relative may address a woman as bahenjī 'sister (hon) or bhābhī 'brother's wife'. One sees that we cannot assume a genealogical link on the basis of the use of a kinship term. In fact, in such languages as Australian (Thomas 1906), and Koya (Tyler, 1972), kinship forms are used to express status or to refer to matters of obligations and privileges. To illustrate refer to examples 48-51.

48. Taxiwalla to female passenger
    to kā bhavā bahū?
    So what bahu? (Bharati 1967)

49. male stranger to female
    bahenjī, āp ko hāt mē choṭ to nahī̃ lagī
    Sister, your hand wasn't hurt? (Bakshi 1975)

50. restaurant owner to female customer
    kahiye bhābhī jī laut āī āp
    Tell me (brother's wife) you've returned. (Priyamvada 1974)

51. male clerk to male customer
    māf kījiye... sāhab
    Excuse me sir. (Rakesh 1974a)

It seems amusing, however, that although prostitutes who provide a service are looked down upon in Indian society, they are addressed with respect, honorific terms and pronouns, e.g., bāhījī (hon.) āp 'you', etc.

In conclusion, I have shown that indeed males and females use different strategies when addressing or referring to other individuals in Hindi. Almost all forms of address and of reference in Hindi reveal the sex of the addressee and/or the sex of the speaker. The choice of an address

or reference term is reflected in different types of social relationships and is one way in which a speaker of a language, in this case of Hindi, expresses and influences their status in relation to that of another.

As I have shown, non-reciprocal power distinctions exist mainly within the Indian family structure between the two sexes, i.e., at the pronoun level as well as at the address and reference term level. A number of strategies of nonreciprocal address forms were discussed. 1) A nonreciprocal use of second person pronouns, tū, tum, and āp 'you'. 2) husbands are addressed/referred to in more deferential, exultative terms by their wives, than vice versa. Women are addressed/referred to in terms of a relationship with someone else. 3) It is common for males and unmarried females to address and to be addressed by personal names. However, married females are more likely to address and to be addressed and referred to by kinship terms. 4) Marital status of females is a criterion to determine the appropriate address/reference terms used for females; marital status of a male is inconsequential. 5) Parents/elders use diminutive forms and endearing terms, such as beṭī/laṛkī 'daughter/girl' more for females than beṭā/laṛkā 'son/boy' for males. 6) Group solidarity and personal identity exists among females. A greater number of kinship terms are used by and for women. Females are recognized and recognize themselves and other females in terms of family. 7) Universalization and homogenization are two aspects of a male-centered perspective in language. A male address such as bhāī 'brother' becomes defined as humanity whereas a female address such as bahen 'sister' defines woman. 8) Females are identified by their position in the family whereas males are identified by their position in society, as illustrated by examples from outside the sphere of home.

In summary, address forms and reference terms in Hindi reflect female and male status in India. This is clearly seen linguistically in the address and reference forms used for and by each sex in the society. And though the traditional female roles are changing in India, i.e., an increase in the number of females in the work force, in education, and in professional positions, the address/reference terms have not yet caught up with this change.

NOTES

[1]Within traditional Hindu culture, the strategy of not speaking a husband's name has interesting consequences. Among some married wives, the phonological shape of the husband's name may be so strongly tabooed that lexical items phonetically similar to the husband's name may be avoided. Jain (1975) cites the example of a wife who avoids uttering dhaniyā 'coriander' because her husband's elder brother is named dhanī rām. Therefore, the wife uses phrases such as harī botal wālā masālā 'the spice in the glass bottle.'

[2]Overall, attaching honorifics to names, titles, etc. or using them in isolation is commonly heard in Hindi speech. For example, generally when the honorific sāhab 'sir' is used without a name or title, it is usually said by a junior or one of lower status when addressing a senior

or one of higher status, such as in the case of a wife addressing or making reference to her husband. The use of honorific sāhab 'sir' operates similar to English sir and to Hindi terms sar 'sir', mahashay 'mister', janāb 'mister', etc.

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TWO SOCIAL VARIETIES OF FARSI: 'JAHELI' AND 'ARMENIAN PERSIAN'

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This paper provides a description and a sociolinguistic profile of two social dialects of Farsi not investigated by linguists earlier, namely Jaheli, and what the author terms, Armenian Persian. The paper also provides possible explanations for the variations and reasons for their occurrence. A parallelism is drawn between the linguistic variation and certain patterned modes of social behavior. The linguistic variables in Jaheli correlate with certain perceptions, and this dialect is used to fulfill the need for expressing rather unique and culturally specified modes of conduct. It is suggested that the Jaheli repertoire of speech will facilitate the monitoring of particular social patterns of interactions. Furthermore, this study will show that Armenian Persian provides a rather "marked" sociolinguistic case study, and puts forward some arguments for this sociolinguistic behavior.

1.0. INTRODUCTION

The aim of this paper is two-fold: First, to provide a descriptive account of two rather unique and heretofore undescribed social dialects of Farsi, namely, the Jaheli, and what I shall term the Armenian Persian, second, to provide reasons for the way these varieties differ from the norm, i.e., the Persian spoken in Tehran.

I will thus investigate the basic contrastive features of the speech of a particular segment of a non-ethnic population, called Jahels, on the one hand, and the speech of the Armenian population and the standard dialect, on the other, in the Tehran speech community. I shall attempt, furthermore, to provide possible explanations for the variations observed and reasons for their occurrence.

The motivation for such an explanation of linguistic variation is founded on recent correlative and functional approaches to language, such as Labov's approach in "The Logic of Nonstandard English" (1970). From a broader perspective, such approaches to language, as viewed by Kachru (1981a), are founded on the Firthian paradigm--a paradigm that may be said to be compatible with recent trends in linguistics and pragmatics. One essential feature of this paradigm is the requirement of an explanation for the relationship between form and function. That is, while the "asocial" paradigm views the relationship between linguistic forms and

their functions as being arbitrary, the "socially realistic linguistic" paradigm sees the relationship between linguistic forms and their functions as being explicable in terms of the pragmatics of their context of use.

The material for the Persian illustrations are from my own continuing study of Persian speech variation and from the studies of many other scholars in this field. The discussion of Jaheli and Armenian in this paper is strictly based on my own research[1] and on the questioning strategies and the questionnaire found in Zamir (1982; Appendix B). The data in this study is drawn from seventy eight separate recorded interviews with native speak- of Farsi who were born and raised in Tehran (See Appendix A in this paper for a complete social profile of informants.). The interviews were conducted by this writer and a second interviewer both in Tehran and in this country at various intervals during 1978-79.[2] In addition to the direct interviews, the data is supplemented with material from mass media sources such as several segments of news broadcasts, poetry recitations, recorded albums of popular songs, recorded volumes of theatrical radio plays, etc.

Labovian methodology and interview procedures were used for the most part (See Labov, 1972b). Thus data was elicited on the basis of five context-specific styles: (1) casual or spontaneous speech, (2) careful speech, (3) reading style, (4) word list, and (5) minimal pairs. The data was also obtained and evaluated on the bases of perception tests, repetition tests, self-evaluation, classroom correction tests, and "matched guise" tests. Subjects were selected with consideration as to age, education, sex, religion, and ethnic membership. The selection was based on semi-random sampling rather than strict random sampling. The method of quantitative measurement was used (Zamir, 1982) to evaluate the major phonological variables with regard to the various non-Armenian social parameters. However, since this study presents the first introductory account of the basic features of Armenian Persian, and since the fundamental structure of this dialect is not yet well understood, it was felt that it would be more profitable not to concentrate on limited linguistic variables but to present a broader description of the variation based on a non-quantitative method of measurement.

2.0. JAHELI

2.1. The word 'Jahel' in Persian refers to a member of a particular social class. This social class is also called Jahel (or Jaheliyæt or Jahelan). The members of this social class speak a particular dialect which is closely related to the vernacular: It has its own distinct flavor and characteristics. All Persians can recognize this speech and readily assoicate it with the social class of Jahels. They commonly refer to this dialect as the sæbk-e Jaheli 'Jaheli style', or 'Jaleli manner', or Ton-e Jaheli 'Jaheli tone', or simply Jaheli. I will also employ the term Jaheli to refer to this variety of speech.

The Jaheli speech is not only well known to the general public, it has, however, been discussed in literature by such prominent authors as

Sadegh Hedayat. However, its linguistic structure and distinct grammatical properties have, to the best of my knowledge, been left undescribed by linguists. Descriptive grammars and conventional textbooks have also, understandably, ignored Jaheli from the standpoint that this manner of speech is "undesired," "degenerate," and therefore unworthy of description. The present paper thus may be seen as the first of its kind providing a brief introductory account of this speech with the emphasis on certain contrastive features.[3]

2.2. THE SOCIAL MAKE-UP. The word "Jaheli' is a derivative of 'Jahel' or 'Jæhl' which dictionaries today commonly define as "ignorant."[4] However, historically, the word 'Jahel' dates back to Jaheliyæt which refers to the pagan state of the Arabs before Islam. Evolving to a new sense in early post-Islam, Jaheliyæt became closely associated with the character of æyyars,[5] a social institution infused with Islamic philosophical thoughts (a social institution such as the Sūfīs, but quite distinct from it). The meaning of Jaheliyæt and Jaheli as associated with æyyars has remained mostly unchanged throughout the centureies up to the present and may be characterized as possessing, perhaps more than any other quality, the quality of being MAN-LIKE, as understood within the Persian culture; a quality that is most consistently expressed by Persian speakers (of both sexes) with the native words mærdane or mærdanegi, 'manly; man-like.' The social meaning of "manhood" in Persian, as in the western cultures, contains that all-encompassing universal sense as in "he's a real man," "he's like a man," "he acts or stands up like a man," "he's got a man's character," etc. but, perhaps like the Latin culture, it contains a stronger sense of chauvinism--and extends somewhat beyond to having chivalrous qualities or having the virtue of being able to protect the "chastity" of one's wife or daughter (the words ba-namus and ba-qeyræt are often closely used in relation to this quality in Persian). In addition to having, in general, a "manhood" quality and being "tough," there are other qualities that are commonly attributed to Jaheli and Jahel. A Jahel not only is supposed to stand up for his own rights but for the rights of others and protect the weak and the needy; when he "gives his word," he "must" never go back on it; he is "supposed" to be pious and strictly uphold the principles of Islam. A man who has such qualities is labeled with the folk expression: daš-mæšti (roughly) 'rogue' (for more detail and complete definition, see Note 6). In the words of several informants, a "true Jahel" must be a daš-mæsti or must have daš-mæsti qualities.[6]

In addition to these somewhat embellished social meanings prevailing in the "spirit of the nation" (Volksgeist) towards Jaheli, there are concurrent, extended, and, in some ways, paradoxical qualities that are also attributed to Jahels. Being tough, Jahels, historically, have adversely dominated their locales and because of social conditions have taken the law practically into their own hands while ostensibly claiming to "protect" the neighborhood from thieves and other evildoers. Because of their notoriety, they acquired clout in the local communities and established pockets of power often using the public sport places called zur-xane as their power bases--places where ancient Persian sports are practiced (quite distinct from the usual sport clubs used for modern sports). As a result, they not only influence the local politics of the community but,

as the recent political history of Persia reveals, they also played an instrumental role in directing he political system of the country (cf. Wise and Ross, 1964: The Invisible Government).[7] Today their roles have changed somewhat but still by virtue of being thuggish, they corner the traffic in the local markets, particularly in the low income areas of southern Tehran, and skim off the profits. In this role, they are commonly referred to as baǰ-gir, 'tax taker; toll taker; or blackmailer.' Thus, from this perspective, people also attach to Jaheli qualities that may be seen as attributes of hooliganism. (However it should be noted that these attributes may not be taken in isolation, but rather in the context of the Persian culture where society at large appears to show a higher degree of latitude towards such attributes as those exhibited in a given Jaheli context (see below); and that, further, such values are only a part of a mixture or a cluster of values--some of them discussed earlier--attached to the social meaning of Jaheli).

Jahels generally have their own circles, and in their interactions they make use of a rich, ritualistic, and in some ways, a highly stereotypical speech. In recent decades the figure of the Jahel has been nationally popularized through the mass media. Given below is a list of some common Jaheli expressions. Some of them were originally used in radio plays (such as the very popular play, Sæhr-e Qesse 'fairytale city') by actors playing the part of a Jahel. (My informants later in the interviews were able to identify in the "matched-guise" test and self-evaluation tests the speakers of these expressions as Jahels. The intention of the test was specially to find out if subjects could distinguish a non-Jahel Tehrani speaker using a very colloquial language from a Jahel. Over 90% of the people to whom the "matched-guise" test was given did make the distinction.) (Note the transcriptions below do not show suprasegmental features of pitch and stress which, as I will discuss later, are quite distinct in Jaheli and are definitely different from that of the standard or the colloquial.)

Expressions	Meaning
1. /næffæ s-keš/	(lit. you who breathes) (Slang expression for threatening an opponent.)
2. /boro bezzæn ǰa/	Back off! (lit. go hit place)
3. /čaxxan nækkon ba/	Don't bull shit (me), pop! (lit. don't lie, pop)
4. /xeyli mærdi daš/	You're a real man! (lit. you're a lot of man, brother)
5. /boro ba/, (or /boro baba/)	Get lost! (lit. go pop)
6. /ærva æmmæt kur xundi/	You bet you're dead wrong! (lit. to the spirit of your aunt, you read blind)
7. /læb tær koni abǰiš-o be xær mikešæm/	All you have to do is mention it and I'll make an ass out of his sister! (lit. you wet your lip I pull his sister into donkey)
8. /læt-o pareš mikkonæn kartiš mikkonæn/	I'll make him into little pieces, I'll slice him up. (lit. I tear him apart make him knife-like)

9.	/vel kon ba/	Forget it! Let go! (lit. let loose pop)
10.	/bæčče-e æbdet-e æbbidet-e moxlest-e ǰir ǰiræket-e/	The kid is your slave, your devoted friend, your worshipper, your cricket.
11.	/zæbun derazi mikkone/	He puts his foot in his mouth. He can't keep his trap shut.
12.	/mussio do tægæri befrest/	Mister, give me two cold beers. (lit. Mr. send two hail-like beers)
13.	/beppær bala sævvar šo/	Get in (the car)! (lit. hop up ride)
14.	/væz-e malliš as-o pass-e/	His economic condition is bad (in ruins).
15.	/pul næræ væli šaræg ke daræm/	I don't have money but I have a lot of guts! (lit. I don't have money but I have a radial vein)
16.	/tillifeš mikkoni ǰa xali mikkone/	You telephone him but he does not answer. (lit. you telephone him he empties his place)
17.	/qorbunet beræm daš/	I'm at your disposal. (lit. I become your slave, brother)
18.	/næzzæn pessære xub/	Don't hit, patsy! (lit. don't hit good boy)
19.	/dænde-o čaq kon berim/	Let's shift the gear and go! (lit. make the gear fat let's go)
20.	/keraæto ræd kon biad/	Give me your rent (fee). (lit. pass on your rent to come)
21.	/dæs-xoš ba/	Thank you! (lit. good hand pop)
22.	/čakkeretim bæd xa mæd xa næri ke/	Let me be your servant. Hope you won't run into people who wish you misfortunes.
23.	/xaš mikkonæm beffærmaid/	Please come!
24.	/aqa čæp čæp niga mikkone/	The guy gives you bad vibrations. (lit. the man looks left left)
25.	/hæmčin bezzæm tu mæqzeš/	I'll smash his brains in so ... (lit. such I hit in your brain)
26.	/xeyli xam šod bæčč-e halu-e/	The kid is dense, gets convinced easily. (lit. he became raw, kid is naive)
27.	/mozæxræf mibbafe/	He talks nonsense! (lit. he sows drivel)
28.	/be-ma bærg mizzæne/	He cheats us! (lit. he hits us leaf)
29.	/mæge mizzare ab kuf konim/	If he only let us drink (swill) water!
30.	/ešqæš sællamæti hazzerin/	We're having a jolly time; toast to all present. (lit. it is love, health present)

As these expressions show, many of the Jaheli's everyday expressions are on the crude side, and depict condescending and chauvinistic attitudes. At the same time--and paradoxically--they make extensive use of a repertoire of self-deprecating parlance. For example, note the following routine expressions: čakkeretæm 'I'm your obedient servant'; nokkæretæm 'I'm your servant'; moxlesetæm 'I'm your devoted friend'; vakse kæfšetæm 'I'm the wax on your shoe'; suske xunætæm 'I'm the cockroach of your house'; kæfše patim 'we're the shoe on your feet'; zæmine zire patim 'we're the earth under your feet,' etc. The idea of "manhood," discussed earlier, is reflected in many Jaheli everyday

expressions. For example, the word sibil 'moustache' has a special meaning of virility and masculinity for Jahels, and thus when Jahels "give their words," they often use oaths that imply or refer to their moustache, hence: be-ǰune sibilæm '(I swear to the) life of my moustache,' be-in sibilæm '(I swear to) this moustache,' be sibbile mut qæssæm 'swear to the hair of your moustache,' etc. (Incidentally, a "real" Jahel wears a moustache!). The same notion of manhood is evident in their other "repertoires of oaths," which are aplenty: be namuse madæræm '(I swear to the) chastity of my mother'; be mærdit qæssæm 'swear to your manhood'; be šæræfe xake pake madæræm 'swear to the (sexual) honour of the impeccable earth of where my mother comes from.' There is even a verb made up from the noun 'man' in Persian which has quite a large currency in Jaheli: mærdi kærdæn, or mærdanegi kærdæn (lit. 'manhood do') 'to do things apropo for men,' and the same verb has also a negative form, namærdi kærdæn (lit. 'not manhood do') 'to do things not apropo for men.' Likewise, the same machismo ideas occur abundantly in their insults: xeyli ǰakeš-o binamuse 'he's a real pimp without sexual honour'; na mærde šire na pak xorde 'oh, you, poor excuse for a man, who has suckled impure milk' (i.e., your mother is a whore). However, true to their chauvinistic posture, Jahels avoid using insults--expecially those of a sexual nature--in the presence of females.

Their everyday parlance also strongly mirrors their religious and philosophical convictions. Their expressions are full of references to early spiritual leaders of æyyars and to Shi'ite imams (expecially to Alí, the first Shi'ite imam and his wife Fatima--who was also the daughter of Mohammed and was entitled Zahra--and their sons Hassan and Hussein). Thus, the names of these figures pop up rather frequently and are often brought forth as witness to their words and testimonies. This gives a special flavor to Jaheli speech. Thus one hears such expressions frequently: ya fateme hæsæn-o hoseyn 'O, Fatima, Hassan and Hussein!'; be mola ali 'in the name of Master, Ali'; hu ya molaye mottæqqiyan 'O, the Master of Moteghian (a Shi'ite denomination).' In oaths, too, naturally, the names of these figures are brought out: qæsæm be namus zæhra '(I) swear by the chastity of Zahra!; be mola æli '(I) swear by Master Ali.' Contrary to what one might expect, these names are not excluded from the insults and taboo expressions of Jahels: be mola æli toxmeš-o be xær mikkešæm, (lit. 'in the name of the, Master, Ali, I drag his balls to donkey') 'In the name of, Master, Ali, I'll have him screwed by a donkey.'

The philosophical notion of fatalism, classically associated with sūfīsm, æyyars and in general with Islamic thoughts, is also well-ingrained in the Jaheli culture and its linguistic manifestations well reflected in the Jaheli speech. Note the following expressions: boro ke æli pošt-o pænahe 'Be on your way (and rest assured that) Ali will look after you'; zende baši mola æli yar-o negæhdaret 'May you live long, Master Ali is your friend and keeper.' The idea of fatalism is quite often reflected in expressions of resignation and acquiescence to a meager worldly existence: qæzaye ǰahel nun-o mass-e 'The daily subsistence of Jahel is bread and yogurt; pul næræm væli ša-ræg daræm 'I don't have money to give but I can give away my life (to you, e.g.).'

The unique position of Jahel and Jaheli in the Persian culture, thus,

elicits mixed attitudes and feelings from the general populace. Depending on the informants attitude and social standing, characteristics attributed to the Jaheli varied from piety, rightiousness and toughness on the one hand, to toughness, agressiveness and hoodlum-like behavior on the other hand.

Here are some of the attributes which are used to characterize Jahel and by extension Jaheli speech: man-like, piercing, aggressive, beligerent, smart (aleckey), street-wise, helpful, protective (particularly of a woman's chastity; special Persian words employed--ba-namus and ba-geyræt), obnoxious, trustworthy, reliable (true to their word), bossy, condescending, generous, tãunting or menacing, thuggish, sanctimonious (or religious), pugnacious, and tough. It should be mentioned here that these attitudes are lodged to some degree along lines of social stratification. For example, the lower social groups, more often than not, would offer more amiable qualities and even show a certain degree of admiration towards "true Jaheli"; on the other hand, the socially "sophisticated" while granting them all the chivalrous and manhood qualities, consider them "traditional" and old-fashioned," and accept them as individuals only in a somewhat snide and haughty manner. For example, in the interview the latter group would often hail the virtues of Jaheli, but when asked, "Would you like to see your daughter marry a Jahel?" the answer would invariably be an emphatic: "Oh, no!" The lower social group would answer the same question with something like, "Why not?"

2.3. OVERT LINGUISTIC SIGNALS. In addition to its special idiom and lexical differences, the Jaheli pattern of speech has three significant and overt phonological characteristics.

1. Medial Consonant Gemination. In a polysyllabic word the first consonant that occurs between two vowels may be geminated. This process can be represented as follows:

$$\begin{bmatrix} C \\ +\text{cons} \\ -\text{voc} \end{bmatrix} \longrightarrow C_1 C_1 \;/\; \#\,(C)\,V \text{———} V$$

For illustration note the contrasts between the colloquial and the Jaheli examples below. To make a valid illustration of Jaheli, note that one has to establish the existence of contrasts between Jaheli and the "colloquial" (i.e., if there is a colloquial alternant) and not between Jaheli and the more formal forms.

Colloquial	Jaheli	Meaning
/ketab/	/kettab/	'book'
/pesær-e mæn-e/	/pessær-e mæn-e/	'He's my son.'
/polo/	/pollo/	'rice' (cooked)
/mizare/	/mizzare/	'he puts'

/bepær/	/beppær/	'Jump!'
/boro/	/bor̄o/	'Go!'
/šater/	/šatter/	'baker'

The gemination rule is a rather productive one in Jaheli and appears to apply to most words that have the necessary phonological environment. However, names of religious figures (referring to the holy religious people) are one set of exceptions to the rule. Thus the medial consonants in /æli/ 'Ali,' /hæsæn/ 'Hassan,' /hoseyn/ 'Hussein,' /fateme/ 'Fatima' do not geminate when the Jaheli speaker intends to refer to the religious figure. However these names are also given to ordinary people. It is of some sociolinguistic interest to note that when the Jahels refer to ordinary people who have these names gemination rule does frequently apply, thus: /ælli/ , /fatteme/ , /hæssæn/, /hosseyn/ are also found when the referent is a non-religious figure. Why the rule does not apply to religious figure appears to be quite understandable. Since Jaheli is in general a somewhat condescending mode of speech there seems to be a social constraint on the speaker forcing him to monitor himself and thus blocking the application of the (Jaheli) rule to those names that he regards with high spiritual esteem. Clearly, we can see here the transparent relationship between form and function and how the function of the word determines its form.

2. Stress Shift. Ferguson (1957), Hodge (1957), Henderson (1972), Mackinnon (1974), et al. have analyzed the stress pattern of Persian. It is shown generally that almost all words have a final word stress, with the exception of (a) words that contain one or two (stressed) prefixes, and (b) words containing one or more of certain (unstressed) suffixes.

A significant feature of Jaheli style is that not only verbal forms carry the primary stress on the initial syllable (with a clearly noticeable higher pitch than in normal speech) but in nouns and all other parts of speech, there is a significant shift of primary stress to the initial syllable. Thus, it can be safely stated that in the Jaheli style, we obtain a RECESSIVE STRESS pattern for all forms. Following the SPE (1968) notational conventions, the Jaheli stress pattern may be formally represented as follows:

$$V \longrightarrow [\ 1\ \text{stress}]\ /\ \#\ (C) \text{———} X\ ]_{NVA}\ \ldots$$

Thus, note the following examples which include nominal, verbal, adjectival, and other parts of speech:

Colloquial	Jaheli	Meaning
/medád/	/méddad/	'pencil'
/pælǽng/	/pǽllæng/	'leopard'
/qæšǽng/	/qǽššæng/	'beautiful'
/poštibán/	/póštibun/	'support'

/bárikælla/	/bárikælla/	'how excellent!'
/išūn/	/íššun/	'they'
/míxore/	/míxxore/	'he eats'
/bézar/	/bézzar/	'Put!'

The stress shift rule is also very productive. Interestingly enough, this rule too does not apply to names that refer to religious figures, (hence, /ælí/ 'Ali,' /hæsǽn/ 'Hassan,'. . . remain in Jaheli with the stress on the last vowel) though it does apply when the same names refer to ordinary people (thus, /ǽli/, /hǽssæn/, . . . with the stress on the first syllable, the Jaheli stress pattern).

3. Vowel Lengthening and Rising Pitch. The final vowel of all lexical elements is lengthened and may be represented as follows:

$$V \longrightarrow V : / \text{———} (C) \#$$

Condiser the following examples:

Colloquial	Jaheli	Meaning
/næzæn/	/næzzæ:n/	'don't hit'
/yaru/	/yaru:/	'he' (derog.)
/piaz/	/pia:z/	'onion'
/umædæn/	/ummædæ:n/	'they came'
/mozæxræf/	/mozzæxræ:f/	'nonsense'
/be sælamæti/	/be sællumti:/	'to your health!'
/ǰæfæng/	/ǰæffæ:ng/	'absurd'

This rule is even more productive than the other two major rules given above, and applies with higher frequency than the others. This rule, too, does not apply to names referring to religious persons. It is important to note that the above final vowel lengthening is invariably coupled with a significant rise in pitch (in the final syllble), a process that might well be described as a rising "drawl."

In addition to these very general rules given above, there are also other minor Jaheli rules that are not as productive and may apply to only a small class of words. For example: By the process of devoicing /divar/ 'wall' becomes /diffal/in Jaheli. Or by a process of softening and coalascence--that occurs rather frequently in the colloquial Persian--some verbal forms are further affected, e.g., /nædaræm/ 'I don't have' becomes /næræm/, etc.

2.4. USE OF JAHELI BY OTHER MEMBERS. It is important to note that today the use of Jaheli speech is not limited to only the members of the Jahel social class. Rather, many features of this dialect have been adopted by all Tehran native speakers as an additional range of repertoire (see Fishman, 1970; Kachru, 1982) and the speakers use the distinct Jaheli features whenever they wish to express sentiments that resemble those of Jahels, e.g., agressiveness, toughness, beligerence, being condescending, etc.

When expressing Jaheli sentiments, not all of the three processes cited above may occur together in the speech of non-Jahels. When they do occur together, as in the speech of Jahels themselves, or in the speech of the informants when asked to stereotype the expressions of the Jahels (and they would "exaggerate" beyond their own actual Jaheli speech norm), such variants are obtained: /ketâb/ → /kétta:b/, 'book'; /nǽkon/ → /nǽkko:n/, 'don't do'; /bézæn/ → /bézzæ:n/, 'hit,' etc. From the repetition test that was given to the (non-Jahel) informants, it was found that the most frequent occurring process was the process of vowel lengthening and rising pitch which had a total percentage occurrence of ninety-six percent; next the stress shift, eighty-three percent; and the least occurring feature was medial consonant gemination, thirty-three percent.

There have been in recent years a number of researchers who have contributed to the subject of stylistic variation in Persian, such as Boyle (1952), Hodge (ibid), Vahidian (1963), Jazayery (1970), Bahar (1971), Henderson (1972), Archer and Archer (1972), Beeman (1974), Modaressi (1978), Jahangiri and Hudson (1982). It can be said that most of these authors agree with the dichotomy of Hodge which divides the stylistic scale of Persian into four levels. Hodge has shown that variation in Persian occurs for many lexical and phonological items along a "wide and steep cleavage" scale of style, ranging from very formal, "quotative" to "normal" to "deliberate" and to the very informal, "colloquial."

Now, the results of the Jaheli research show that it would be possible to extend the range of style in Persian speech a step further towards the vernacular in the direction of informality to, what I have referred to as, the Jaheli style. I have argued elsewhere (Zamir, 1982) that the Jaheli style of speech clearly falls within the range of Casual Speech, as defined by Labov (1972), but remains at the extreme end of the range of Casual Speech. The systematic phonological and lexical features of this style is employed by the general populate to signal those sentiments that are associated with Jahels. That is, Jaheli is a style that can be utilized by a speaker in everyday situations, such as in arguing with his friends, confronting strangers, etc., whenever he wishes to express such sentiments (of course, this does not mean that he must use Jaheli features for expressing such sentiments--obviously, there are means of discourse other than Jaheli that are also available to him): These sentiments, are, of course, of a certain type, but they are no more out of the ordinary than are many other sentiments which one would express during the course of casual conversation--it is just that in Persian such sentiments may be expressed by certain rather overt and consistent clues, such as rising pitch, stress shift, etc. which can ultimately be used as viable criteria to assess the nature of the communicative act.

2.5. By delineating the nature of the Jaheli style, I have tried to draw a parallelism between the linguistic variation and certain patterned modes of social behavior. We have seen that linguistic variables in Jaheli correlate with certain perceptions. From this point of view, the Jaheli social dialect and the Jaheli style may be used to fulfill the need for expressing rather unique and culturally-specified modes of conduct. The Jaheli repertoires of speech, I suggest, will facilitate the monitoring

of unique social patterns of interaction.

3.0. ARMENIAN PERSIAN

3.1. I will now discuss the features of Armenian Persian (AP): This is a variety of Persian spoken by the Christian Armenian minority in Tehran. The variation arises from the profound and sharp cleavage that isolates the Armenian Christians from the Moslem majority. The term "Armenian Persian"[8] (AP) must not be confused with the Armenian language. While there has been a large volume of scholarly work done on the Armenian language, to the best of my knowledge, there has never been any work done on this particular dialect of Persian.

It must be apparent from the outset that when we speak of AP speakers, unlike relatively homogenous regional dialect speakers of tiny rural areas, we deal with a heterogeneous social group. As one might expect with any urban social dialects, such as Indian English or the Black English Vernacular, there is a "cline of variability" (See Kachru, 1982) that exists in perfomrance in speech within the speakers of the community. Clearly, not every speaker of Indian English or the Black English Vernacular manifests the same kinds of deviations from the norm. Likewise, one should not expect, for example, a well educated and socially mobile Armenian speaker of Farsi to show the same linguistic characteristics as an Armenian corner grocer.[9] The "social distance" of the speaker from the core of Iranian society appears to be the most important criterion for determining the cline of variability within the Armenian speech community.

3.2. A SOCIAL PROFILE OF ARMENIANS. Today, of course, there is no politically autonomous country called Armenia. Because of its geo-strategic position between the East and the West, Armenia often has been trodden on and invaded by various conquerors historically, such as Xerxes, Alexander the Great, Antony, Genghis Khan, Timur, and Suleiman the Magnificent. The invaders invariably pursued a policy of religious and cultural assimilation and, thus, the very existence of the Armenian people was threatened. However, as is noted in The Armenian Weekly (10/30/75), "Armenia owes the preservation of its people, not only to the firm resistance shown by its people, but also to St. Mesrob's great invention of the Armeian alphabet, which occured early in the fifth century." The linguistic identity mobilized by Mesrob's invention provided the very weapon which, by having awakened national consciousness, inspired and enabled the Armenian people to wage the long struggle for autonomy that has continued up to the present time.

At present, the major Armenian population is concentrated in the Soviet Union and extends to parts of Turkey and the northern and central parts of Iran, mainly in the urban centers.

Armenians are truly a nation without a country. Because they have had no geo-political autonomy in recent history and because they live in a part of the world where autocracy and political tyranny historically has been the rule, Armenians have been impotent, politically, to assert their

rights. They have been subjected, thus, to severe human sufferings and persecutions.[10] Such unfortunate facts of modern history have contributed to a mass dispersion of the Armenian people to many parts of the world for refuge and a better life. The Armenian diaspora to Iran had begun in 1605, by a mass exodus of the industrious Armenian population for re-settlement in Persia. Because they were excellent builders and architects, Armenians were attracted to Persia under the reign of Shah Abbas of the Safavi dynasty to help build the magnificent mosques and palaces in Isfahan. There has been a steady stream of migration ever since. Authoritative figures on linguistic minorities are not available, but based on Marvin Zonis' (1971: 179) estimation on the basis of various figures, there are approximately 270,000 Armenians in Persia, with an unproportionately larger concentration in Tehran.

They have been accepted in Iran with, perhaps, less resistance than in other neighboring countries but, by no means, free from the prejudices and biases of the Persian population. And, in general, they have been subjected to the same kind of denigration that most minorities in the world have been destined to suffer.

In spite of all this, and in spite of the fact that they are a people without a country, Armenians have a great sense of national identity, heritage and self-pride that continues to contribute to their survival as a people.

In earlier periods, Armenians lived mostly in certain parts of the city of Tehran. But today they live mainly in lower to middle class neighborhoods scattered throughout the central and northern part of the city. Today, some are self-employed in Tehran, running small businesses, such as shoe shops, delicatessens, grocery shops, automobile repair shops, etc., and most occupy semi-skilled factory positions, such as machine operators, mechanics, truck drivers, etc. In very recent years there are also some who hold white-collar jobs.

Armenians put great emphasis on education, and up until the present anarchy in Iran, had their own churches, recreational clubs, and schools up to the twelth grade. However, there were strict governmental limitations on curriculum and the subjects taught in these schools. For example, Armenian schools were required to teach the same six hours of subjects daily that all other public schools were required to teach in high school, and instruction had to be conducted only in the Persian language; however, the Armenian schools were allowed to teach one additional subject in the native Armenian language that covered historical and cultural aspects of Armenian. In addition, in recent years some Armenian families have sent their children to all-Persian schools.[11] No higher educational Armenian institution has ever been founded in Iran. Although the present constitution in Iran grants the Armenians the right to self-education, the present de facto conditions that have encouraged the rise of extreme Islamic fundamentalism has forced them to close many of their social institutions and many of their fine school; and, Moslem Persians are banned officially from attending any Christian churches or schools.

3.3. A SOCIAL AND LINGUISTIC CHARACTERIZATION. The Armenian identity within Persian society stands out as being quite distinct from the majority population. The most striking element in their identification is the distinct nature of Persian spoken by the Armenians, which I have referred to in this study as "Armenian Persian" and as I have indicated, the term must not be confused with the language of Armenian which is a totally different language, taught and learned at home and school as the first language (in order not to confuse the terms, the word Armenian is underlined when reference to the major language is intended). The other major distinction, which is not, of course, overt, is their being Christian, which sets them apart from the Moslem majority.

In their inventory of vowel phonemes, the following contrasts between the standard and the Armenian Persian variety can be made. In oder to provide a more palpable sense for comparison, the differences are shown on the basis of Daniel Jones' (1950) cardinal vowel diagrams (see Figures 1 and 2 on the following page). In the diagrams of Figure 1, the tongue positions of the vowels of the two varieties are compared separately with those of the eight cardinal vowels; in Figure 2, the comparison of the tongue positions of the vowels of the two varieties are shown in one single diagram (on the same scale of cardinal vowels). The impressions shown for the standard variety are those given directly by Lambton's Persian Grammar (1963: xiv). As can be seen, the standard Persian vowel system comprises six members, four of which (/i, æ, u, a/) are the same as the cardinal vowels, and the other two (/e, o/) are in between the range of mid front and back cardinal vowels. The Armenian variety also has a system of six vowels, but the phonetic characterization of some of the members are quite different. The phonetic quality of /i, u, o/ of the Armenian Persian are quite the same as the standard. The mid vowel /e/ is somewhat lower and further back than the standard, i.e., it is more in approximation of the /E/ of the cardinal vowel than the /e/ of the cardinal vowel. The standard variety has no mid central vowel while the Armenian variety, on the other hand, has. This central vowel has a relatively distinct auditory impression, almost the same as the German schwa but somewhat more tense and slightly higher (towards the English /ɨ/). The Armenian Persian /a/ is somewhat similar to the standard Persian, however, the back of the tongue is slightly more forwarded and slightly more raised; in addition, its phonetic quality exhibits a certain minor degree of variation and is less fixed than the other vowels. Apparently, this variable quality of a low back vowel is also characteristic of the Armenian language as is reported by the IPA (1949: 33). Finally, the standard variety has the low front vowel /æ/, while this vowel is totally absent in the Armenian Persian.

The consonantal phonemic inventory shows that, with the exception of the /ʔ/, the Armenian variety has the same segmental phonemes. However, the phonetic property of many of these sounds show some differences in quality, and most of these differences appear to be the result of interference from the Armenian language that is learned at home as the first language. For one thing, the Armenian language has a larger inventory of consonantal phonemic segments. For example, in Eastern Armenian all voiceless stops show a two-way contrast in regard to aspiration (Kachikian indicated to me that these distinctions are not

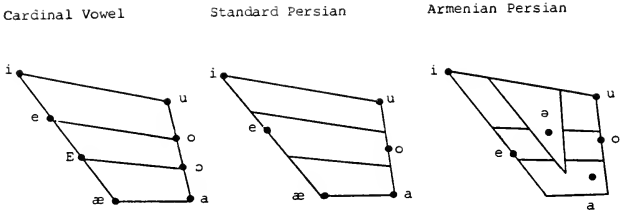

Figure 1: The Cardinal vowels: The vowels of Standard Persian and Armenian Persian on a scale of Cardinal vowels.

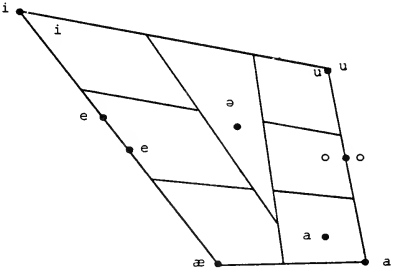

Figure 2: The comparison between the Standard Persian and the Armenian Persian on a scale of Cardinal vowels: All vowels shown outside = Standard Persian; all vowels shown inside = Armenian Persian.

p		t	č	k	q	(?)
b		d	ǰ	g		
	f	s	š	x		h
	v	z	ž			
m		n				
		r				
		l	y			

made in Modern Western Armenian); on the other hand, in standard Persian, the distinctions are not contrastive. Thus, there is a certain degree of interference that occurs as a result of this situation in AP. The same is also true for the "r" sounds: In Armenian, as in Spanish, e.g., there is a contrastive distinction between a tap and a trill, while there is no such distinction in standard Persian. Finally, in Armenian, there are two alveolar affricate phonemes /ts/, and /dz/ which are phonemically absent in standard Persian (and, also, phonetically, they never occur initially in standard Persian).

Below, I will illustrate with some examples some of the main differences that occur between the two varieties.

(a) One of the distinguishing characteristics is that AP does not use the /æ/ and instead, most commonly, /a/ is substituted.

Standard		AP	Gloss
bæd	→	bad	bad
amæd	→	amad	he comes
æql	→	aql	wisdom
qæhve	→	qave	coffee
ræng	→	rang	color
ræxt	→	raxt	cloth

(b) Centralization: æ → ə / ____ r

Standard		AP	Gloss
ærusæk	→	ərusak	doll
dærd	→	dərd	pain
kærd	→	kərd	he did
mærd	→	mərd	man
mærg	→	mərg	death

(c) Raising: o → u/ ___

Standard		AP	Gloss
otaq	→	utaq	room
qolve	→	qulve	kidney
omær	→	umar	Omar (p. name)

(d) h-loss: h → Ø / ___ { # c }

Standard		AP	Gloss
æhmæq	→	amaq	stupid
dehkædeh	→	dekade	village
eštebah	→	ešteba	mistake
dæh	→	da	ten

Note that h-loss also occurs in the standard. But while this is a variable phenomenon in the standard subject to stylistic variations and social constraints, in AP it is categorical.

(e) Degemination: CC → C / ___

Standard		AP	Gloss
ævvæl	→	aval	first
mɔræbba	→	muraba	jam
dovvom	→	duvum	second
tævællod	→	tavalud	birth
mǒjæssæme	→	mǒjasame	statue
hæmmam	→	hamam	bath
hemmæt	→	hemat	iniative

(f) r → r̃ / # ___ (/r̃/ here = trilled)

Standard	→	AP	Gloss
rošæn	→	r̃ošan	light
ruz	→	r̃uz	day
ræhmæt	→	r̃amat	mercy
ræfiq	→	r̃afiq	friend

(g) ?-deletion: ? → Ø / ___

Standard		AP	Gloss
defa?	→	defa	defense
ǒor?æt	→	ǒurat	courage
ǒom?e	→	ǒume	Friday
bæ?id	→	baid	seldom

Note that the (?)-deletion is also a process that occurs in the standard. But while this process is a variable phenomenon subject to stylistic changes

and social stratifications (See Zamir, 1982), in the AP it is a categorical process.

(i) Overgeneralization of Stress Assignment. In standard Persian the following stress assignment rule applies to all unaffixed nouns, verbs, and adjectives:

V → [stress] / [—— Co] $_{NVA}$; AP overgeneralizes it to all forms:

Standard		AP	Gloss
mí-rævæm	→	mi-ravám	I go
nẽ-mikonæm	→	ne-mikunám	I don't go
bẽ-bærid	→	bebaríd	you take
nẽ-konænd	→	nakonánd	they don't do

It is possible that the over-generalization process here may overlap with the interference from the stress assignment rule of the Armenian language: That is, the primary stress of uninflected words in the Armenian language is also almost always on the last syllable (Melkonian, 1979:1), e.g., /amán/, 'plate,' /arév/, 'sun,' /madaní/, 'ring,' /patíg/, 'duckling,' etc. The overgeneralization in AP, therefore, may have come about as a result of the Armenian stress assignment rule.

Lexical substitution from the Armenian language may be cited also for differentiation between the standard Persian and AP. The Armenian language shares a relatively large number of cognates with Persian. The Armenian speaker, speaking Persian, may substitute the Persian lexical item with its Armenian cognate; e.g., standard Persian and the Armenian language share the following cognates:

Standard	Armenian	Gloss
pænir	banir	cheese
medad	madid	pencil
šiše	šiš	bottle
sændoq	sendug	chest; box
juǰe	ǰudig	chicken
mælæx	marax	grasshopper
name	namag	letter; envelope
narenǰ	narinč	orange

Thus, in AP, one can often observe the same Armenian cognates: e.g., for the standard Persian word /pænir/, one hears /banir/, 'cheese,' in AP: The change of /æ/ to /a/ is, as was indicated, a regular phonological change, however, the change of /p/ to /b/ in the AP is not; as was noted the AP inventory of sound segments does, indeed, have a /p/, and the substitution here appears to be, therefore, clearly lexical. Or to take another of the above examples, consider /sændoq/ and /sendug/: Here the change of /o/ to /u/ can be accounted for by the earlier discussed raising rule of AP; the other changes cannot be accounted for by rules: i.e., as was indicated, /æ/ usually is changed to /a/, but here, the AP shows it, instead, as /e/, or /q/ is observed in AP as /g/, and yet, both

varieties do have the same segments in their inventories. The same lexical substitutions can be seen also in the other examples above. Such lexical substitutions also may be a cause for semantic differentiations. For example, both the Armenian and the standard Persian have the word 'Jahel,' however, the use of the word by the AP speaker signifies the straight-forward meaning of 'young,' as in a "young man," etc.; on the other hand, for the standard Persian speaker, the word has a totally different semantic content as indicated earlier.

There are also some noticeable syntactic variations between the standard Persian and the AP, however, these diferences here appear to be more closely connected with the speaker's "social distance" from the mainstream of the community than the phonological differentiation. That is, there is a lesser degree of contrast observable in the speech of the socially mobile AP speakers than otherwise. Among the syntactic differences evidenced by the less socially mobile speakers, reordering of elements in a sentence appears to be the most common one. Although word order in standard Persian is relatively free, there are still, of course, certain orders that are not possible or natural. One such difference which is rather common, occurs in respect to the order of interrogative modifiers and their head nouns: In standard Persian, the interrogatives almost always follow their head nouns; in AP, however, this pattern is treated as optional, and, thus, the reverse order can also occur. Examples:[12]

	Standard Persian	AP
(1) a.	an če æst? "that what is" 'what is that?'	a'. če ast an? "what is that" 'what is that?'
b.	bæčče koja æst? "child where is" 'where is the child?'	b'. kuja ast bače? "where is child" 'where is the child?'

The reordering of adverbial phrases may be cited as another noticeable aspect of differentiation: In the standard Persian, the adverb of time precedes the adverb of place as the unmarked pattern of word order; in the AP the former often follows the adverb of place. Examples:

Standard Persian

(2) a. mæn sa?æte do be xane miræváem
"I clock two to home go-(I)"
'I go home at two o'clock.'

b. ǰahan færda anǰa mirævád
"Jahan tomorrow there go-(he)"
'Jahan goes there tomorrow.'

AP

a'. man be xane saat-e do miravam
"I to home o'clock two go-(I)

b'. ǰahan anǰa fərda miravad
"Jahan there tomorrow go-(he)

There are also a number of other minor syntactic differences: For example, in standard Persian, the é (= 'the') is added to most nouns to form the definite form of the noun; e.g., ketab-é, 'the book,' aqa-é, 'the gentleman,' baba-é, 'the father,' . . . . The AP speaker, on the other hand, adds ne for the same syntactic function when the word ends in a vowel (and for words that end in a consonant, the é is added). Thus, for the same examples above, AP has: ketab-é, aqa-én, baba-én, ... The cause of this differentiation is most likely due to the interference from the Armenian language, where the definite forms of the nouns are constructed by the same two additions (e.g., the definite forms for the Armenian words mama and aman are mama-ne, 'the mother,' and aman-e, 'the plate'). Generally speaking though, the elementary order of words within a sentence are relatively the same in both the varieties. It is possible that in respect to the basic order of words, the Armenian language does not provide a high degree of pressure for interference, since the Armenian basic pattern of word order is quite similar to standard Persian: For example, both, generally, are considered to be SOV languages and both have a relatively free order within this pattern (for Armenian, see: Kurkǰian, 1980: 59). For instance, both can have the free order of N-DO-IO-V, or N-IO-DO-V; or, to form the negative of a verb, both languages add a prefix (Persian = næ ~ ni ~ mæ; Armenian = č-) at the beginning of the affirmative form (e.g., Persian = nist, 'is not'; Armenian = čé, 'is not').

These are some of the phonological and syntactic examples that set the standard apart from the AP. But some of the salient features that are manifested in differentiation can occur also at the discourse level: That is, at the discourse level, there are considerable contrasts in terms of the limited utilization of the total range of the linguistic and stylistic repertoire available to the AP speaker and here lies one major area of differentiation between the two varieties. As Hodge (1957), et al. have shown, variation in Persian occurs for many lexical and phonological items along a wide range of style, ranging from very formal (i.e., "quotative") to very informal (i.e., "colloquial"). I have further pointed out in this paper that it would be possible to extend the stylistic range in the direction of informality a step further beyond "colloquial," and be able to isolate a rather salient "culture-specific" style, which was referred to as the Jaheli style. As was indicated, this style is employed, generally, by the speaker to signal such attitudes as, toughness, manliness, belligerancy, chauvinism, obnoxiousness, crudeness, roughness, etc., and, at the same time, underlined with (what appears to Westerners as paradoxical qualities, such as) piety, helpfulness, protectiveness (of a woman's chastity), generosity, righteousness (in the Islamic sense of religious values), etc. Further, society at large does not necessarily attribute a pejorative sense to some of these qualities that appear to be negative, as one might do in western cultures. That is, the "national character" seems to tacitly accept all such sentiments as proper when they are expressed in the appropriate contexts. As was discussed, this style is not only employed by the social groups called Jahels, but also by all native Tehrani speakers as an additional range of their repertoire, and is used

whenever the speaker wishes to express the (above) "Jaheli" sentiments.

In the interview sessions that I had with my Armenian informants, both male and female, the particular features of the Jaheli style were seldom heard. Further, even though all of them recognize this style when asked to imitate it or relate a story through a third person with the Jaheli characteristics, their speech hardly showed any of the rich vernacular flavor of Jaheli which have been described in this study.

3.4. THE REASONS FOR THE ARMENIAN VARIETY. In the discussion thus far I have shown several broad characteristics that set the AP quite distinctly apart from the standard variety: First, based on the characterization of sound differentiation for each of the two varieties; second, based on lexical and semantic substitutions and the interference from the Armenian language; third, based on syntactic differentiations; and, finally, at the discourse level in the differentiation that is reflected in the limited use of the total range of repertoires, available to the non-Armenian speaker, but not employed by the Armenian.

Based on my initial discussion of the non-arbitrary nature of the relationship between the forms and functions, I will seek to motivate an answer for this relationship. That is, we want to know the "logic" behind the distinctiveness of the Armenian variety.

First, I would want to question, what appears to be, at first sight, the simple explanation, that the Armenian variety is simply a "second language." Such an argument can readily be refuted based on the mass of evidence that we have: That all second generation immigrants (e.g., in America) learn the language of their environment natively. We have seen that the Armenians in Iran after almost four hundred years have not adopted the native language (of Farsi) natively. Thus, this simple answer cannot be fully accepted.

Another simple and yet shallow answer that comes to mind is to attempt to explain away the phenomenon solely in terms of the geographical isolation of Armenians within the city in earlier times (i.e., as I have stated earlier, many Armenians in the earlier periods--up to approximately fifty years ago--lived with a larger concentration in certain parts of the city). And thus because of this isolation, one might say, the differentiation in speech arose. This answer, however, by itself is quite unsatisfactory, since first it does not explain the very existence of AP (i.e., why, for example, do many isolated immigrant communities in America not create their own varieties); second, and more important, it does not explain why this difference in speech persists. It has been suggested[13] that the continuing persistence of AP has to do with the slow assimilation of the Armenian people into the Persian society and that once this assimilation is completed, then the total linguistic assimilation will follow. This explanation, however, as logical and plausible as it may sounds, does not solve the problem. It is quite analogous to saying that Cockney English, Black English, the Indian English dialects, for example, will all some day assimilate to the dominant prestigious norm once the social barriers that separate these populations from the core have been eradicated.

It has rightly been argued that, in most cases, sociological and peer group pressures override the parent-child language acquisition hypothesis, i.e., immigrant children of all nationalities in America, e.g., learn the dominant language (English) rather than the broken accent or the language of their parents at home. In fact, as Salterelli (1976) points out, the native language of the immigrant parents in America, e.g., is doomed to extinction within a period of only three generations. Nevertheless, there are some rare exceptions. A case where family influence outweighs the peer group has been cited by Kazazis (1969) from personal experience, and is reported by Labov. It involves Athens-born middle class teenagers whose parents or grandparents came from Istanbul; though the Istanbul adolescents mixed freely with the others, and were under considerable pressure to change their speech, they did not do so. Such cases, as was mentioned, are quite rare and deserve further in depth social inquiries; however, as Labov states, "in the great majority of cases that . . . [have been] studied or encountered, children follow the pattern of their peers" (Labov, 1972a: 304).

Then one might wonder if perhaps such "socialization processes," as those postulated by Bernstein (1960) and Halliday (1973a: 11-17)[14] are "culture bound" in Iran and are, perhaps intrinsically of a different nature. This argument could be refuted also on the basis of abundant evidence. Without exception, all migrants coming to Tehran from various and totally divergent languages and dialects in Iran--such as the Turks, Arabs, Kurds, etc.--show the same kind of adaptation to the more prestigious dialect of Tehran as would be the case for immigrants coming to America: The second generations show no linguistic differentiations at all.

Perhaps, it can be said that in a country such as Iran, where religion (Islam) is a fundamental ingredient of everyday life, religious differences between the Moslems and Christian Armenians may provide the lone deciding, differentiating factor, in that the religious differences provide the social gaps by which linguistic differentiations ultimately are reflected. However, this argument by itself can be rejected also, based on facts in Iran. As a crucial element to put to the test the fallacy of this argument, another religious Christian minority, namely, the Assyrians in Iran, can be taken into consideration.

The Assyrians number about the same as the Armenians though their history in Iran goes further back, they also have a different racial and linguistic background than that of the Armenians. Their ancient origin goes back to the bordering areas of modern Turkey, Iraq, and Iran, an area that once was called Assyria. Their language, Assyrian, is an old branch of the semitic languages, which is quite distinct from Arabic and Hebrew, and is used still as the language of the liturgy in Assyrian churches but is unintelligible to most average Assyrians. They were among the earliest people in the East who converted to Christianity. Because of the effect of missionaries in recent centuries, today Assyrians belong to various Christian denominations, such as protestant denominations (Armenians have remained mostly undivided and belong to the Gregorian church). In general, they have shared the same tragic fate also as the Armenians in those parts of the world. (For a detailed account of the Assyrian plight, see Jamgochian, 1979).

It is important to point out that Assyrians in Tehran today, unlike the Armenians, do not exhibit any perceptible linguistic differentiations from the dominant standard Persian. The Assyrian informants in this inquiry, however, have indicated to me that in earlier times there may have been a dialect which may have been somewhat distinct from the standard. In particular, one sixty-three year old Assyrian, a native of Tehran, told me that he remembers that his father (who also was born in Tehran) spoke with a special "flavor" which was quite distinct from the Tehrani dialect (but he did not remember its particular features). It is likely that, in earlier times, sociological pressures (such as racial and religious biases, prejudices, etc.) must have been present to such an extreme that a considerable social isolation and social distance from the mainstream of the Iranian society were created for this group; and, out of this isolation arose a differentiation in speech even within a single community. However, because of a trend in the present century for "some" degree of religious tolerance, combined with a rise of industrialization which requires a greater degree of social proximity and coexistence, the Assyrians may be said to have been drawn more into the mainstream of the society, and, as a consequence of this, a total linguistic assimilation has resulted.

Thus, rejecting the notion that social adaptation to linguistic forms are somehow different in nature in Iran, as well as rejecting the factor of religion as the sole criterion for linguistic differentiation between the AP and the standard, we are in a position to ask then: Why is it that the Armenian variety today persists in retaining its differences? That is, considering that Armenian adolescents mix rather freely with others and considering the enormous amount of contact with the standard, such as in playgrounds, markets, streets, radio, television, etc.--not to mention the high degree of contact with the standard in school (which was said to amount to six hours a day)--the Armenian variety still does not adapt to the more prestigious standard variety. Moreover, why is it that, in spite of the enormous negative sociological pressures that the normal Armenian child must face--such as being mocked for his distinct way of speaking--he still retains his parents' or his communal speech?

The obvious answer seems to be that, in this case, the parent or the communal demand for <u>self-identity</u> is so enormous that it overrides the social pressures. But, we still have not uncovered the underlying reasons, for what appears to be unconscious motives, for asserting this identity via language. To answer this question, I am aware that one walks a thin line; i.e., on the phenomenological and existential level, it is very difficult to find logic for one's behavior though one can find reasons for one's logic.

In the course of my interviews, I can sum up two intertwined sets of persistent themes based on psychological and social factors that seem to suggest the reasons for the "logic" of the Armenian variety.

First, the sociological factor clearly suggests the deep sense of "alienation" that the Armenians feel towards a society to which they do not really belong. In the light of what has been demonstrated in this section, it is understood why they feel alienated: We have seen that they

have been subjected to treatment as second class citizens and, because of it, they have not been able to have full social mobility and have not been fully accepted by the Moslem population. The feeling of alienation towards the entire social structure is also apparent in their views towards the current political developments. When I attempted to ask one of the middle-aged Armenian ladies a current political question, which would have evoked normally an almost emotional response from the Moslem Persian, all I got was an indifferent response--a typical response to similar questions. Or when I asked if she was aware of the recent newspaper reports that Armenian schools were being forced to close, she responded by a similar indifferent reaction that best typifies the Armenian sense of alienation from the rest of the culture: She answered: "Oh, yes, I know--but I don't understand why they do that and we haven't done anything to the past or present government," and, then, she added: "We are clannish and we only mind our own business." In other words, the Armenian seems to reflect a sense of "mental rejection" of his social environment.

Second, the psychological factor comes across even more forcefully. That is, the Armenian is fully aware of his "social distance," but this factor is consciously self-imposed. In other words, the Armenian simply doesn't want to take full part in the social system. The meaning of want takes on a social and linguistic significance when we saw that they do not make use of the Jaheli level of style. It was shown that the Jaheli has attached to it certain specific social values that can be summed up as expressing and signalling certain agreesive and intimately "culture-specific" values--values that Armenians do not socially accept as appropriate. For example, when I asked the above Armenian informant what her explicit attitudes were on the Jaheli way of speaking, she showed a clear disdain and added that only bad people talk like that--an attribute that is not generally given to the Jaheli style which is not stigmatized in this way.

The feeling that the Armenian simply does not want to take part in the social process, came up also at many other junctures. For example, it was mentioned to me several times by the various informants that "we are just a different kind of people." And in the course of elicitation of the Armenian variety, I was repeatedly reminded that this speech is not our "own" language, that we have our "own" school, we have our "own" religion, and we speak our "own" language.

The logic of the continuous maintenance of the Armenian variety can be seen, thus, as a deep sense of affinity that the Armenian has for his culture and class, which is transmitted to the child by his parents. It can be assumed that when this sense of connection is strong, then the parent-child relationship overweighs the social and peer group pressures and the "social identity"continues to be preserved.

3.5. CONCLUSION. The discussion in this section, about the AP, like that of the Jaheli, intended to go a step beyond mere description, in an attempt to find logic from the parallelism that exists between the linguistic variation and modes of social behavior in the speech behavior of Armenians. Moreover, attempts were made to offer explanations for this rather "marked" sociolinguistic case study. The explanations here are

clearly suggestive, rather than conclusive, but hopefully they have been insightful enough to have offered convincing explanations for the variation phenomenon in Persian.

NOTES

[1]I would also like to thank a number of scholars for their valuable comments and criticisms of earlier versions of this paper, though any possible errors that may still persist in data and judgment are clearly my own. I am indebted to Professor Braj Kachru (University of Illinois) in particular for making valuable comments and key criticisms and without whose help much would have been overlooked. I would also like to thank Professor Moayyed (University of Chicago) for providing some of the historical information given here about Jaheli, and Arpine Kachikian (Northeastern Illinois University) for important comments on the Armenian data. My appreciation also extends to various anonymous reviewers of an earlier draft of this paper for their interest and sizeable commentaries; these comments have provided me with the opportunity to address certain issues that otherwise would have gone unattended to. Lastly, I sincerely wish to thank all those individuals who generously gave their time for interviews and without whom this project would not have been realized.

[2]Those interviews conducted in this country were done in Chicago and Los Angeles. Because of the post-revolutionary conditions in Iran, there has been a rather large influx of recent Persian immigrants to this country, especially in the aforementioned cities. The present writer, having been born and reared in Tehran, and having complete native competence in Persian, had no difficulty in socializing and in finding adequate and appropriate native informants in these areas.

[3]Clearly, this subject has potential--and deserves--a great deal of descriptive work that would require time and space beyond the scope of this paper and the reader is reminded that the primary goal of this study is, however, more than a mere description.

[4]Hayyem in its 1958 "collegiate" Persian-English edition, provides only a one word definition for Jahel 'ignorant' and in its 1974 unabridged English-Persian edition, for the word 'ignorant' gives the definition Jæhl , which is a derivative of Jahel. However, in the Persian-Persian dictionary, Farhang-e Kaveh, edited by Razi (1961), in addition to the meaning "ignorant," the more archaic sense of the word "young" which is found in literary works is also given.

[5]There are a large number of writings available on æyyars in the West. The earliest among them is by the famous Orientalist Edward Browne (1893).

[6]Hayyem's Persian-English dictionary does not give the word daš-mæšti in its entries; for the word daš, which is related to the word, he gives the following: "tough"; "rogue"; "a loafer." I believe that a combination of all these words, separated with commas, would provide a more accurate translation. Farhang-e Kaveh does provide an entry for mašti and gives the definition ǰævanmærd (roughly) 'young lad' and qeyrætmænd (roughly) 'one

who protects the chastity and virtue of one's wife or daughter', but does not give an entry for daš-mæšti. Therefore, one can roughly give the following definition for this very commonly used--but not fully defined--expression: daš-mæšti = "a tough rogue / loafer who has certain chauvinistic and moral convictions."

[7]A very thoroughly documented case of the Jahels's exertion of power in the recent history of Persia (see D. Wise and T. Ross, 1964) was demonstrated in the coup d'etat of 1953 in Tehran and the U.S. involvement which led to the return of the former Shah from exile to Persia. Instrumental in this coup was a person, whom informants commonly name as the most influential Jahel of the time, by the name of Sha'ban Jafari, the head of the main zur-xane (sport club) in Tehran. It is commonly reported that it was he and his supporters, backed by U.S. help, who led the general uprising and ousted Premier Mosaddeq, and thus ended the prevailing power struggle.

[8]This label was suggested to me by Professor B. Kachru.

[9]That there exists a steep cleavage (both qualitatively and quantitatively) between AP and the standard norm, as the empirical data in this research show, is an undisputed fact--albeit this differentiation occurs along a "cline." This difference occurs both linguistically--as I will show later in this paper--and attitudinally: To assess and determine the nature and the disposition of the attitudes of the speakers towards AP, several questions were included in the questionnaire (See Zamir, 1982: 454). Specifically, I put the following question to all of my seventy-three non-Armenian informants: "Have you ever known--in your lifetime--an Armenian individual whom you were not able to identify as Armenian by the sole criterion of his speech characteristics?" The answer was a resounding one hundred percent negative, even though a handful of them indicated to me that they knew such and such (an educated) person who showed only minor differentiations, but that they might not have recognized these differences initially in their contacts, however, they could recognize the person as being Armenian in longer stretches of speech. Whether there are some rare Armenian speakers who do or do not show contrast in speaking Farsi, is a moot point, and considering the close social proximity of the two groups, I definitely do not rule out the possibility that such individuals do in fact exist, particularly in the newer generation; but such individuals remain clearly at present, as exceptions. It is interesting to note, in passing, that when the same question was asked of the Armenian informants, most indicated that, yes, they knew of many Armenians who showed no differentiation in speaking Farsi. The different responses then appear to suggest a gap in attitude and perception towards AP--both on the part of the Armenian and the Persian speaker.

[10]At the turn of this century over one and a half million Armenians were the victims of massacre and genocide by the Ottoman Empire--a dark chapter in the twentieth century which seems to have gone, for the most part, unattended to (perhaps being overshadowed by the holocaust of the two world wars; for a moving account of this period, see Toynbee, 1915). Although some limited local autonomy was granted in post-revolutionary Russia, Stalin's treatment of the Armenians, too, was one of oppression.

[11]A reviewer of the earlier version of this paper has pointed out that beginning with the second half of this century many of the new generation of Armenians who have attended all-Persian schools do not show any differentiation from the standard. If, in fact, this is the reality for many of the young generation--and this situation appears to be entirely plausible and natural and, in fact, expected almost everywhere in the world--then the number of these young individuals still remains relatively small at present, since neither I, nor any of my informants have encountered such individuals.

[12]Note that it is a common practice among the authors who work on Persian syntax to provide the syntactic illustration in the "formal" or the "written" form (see Soheyli 1976, Hajati 1977, et al.). This practice presents a uniformity of presentation, makes the presentation more legible, and eliminates the explanations of myriad irrelevant points that do not rightfully belong to syntactic discussions and are well treated in morphology. I have also followed the same tradition here. Thus such changes as enclitic reduction, copula contraction, personal pronoun deletion, etc., (which are not the subject of discussion here) that occur routinely and almost categorically in the informal Persian and also in AP but do not occur in the "written" Persian are not represented here.

[13]This suggestion came from an anonymous reviewer of this paper.

[14]Halliday, drawing on Bernstein's (1960) earlier hypothesis, contends that a child during the course of his development adopts, based on his needs, certain socialization processes or "models," such as "instrumentality," "regularity," "interactionality," "personality," "heuriscism," "immagination," and "representationality"; out of the functions of these "models" or "images," "language arises. For Halliday, then, "language is 'defined' for the child by its uses; it is something that serves this set of needs" (1973a: 17). (For further details, see Halliday, 1973a and 1973b.)

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APPENDIX

Education

	One or more years of college (C)	6-12 years of school (H)	Under 6 years of school (G)	
8-19 (Y)	1. Female (18)	1. Male (14)	1. Female (8)	A
	2. Male (18)	2. Male (15)	2. Female (9)	
	3. Female (18)	3. Male (16)	3. Female (9)	
	4. Male (19)	4. Male (17)	4. Male (11)	
	5. Female (19)	5. Female (17)	5. Male (12)	G
	6. Male (19)	6. Female (17)	6. Male (12)	
	7. Male (19)	7. Female (17)	7. Male (13)	
	8. Male (19)	+8. Female (17)	8. Female (15)	
	9. Female (19)			
	10. Female (19)			E
20-39 (A)	+1. Male (20)	*1. Female (20)	1. Female (20)	A
	*2. Male (24)	2. Female (20)	2. Female (20)	
	+3. Male (24)	3. Male (21)	3. Male (21)	
	4. Male (25)	4. Female (22)	4. Male (33)	
	5. Female (25)	+5. Female (25)	5. Male (34)	
	6. Female (27)	*6. Male (28)	6. Female (34)	G
	7. Female (27)	7. Male (33)	7. Male (36)	
	8. Female (31)	8. Male (35)	8. Female (36)	
	9. Female (39)			E

	1.	Female	(41)	1.	Male	(42)	1.	Female	(43)	A
	2.	Male	(41)	2.	Male	(43)	2.	Female	(44)	
	3.	Male	(45)	3.	Male	(45)	3.	Male	(47)	
40-75	4.	Female	(47)	4.	Female	(45)	*4.	Male	(49)	
	5.	Female	(48)	*5.	Female	(47)	5.	Male	(55)	
(O)	6.	Female	(48)	6.	Male	(54)	6.	Male	(56)	G
	7.	Male	(52)	7.	Female	(58)	7.	Female	(57)	
	8.	Male	(73)	+8.	Male	(63)	8.	Female	(73)	
				9.	Female	(72)				
				10.	Male	(75)				
				11.	Male	(76)				

E

* = Armenian
+ = Assyrian
Tehran sample of population by age, education, sex, and ethnic membership.

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DOWNSTEP IN VENDA

Farida Cassimjee
and
Charles W. Kisseberth

Like many other Bantu languages, Venda (spoken in the Zoutpansberg district of the northern Transvaal in South Africa) exhibits the phenomenon known as downdrift whereby in a sequence HLH (where H stands for one or more High tones and L stands for one or more Low tones) the second series of High tones is somewhat lower in pitch than the first series. Venda also exhibits the phenomenon known as downstep whereby there are cases of HH such that the second series of High tones is somewhat lower in pitch than the first series. In effect, downdrift is the predictable lowering of a series of Highs induced by Low tones whereas downstep is an equivalent lowering but apparently unpredictable, not being based on the presence of a Low toned syllable.

In this paper we attempt to demonstrate first that downstep is predictable and second that it is indeed just a special case of downdrift--that is, we show that even in downstep it is a Low tone that induces the lowering of Highs. The only difference between downstep and downdrift in Venda is that in the former case the Low tone is not realized phonetically on any tone-bearing unit whereas in the latter case the Low tone is overtly manifested. There are in Venda at least three distinct origins of the unrealized Low tone that accounts for downstep. In one case it originates from the interplay of two tonological rules: High Tone Spread and Contour Simplification. In a second case it arises from a 'floating' Low tone that is part of the tense/aspect system. In the third case it is the result of a rule of Tonal Metathesis. Each of these three origins is examined with particular reference to the Venda verbal system (see Cassimjee (1983) for an account of the nominal system).

In 'Venda: Tonal Structure and Intonation' (1962), E.O.J. Westphal provides a substantial body of data concerning the tonal pattern of Venda, a Bantu language spoken in the Zoutpansberg district of the northern Transvaal in South Africa.[1] Westphal's study consists principally of a presentation of the data together with summaries of the various patterns of tonal alternation exhibited by these data; there is no attempt to subsume these patterns of tonal alternation under a single set of tonological rules. There is, of course, a substantial amount of analysis involved just in the presentation of the data; in particular, Westphal recognizes that it is 'unnecessary to consider more than two categories of tone [specifically, High and Low: FC and CWK] in Venda despite the fact there is a very great

variety of tone levels and a most complex system of tone intervals in the language' (pp. 52-53). The cause of this 'great variety of tone levels' and this 'complex system of tone intervals' is the phenomenon that Westphal refers to as 'tone-stepping'; he describes this tone-stepping as follows: 'when a low tone intervenes between two high tones the second high tone, i.e. the one immediately following the low tone, has a tone step [down: FC and CWK]...The same type of stepping occurs after a falling tone' (p. 56). Westphal labels this sort of tone-stepping as 'mechanical'. In the literature on tone, such mechanical tone-stepping is usually referred to as downdrift.

Although downdrift accounts in large part for the complex surface realization of the underlying two tones of Venda as a 'great variety of tone levels' organized into a 'complex system of tone intervals', Westphal recognizes that there are many cases of tone-stepping which are not (clearly) of a 'mechanical' nature. Concerning these instances of non-mechanical tone-stepping, Westphal writes: 'these other cases have not yet been sufficiently investigated and it still remains to be seen whether they are not in fact variations of the mechanical step' (p. 56). In the rapidly growing literature on tone, such cases of non-mechanical tone-stepping are labelled as downstep. The issue, then, that Westphal leaves unresolved is whether in Venda all cases of downstep can in fact be seen at some level as being variations of downdrift. In this paper we attempt to argue that if the Venda tonal system is viewed within the framework of autosegmental phonology then a positive answer to this question can be given for all of the cases of downstep that we have so far investigated in detail.

An analysis of a part of the Venda tonal system from an autosegmental perspective appears in Cassimjee (1983). Cassimjee demonstrates that the complex tonal alternations exhibited by Venda nominals can be elegantly described in terms of a small set of tone rules operating on underlying representations where each tone-bearing unit is associated with one and only one tone (either High or Low). The tone rules that Cassimjee postulates are summarized below:

> LOW-DELETION: A Low tone at the beginning of a word is deleted when the preceding word ends in a High tone.
>
> MEEUSSEN'S RULE: A High tone is changed to a Low tone when immediately preceded by another High tone.
>
> HIGH TONE SPREAD: Add an association line between a High and an immediately following vowel (provided that to do so does not result in the crossing of association lines). This rule is applied iteratively from left-to-right.
>
> CONTOUR SIMPLIFICATION: (a) If a HL sequence is associated with the same pre-penult vowel, disassociate the Low; (b) if a HL sequence is associated with the same ultimate vowel, disassociate the High.

These rules must be ordered as follows: Low-Deletion precedes Meeussen's Rule (since the deletion of a L may result in a HH sequence that will then undergo Meeussen's Rule); Low-Deletion precedes High Tone Spread

since the deletion of a (linked) Low tone removes a barrier to the spread of a preceding High tone; High Tone Spread precedes Contour Simplification since it is the spread of a High tone onto a following Low-toned vowel that creates the contour tones that are subject to simplification.

In her analysis of (simple) nominals, Cassimjee accounts for all of the observed alternations on the basis of underlying representations where there are just High and Low tones and each tone-bearing unit in the nominal is associated with one and only one tone (i.e. there are no underlying contour tones and no underlying toneless vowels and no unassociated tones). In other words, Venda is treated as a true tone language where each tone-bearing unit in a nominal selects either a High or Low tone. There is one other aspect of Cassimjee's analysis that needs to be mentioned here: she assumes that underlying Low tones are associated with at most one vowel whereas underlying High tones may be associated with any number of vowels. Furthermore, she assumes that all instances of underlying sequences of High tones inside a morpheme are represented as a single High tone associated with multiple vowels (i.e. there are no cases of successive High tones in the underlying representations of morphemes). The justification for these assumptions about the underlying representations of nominals will not be repeated here.

The analysis sketched above succeeds in accounting for an extremely diverse set of alternations between the pronunciation of a nominal when in isolation or preceded by a Low tone-final word and the pronunciation of a nominal when preceded by a High tone-final word. Some of these alternations are shown in (1):

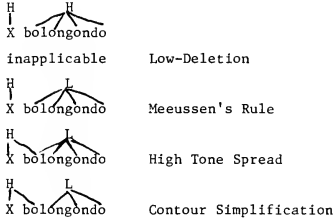
(1)	Isolation Form	Post-High Form	
	mu-thu	mú-thu	'person'
	mu-rí	mú-ri	'tree'
	mu-tuka	mú-tûka	'young man'
	mu-rathú	mú-râthú	'brother'
	mu-sélwa	mú-sêlwa	'bride'
	mu-sádzí	mú-sâdzi	'woman'
	mu-kalaha	mú-kálaha	'old man'
	mu-lambóni	mú-lámb!óni	'at the river'
	mu-ṭhaṅngá	mú-ṭhá!ṅgá	'young man'
	mu-tukaná	mú-túkaná	'boy'
	mu-kégúlú	mú-kégulu	'old woman'
	mu-ḍúhúlu	mú-ḍúhulu	'grandchild'
	tshi-vhávhálá	tshí-vhávhalá	'wild beast'
	Madíngwáne	Mádíngwane	(a name)
	bofu	bófu	'blind person'
	thukú	thúku	'scoundrel'
	ṭhólí	ṭhóli	'spy'
	ndémwa	ndêmwa	'naughty child'
	thamaha	thámâha	'male beast with certain markings'
	danána	dánâna	'fool'
	phaphána	pháphâna	'type of calabash'

dukaná	dúkaná	'monstrous boy'
dákálo	dákalo	'joy'
gónónó	gónono	'bumble-bee'
khókhólá	khókholá	'ankle-bone'
ḍabaḍaba	ḍábáḍaba	'fool'
bubuséla	búbús!éla	'woollen blanket'
bwerepwéré	bwérépw!éré	'coward'
buvhí-khomú	búvhí-khomú	'sp. spider'
dzingándêvhé	dzíngándevhé	'deaf person'
bókól!íko	bókolíko	'sp. bird'
súdzúngw!áné	súdzungwáné	'sp. shrub'
pfúmélelo	pfúmelelo	'intercession'
bélétshédzo	béletshedzo	'reparation'
bólóngóndó	bólongondo	'heavy, thick pole'

Cassimjee (1983) demonstrates how all of these patterns of alternation fall out automatically from the analysis that she proposes. Obviously we cannot here review all of these derivations. What is of particular relevance here is to illustrate how her analysis works and then to show how it accounts for all of the cases of downstep found in the above data set.

Consider, for example, the alternation bólóngóndó vs. bólongondo. In underlying structure this noun has a High tone associated with all of its vowels. In the isolation form none of the tone rules of the language will be applicable. The post-High context will result in the following derivation:

(2)



The alternation phaphaná vs. phaphána will illustrate the role of Low-Deletion in the analysis. This noun has a Low tone associated with its first vowel and a High tone associated with its last two vowels in underlying structure. The isolation form is not subject to any of the tone rules of the language. The post-High context produces the following derivation:

(3)

H L H X phaphana	
H H X phaphana	Low-Deletion
H L X phaphana	Meeussen's Rule
H L X phaphana	High Tone Spread
inapplicable	Contour Simplification

In the data in (1) there are two situations where downstep (indicated by an exclamation sign) occurs: in one case downstep is present in the post-High pronunciation of a noun but not the isolation form, while in the other case downstep is present in the isolation form but not in the post-High pronunciation. We will show how the proposed analysis of Venda can explain both cases in terms of the independently motivated principle of downdrift.

Consider the alternation mu-lambóni vs. mú-lámb!óni and the alternation mu-ṭhańngá vs. mú-ṭhá!ńngá. These nouns have the underlying structure shown in (4):

(4)

L L H L mu-lamboni	L L H mu-ṭhannga

In isolation no rules affect mu-ṭhańngá. High Tone Spread will extend the High tone of mu-lambóni onto the final vowel, forming a HL sequence on that vowel which will then undergo Contour Simplification (disassociating a final vowel from the H of a HL sequence). In the post-High context we will get the following derivations:

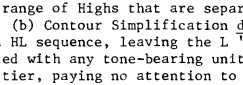
(5)

H L L H L X mu-lamboni	H L L H X mu-ṭhannga	
H L H L X mu-lamboni	H L H X mu-ṭhannga	Low-Deletion
inapplicable	inapplicable	Meeussen's Rule
H L H L X mu-lamboni	H L H X mu-ṭhannga	High Tone Spread
H L H L X mu-lamboni	H L H X mu-ṭhannga	Contour Simplification

Downstep occurs in mú-lámb!óni and mú-thá!ńngá between two High-toned vowels where the first of these High tones would in fact have been a HL sequence were it not for the fact that Contour Simplification disallows a HL sequence on a pre-penult vowel. In Cassimjee's analyis the downsteps are explained by assuming (a) there is a rule of downdrift that lowers the pitch range of Highs that are separated from preceding Highs by one or more Lows; (b) Contour Simplification disassociates a pre-penult vowel from the L of a HL sequence, leaving the L 'floating' in the tonal tier, unassociated with any tone-bearing unit; and (c) downdrift operates on the tonal tier, paying no attention to whether or not the tones are associated.

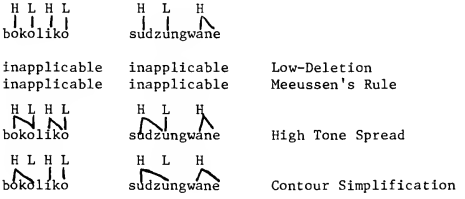
Consider next the alternations bókól!íko vs. bókolíko and súdzúngw!áné vs. súdzungwáné. These items have a downstep in their isolation forms. Cassimjee explains these downsteps by postulating the following underlying representations:

(6)



There is, of course, nothing surprising about such representations--they are precisely the sort of representations that one would expect to occur in the language given that there are two tones and each vowel of a word can be either High or Low. The tonological rules of Venda, however, will systematically modify these representations as the following derivations show:

(7)



Again we see that the downstep in bókól!íko and súdzúngw!áné can be reduced to a case of downdrift if the second syllable of these words is viewed as having a High tone that was in origin a HL sequence where the L became disassociated as a result of Contour Simplification. The post-High pronunciations of these items are quite consistent with this interpretation of the data. The derivation of bókolíko and súdzungwáné is given in (8):

(8)

H H L H L X bokoliko	H H L H X sudzungwane	
inapplicable	inapplicable	Low-Deletion
H L L H L X bokoliko	H L L H X sudzungwane	Meeussen's Rule
H L L H L X bokoliko	H L L H X sudzungwane	High Tone Spread
H L L H L X bokoliko	H L L H X sudzungwane	Contour Simplification

The proposed analysis explains all instances of downstep observed either in the isolation forms of simple nominals or in the post-High forms of such nominals. It also explains why it is the case that there is never a downstep between the penult and final syllables of a Venda nominal. If all of the downsteps in Venda nominals arise from the simplification of a HL sequence on a pre-penult vowel there could not be a downstep between the penult and final vowels (since the penult vowel is not susceptible to simplification).[2]

Although the rules of Low-Deletion, Meeussen's Rule, High Tone Spread, and Contour Simplification were formulated to account for the alternations exhibited by Venda nominals, these same rules are likewise motivated by the complex tonal pattern of the Venda verbal system. The remainder of this paper will deal with an examination of downstep as it occurs in the verbal system. We obviously do not have space to consider all of the complexities of the Venda verb and its tonal structure. We will concentrate just on those issues that are most pertinent to the occurrence of downstep.

There are two types of verb stems in Venda (as in most Bantu languages): High verbs and Low verbs. High verb stems are realized with a High tone on all vowels of the stem (except the last vowel in cases where the stem has four or more vowels). The term 'stem' here includes the obligatory final vowel -a that appears at the end of the verb in most tenses. Some examples:

(9) u-ḷá 'to eat'
u-vhóná 'to see'
u-vhúdzísá 'to ask'
u-sómbólóla 'to unwind'
u-ḷáísúlúla 'to unload'

Low verb stems, on the other hand, are pronounced with all of their vowels low in pitch. Some examples:

(10) u-ḍa 'to come' u-gwadama 'to kneel'
u-sea 'to laugh' u-vhanyuludza 'to force one's way through'
u-sinyutshelana 'to get angry at one another'

Most Venda verbal forms contain, in addition to the verb stem, a prefix indicating the subject of the verb (the subject prefix: SP), one or more prefixes indicating tense, aspect, etc. (the tense/aspect prefix: T/A), and (optionally) a prefix indicating the object of the verb (the object prefix: OP). In many cases these prefixes can be clearly argued to have either High or Low tones underlyingly. Consider, for example, the following data exemplifying the present tense construction:

(11) ndi-a-wa 'I am falling'
ndi-a-ṭuwa 'I am departing'
ndi-a-ʼsendela 'I am approaching'
ndi-a-adzulula 'I am folding s.t. up'
ri-a-sinyutshelana 'we are getting angry at one another'

ndi-a-nwā 'I am drinking'
ndi-a-rengā 'I am buying'
ndi-a-swíélá 'I am sweeping'
ndi-a-shándúlúla 'I am turning s.t. right side out'
ri-a-ḷáísúlúla 'we are unloading'

From (11) it seems quite clear that both the first person subject prefixes ndi- and ri- are Low-toned, as is the T/A prefix -a-.

Third person subject prefixes are, however, different:

(12) ú-â-wá[3]
ú-á-ṭúwa
ú-á-šéndêla
ú-á-ádzúlula
vhá-á-sínyútshelana

ú-â-nwá
ú-á-r!éngá
ú-á-sw!íélá
ú-á-sh!ándúlúla
vhá-á-ḷ!áísúlúla

In each case, the third person subject prefixes u- and vha- are pronounced with high pitch, suggesting that they should be analyzed as being associated with a High on the tonal tier.

Notice that in (12) the -a- T/A prefix does not remain simply Low-toned. The reason for this is obvious. Given that there is overwhelming evidence from the nominal system for a rule whereby a High spreads onto a following vowel, it is entirely expected that the High of the third person subject prefix should spread onto the -a- prefix. When the -a- prefix is in penult position, a contour tone results--cf. ú-â-nwá. But when the -a- prefix is in a pre-penult position it is realized simply with a High tone. This is of course to be expected given that the rule of Contour Simplification is amply motivated in the nominal system. This rule would prevent the -a- prefix from remaining associated both with the High of the SP and its own underlying Low when the -a- is located in a syllable prior to the penult. Given that we expect the -a- in an example like ú-á-r!éngá to be realized simply as High,

we also expect there to be a downstep between the -a- and a High verb stem such as -réngá. If Contour Simplification simply disassociates the Low of -a- from that vowel (when a preceding H has spread onto the -a-), then there will be a floating Low tone between the High of the -a- and the High of the verb stem. The derivation of ú-á-r!éngá is shown in (13):

(13) H L H
u-a-renga

inapplicable	Low-Deletion
inapplicable	Meeussen's Rule
H L H u-a-renga	High Tone Spread
H L H u-a-renga	Contour Simplification

The rules proposed by Cassimjee for Venda nominals will account perfectly for the data in (12) involving High-toned verb stems like -réngá. They will also explain the downsteps observed in these data in exactly the same way as the downsteps in nominals were explained. Thus (12) provides some additional evidence that downstep in Venda may well be reducible simply to downdrift--i.e. that all cases of downstep in Venda involve a Low tone on the tonal tier that is unassociated but nevertheless triggers downdrift.

The examples in (12) involving Low-toned verb stems are, however, not predicted by the rules so far postulated. For instance, we would expect ú-á-sendela rather than the correct ú-á-séndêla. The Low-toned verbs in (12) are surprising in that there appears to be a High tone on the first vowel of the verb stem, a High tone that is able to spread onto the second vowel. Not only is there an unexpected High tone on the first vowel of the verb stem, there is also no trace whatsoever of the Low tone that is underlyingly associated with -a-; in particular, there is no evidence for a floating Low tone between the -a- and the verb stem (as might be expected given the derivation of High-toned verb stems illustrated in (13) above). We are thus left with two mysteries: where did the Low of -a- go and where did the High on the verb stem come from?

A partial answer to these mysteries begins to emerge when one considers the pronunciation of present tense verbal forms in a post-High environment. (14) illustrates the behavior of both High and Low verb stems with both High and Low subject prefixes.

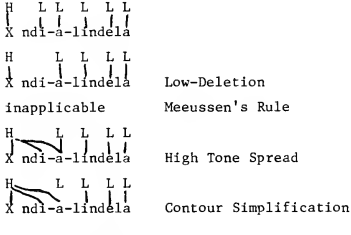
(14) H ndí-á-lindela (L-stem)
H ndí-á-tsh!ímbílá (H-stem)

H ! ú-á-líndêla
H ú-a-tshímbílá

We will examine each of these examples since each one provides either support for the proposed analysis of Venda tone or additional facts that bear upon the mysteries noted above.

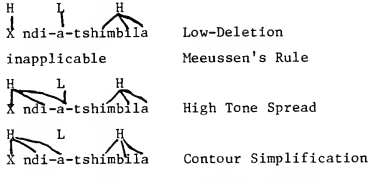
Consider H ndí-á-lindela first. This item, we suggest, provides crucial evidence that the rule of Low-Deletion which operates in the Venda nominal system also operates in the verbal system as well. If we assume the applicability of Low-Deletion to verbs, then we obtain the following correct derivation:

(15)



By assuming the applicability of Low-Deletion to verbs we also explain the pronunciation H ndí-á-tsh!ímbíla (and in so doing also establish that additional cases of downstep can be subsumed under the principle of downdrift given that Contour Simplification creates floating Low tones in the tonal tier). Note the following derivation:

(16)



Let's turn now to the example H ú-a-tshímbílá. Again, this is a totally expected form as long as we assume that Meeussen's Rule applies between a verb and a preceding word just as it applies between a noun and a preceding word. Compare (17):

(17) H H L H
X u-a-tshimbila

inapplicable Low-Deletion

H L L H
X u-a-tshimbila Meeussen's Rule

H L L H
X u-a-tshimbila High Tone Spread

H L L H
X u-a-tshimbila Contour Simplification

We have shown so far that the data in (14) provide justification for claiming that the rules of Low-Deletion and Meeussen's Rule (in addition to High Tone Spread and Contour Simplification) are general rules of Venda, as applicable to verbs as to nouns. The last form to be considered, H !ú-á-líndêla, provides the crucial data suggesting the need for an additional tonal rule in Venda.

The problem posed by H !ú-á-líndêla is obvious. Why is there a downstep between the H of the preceding word and the High of the SP? Clearly this downstep can in no way be a grammatical phenomenon associated with this verbal tense--it shows up nowhere else except with Low-toned verb stems in the third person when a High-toned word precedes. Its source seems to be phonological in nature. We suggest that if downstep in Venda is always the product of an unassociated Low tone, then the downstep in H !ú-á-líndêla must be the result of a Low tone located in front of the verb; the question then becomes: what is the source of this Low tone? When we recall that one of the mysteries concerning the third person present tense form of a Low verb stem is the fact that the Low associated with the prefix -a- is missing, we have an obvious answer to our problem: the floating Low tone in front of the verb in H !ú-á-líndêla is in fact the Low that was originally associated with -a-. This account of the downstep in H !ú-á-líndêla requires, of course, that we postulate a rule to move the Low tone from -a- to a position in front of the verb. We refer to this rule as Tonal Metathesis and suggest that it has the form given in (18):

(18) H L L
1 2 3 ⇒
2 1 Ø 3

(In all cases known to us where this rule operates, the H and the immediately following L are verbal prefixes. The rule does not operate on a HLL sequence inside a nominal stem, for example, nor does it operate on a HLL sequence arising across word boundaries. We omit from discussion here the question of how to formally constrain (18) so that it affects only HL sequences in verbal prefixes.)

Tonal Metathesis must be constrained to operate just on HL prefix sequences in front of a Low tone since we do not find a floating Low tone in front of the verb in cases like H ú-a-tshímbílá (with a High-toned verb stem). Tonal Metathesis must be applied to the verbal word before Meeussen's Rule applies at the phrase level since the floating Low tone in front of the verb created by Tonal Metathesis prevents the application of Meeussen's Rule to the High-toned subject prefix in H !ú-á-líndêla. Given this interaction of the rules, we have the following derivation predicted so far by our analysis:

(19)
```
H H L  L  L L
| | |  |  | |
X u-a-lindela

H L H    L  L L
|   |    |  | |
X   u-a-lindela    Tonal Metathesis
inapplicable       Low-Deletion[4]
inapplicable       Meeussen's Rule

H L H    L  L L
|   |    |  | |
X   u-a-lindela    High Tone Spread

H L H    L  L L
|   |    |  |
X   u-a-lindela    Contour Simplification
```

While H !ú-á-líndela is not in fact the correct surface form, we have successfully accounted for the downstep in front of the verbal word and have predicted that there will be no trace of the Low tone of -a- located any place else in the tonal string (since the downstep is the Low of the -a- prefix). What we have not yet accounted for is why the first vowel of the verb stem is raised to High (subsequently spreading onto the following vowel, of course).

We suggest that there is, in fact, a rather pervasive rule in Venda that raises the initial Low of a verb stem to High when it is immediately preceded by a High. Call this rule Low Raising. It will have approximately the form given in (20).

(20) $H \; \underset{\text{Stem}}{\text{Verb}}\left[\, L \right. \Rightarrow H \; \underset{\text{Stem}}{\text{Verb}}\left[\, H \right.$

If we assume that Low Raising is ordered after Tonal Metathesis, we will obtain the correct derivation for H !ú-á-líndêla, as illustrated in (21).

(21)
```
H H L  L  L L
| | |  |  | |
X u-a-lindela

H L H    L  L L
|   |    |  | |
X   u-a-lindela    Tonal Metathesis

H L H    H  L L
|   |    |  | |
X   u-a-lindela    Low Raising[5]
```

inapplicable	Low-Deletion
inapplicable	Meeussen's Rule
H L H H L L X u-a-lindela	High Tone Spread
inapplicable	Contour Simplification

This derivation depends on the output of Low Raising failing to undergo Meeussen's Rule. Otherwise Meeussen's Rule would undo the effects of Low Raising. Below we will examine in detail the issue of the failure of Meeussen's Rule to apply in derivations such as the above. But we should like to first conclude our discussion of examples such as H !ú-á-líndêla by simply noting that, given the rules of Tonal Metathesis and Low Raising, we have been able to explain the various mysteries concerning such examples: (a) why there is a floating Low in front of the verb (this Low was originally associated with the -a- prefix and metathesized in front of the subject prefix's High tone by virtue of Tonal Metathesis); (b) why there is no trace in the tonal tier of the -a- prefix's Low tone between the subject prefix H and the verb stem's tone (again, because Tonal Metathesis moved the -a- prefix's Low away from its original position); and (c) why the first vowel of the verb stem is High rather than Low as expected (the effect of Low Raising).

The preceding account of the mysteries surrounding examples like H !ú-á-líndêla will naturally be considerably strengthened if we can demonstrate that the rules of Tonal Metathesis and Low Raising are independently motivated. We will consider Low Raising first and show that it is abundantly motivated.

There are a number of other High-toned prefixes, in addition to the third person subject prefixes, that will induce a Low-toned verb stem to raise its first vowel. Consider, for example, the object prefixes which, in Venda, are uniformly High-toned. Below we illustrate object prefixes with Low-toned verb stems.

(22) u-mú-ámba 'to mean him'
u-ḍí-ámba 'to mean oneself'

u-mú-límêla 'to plough for him'
u-ḍí-límêla 'to plough for oneself'

u-mú-sínyútshela 'to be angry at him'
u-ḍí-sínyútshela 'to be angry at oneself'

In each case we see that the first vowel of the Low-toned verb stem is raised to High after the object prefixes -mú- and -ḍí-. The High associated with the first stem vowel will then spread onto the second stem vowel. The resulting contour tone on the second stem vowel will naturally be subject to Contour Simplification in the appropriate environments. The following derivations illustrate how the proposed rule of Low Raising in conjunction with the other tonal rules of Venda will account for these data:

```
(23) L  H L  L    L  H  L L L   L  H  L  L   L L
     u-mu-amba    u-mu-limela   u-mu-sinyutshela

     inapplic.    inapplic.     inapplic.          Tonal Metathesis

     L  H H  L    L  H  H L L   L  H  H  L   L L
     u-mu-amba    u-mu-limela   u-mu-sinyutshela   Low Raising

     inapplic.    inapplic.     inapplic.          Low-Deletion
     inapplic.    inapplic.     inapplic.          Meeussen's Rule

     L  H H  L    L  H  H L L   L  H  H  L   L L
     u-mu-amba    u-mu-limela   u-mu-sinyutshela   High Tone Spread

     L  H H  L                  L  H  H  L   L L
     u-mu-amba    inapplic.     u-mu-sinyutshela   Contour Simplification
```

The behavior of the object prefixes in conjunction with High-toned verb stems is instructive. Some examples are given in (24):

(24) u-mú-ḷá 'to eat him, to ruin him'
u-ḍí-ḷá 'to eat oneself'

u-mú-vhónā 'to see him'
u-ḍí-vhónā 'to see oneself'

u-mú-vhúdzísā 'to ask him'
u-ḍí-vhúdzísā 'to ask oneself'

u-mú-tshímbíléla 'to go for him'
u-ḍí-tshímbíléla 'to go for onself'

The interesting thing about these data is that the High-toned verb stems are totally unaffected by the presence of a High-toned object prefix in front of them--i.e. Meeussen's Rule does not come into play in this construction. This is an interesting fact since we noted earlier that Meeussen's Rule does not operate on the output of Low Raising either. A High-tone at the beginning of a verb stem, whether underlyingly present or created by Low Raising, does not undergo Meeussen's Rule after the High-toned prefixes that induce Low Raising (third person subject prefixes, object prefixes, as well as other prefixes to be cited below).

We do not have a good explanation at present for <u>why</u> verb stems do not undergo Meeussen's Rule after High prefixes (that are also inducers of Low Raising). We can, however, show that certain possible explanations are incorrect. One possible explanation would be that Meeussen's Rule does not operate within words but only across word boundaries. We will show that this cannot be correct since Meeussen's Rule does in fact operate on word-internal HH sequences. A second possible explanation is that there are <u>not</u> two High tones in examples like <u>u-mú-límēla</u> (underlying Low verb) and <u>u-mú-vhúdzísā</u> (underlying High verb)--in other words, Meeussen's Rule does not apply because its structural description is not satisfied. Let us give an account of these forms which would have the consequence that there is just one High tone present (at the point where Meeussen's Rule operates).

Suppose that we said that (instead of a rule such as Low Raising) there is a rule in Venda whereby the initial tone of a verb stem is deleted when a High prefix precedes the stem (call this rule Tone Erasure). Such a rule would convert the representations given in (25a) into those given in (25b).

(25) a. L H L L L L L H H
u-mu-sinyutshela u-mu-vhudzisa

b. L H L L L L H
u-mu-sinyutshela u-mu-vhudzisa

The rules of High Tone Spread and Contour Simplification will then produce the correct surface forms u-mú-sínyútshela and u-mú-vhúdzísá:

(26) L H L L L L H
u-mu-sinyutshela u-mu-vhudzisa

L H L L L L H
u-mu-sinyutshela u-mu-vhudzisa High Tone Spread

L H L L L
u-mu-sinyutshela inapplicable Contour Simplification

The ordering of Tone Erasure with respect to Meeussen's Rule would be immaterial (since Tone Erasure would delete the first tone of a verb stem regardless of whether that tone is High or Low).

Evidence against the Tone Erasure analysis and in favor of the rule of Low Raising is provided by cases where there are two High prefixes preceding the verb stem. Before we can illustrate such cases it is necessary to introduce an additional High prefix--namely, the past tense prefix -o-. All of the subject prefixes appear in a 'contracted' form when used in conjunction with the -o-; the examples in (27) illustrate this point:

(27)	Subject Prefix + o		Subject Prefix before other prefixes	
	nd-ó-	'I'	ndi-	'I'
	w-ó-	'you (sg.)'	u-	'you (sg.)'
	ó-	'he/she'	ú-	'he/she'
	r-ó-	'we'	ri-	'we'
	n-ó-	'you (pl.)'	ni-	'you (pl.)'
	vh-ó-	'they'	vhá-	'they'

(27) shows that in other environments the subject prefixes referring to human beings have the shape C_0V-, but before the -o- the vowel in the subject prefix either glides or deletes. Notice that the 'contracted' syllable is always high-toned. This suggests that the -o- is associated with a High tone. There is no trace (in the isolation form of the past tense verb) of any tone that the subject prefix vowel may or may not have been associated with. We return later to the issue of the tonal shape of the subject prefixes in the -o- tense.

In (28) we illustrate both High-toned and Low-toned verb stems in the past tense:

(28) High-toned verbs

nd-ó-vhónâ 'I saw'
nd-ó-tshímbílâ 'I walked'
nd-ó-sómbólóla 'I unwound'
nd-ó-!áísúlúla 'I unloaded'

Low-toned verbs

nd-ó-líma 'I ploughed'
nd-ó-líndêla 'I waited'
nd-ó-súkúmedza 'I pushed it forward'
r-ó-sínyútshelana 'we got angry at one another'

From these data we see that verb stems behave the same after -ó- as they do after object prefixes (namely, High verb stems are unaffected and the first vowel of Low verbs acquires a High tone that is able to spread onto the second vowel), strongly suggesting that -ó- and object prefixes should be analyzed as triggering the same rule (whether that rule be Tone Erasure or Low Raising).

The post-High pronunciations of past tense forms is instructive:

(29) H ! nd-ó-vhónâ
H ! nd-ó-tshímbílâ

H ! nd-ó-líma
H ! nd-ó-líndêla

Notice that between a preceding High and the High-toned -ó- there is a downstep (regardless of whether the verb stem is High or Low underlyingly). The most obvious explanation for this downstep given everything that we have learned so far about Venda is the presence of an unassociated Low tone in front of the verb. But where could this unassociated Low tone have come from? The most obvious explanation is that it was associated with the vowel of the subject prefix. This would require us to assume that when the vowel of the subject prefix undergoes the 'contraction' process with the -ó- prefix, the tone of that vowel is retained in the tonal tier.[6] This explanation requires, of course, that the subject prefix in the examples cited be Low-toned. In the case of examples such as H !nd-ó-vhónâ, the subject prefix would be Low due to the fact that ndi- is ordinarily Low-toned (as we have seen throughout this paper). But what about third person past tense forms? They would be expected to have a High subject prefix (given that third person subject prefixes are regularly High-toned in other tenses). In (30) we show the post-High pronunciation of third-person past tense verbs:

(30) H ! ó-vhónâ 'he/she saw' (High verb stem)
H ! ó-sóla 'he/she slandered' (Low verb stem)

Suppose that we were to assume that the third person subject prefixes were High-toned in the past tense. That would mean that the underlying form of a word such as ó-vhóná would be as in (31):

(31) H H H
V-o-vhona[7]

The first thing to note is that we would then have to guarantee that Meeussen's Rule not apply to the H of the -ó- prefix due to a preceding H (we will see below that other prefixal High tones do indeed change to Low after a High prefix). This could perhaps be achieved by saying that when the two prefixes contract, the H associated with the first vowel is left floating and deletes by a special rule that elides a floating H in front of another High. But even if we adopt this explanation for why an underlying form such as (31) escapes Meeussen's Rule, we still have no explanation for why a representation such as (31) would be preceded by a down-step in position after a word ending in a High (cf. (30)). We suggest that the best explanation for these data is to assume that in the past tense all subject prefixes (including the third person ones) are Low-toned. This is not an implausible suggestion given that there are clear cases where the usual contrast between Low-toned first/second person SP's and High-toned third person SP's is neutralized. For example, in the potential tense all subject prefixes are pronounced on a Low tone:

(32) ndi-ngá-vhóná 'I might see'
u-ngá-vhóná 'you (sg.) might see'
a-ngá-vhóná 'he/she might see'
(similarly: ri-ngá-vhóná, ni-ngá-vhóná, vha-ngá-vhóná)

If, then, we assume that third person forms have a Low subject prefix in the -ó- tense just like first and second person forms, the downstep in H !ó-vhóná and H !ó-sóla will be explained.

Our analysis of the downstep that precedes the past tense form of the verb is of interest since it provides another source of downstep in Venda (the contraction of a Low-toned subject prefix with the -ó- prefix, resulting in a floating Low tone in front of the -ó-), but it is not crucial to the point that is of immediate concern: namely, the fact that the -ó- is a High-toned prefix that behaves in a fashion entirely parallel to other High prefixes.

We can now study what happens when there are two successive High prefixes by looking at the past tense form of the verb when an object prefix is present. (33) illustrates:

(33) nd-ó-vhá-vh!óná 'I saw them' (High verb stem)
nd-ó-vhá-fh!úra 'I deceived them' (Low verb stem)

The example nd-ó-vhá-vh!óná will have a straightforward explanation as long as we assume that Meeussen's Rule is able to apply to a High prefix when it is preceded by another High prefix (even though Meeussen's Rule does not affect a High verb stem when preceded by a High prefix, as noted above). The derivation is shown in (34):

(34) L H H H
nd-o-vhá-vhóna
inapplicable Tonal Metathesis, Low Deletion

L H L H
nd-o-vhá-vhóna Meeussen's Rule

L H L H
nd-o-vhá-vhóna High Tone Spread

L H L H
nd-o-vhá-vhóna Contour Simplification

If we did not allow Meeussen's Rule to operate on successive High-toned prefixes we would have no explanation for the downstep in nd-ó-vhá-vh!ónā.

But now let us consider nd-ó-vhá-fh!úra. Given the proposed rule of Low Raising, we can obtain the correct surface form as long as we order Low Raising before Meeussen's Rule. The resulting derivation is shown in (35):

(35) L H H L L
nd-o-vhá-fhura
inapplicable Tonal Metathesis, Low Deletion

L H H H L
nd-o-vhá-fhura Low Raising

L H L H L
nd-o-vhá-fhura Meeussen's Rule

L H L H L
nd-o-vhá-fhura High Tone Spread

L H L H L
nd-o-vhá-fhura Contour Simplification

(The ordering of Low Deletion relative to Low Raising is immaterial.) The ordering of Low Raising before Meeussen's Rule is necessary so that the application of the latter rule to the object prefix does not remove the environment for Low Raising to affect the verb stem.

An analysis that utilizes Tone Erasure rather than Low Raising will be unable to account for the form nd-ó-vhá-fh!úra. The wrong result will be obtained whether Tone Erasure precedes Meeussen's Rule (cf. (36)) or follows (cf. (37)).

(36)

```
 L H   H   L L
  |    |   |  |
nd-ó-vhá-fhúra
```

inapplicable — Tonal Metathesis, Low Deletion

```
 L H   H     L
  |    |     |
nd-ó-vhá-fhúra
```

Tone Erasure

```
 L H   L     L
  |    |     |
nd-ó-vhá-fhúra
```

Meeussen's Rule

```
 L H   L     L
  |\   |     |
nd-ó-vhá-fhúra
```

High Tone Spread

```
 L H   L     L
  |\   |     |
*nd-ó-vhá-fhúra
```

Contour Simplification

(37)

```
 L H   H   L L
  |    |   |  |
nd-ó-vhá-fhúra
```

inapplicable — Tonal Metathesis, Low Deletion

```
 L H   L   L L
  |    |   |  |
nd-ó-vhá-fhúra
```

Meeussen's Rule

```
 L H   L     L
  |    |     |
nd-ó-vhá-fhúra
```

Tone Erasure

```
 L H   L     L
  |\   |     |
nd-ó-vhá-fhúra
```

High Tone Spread

```
 L H   L     L
  |\   |     |
*nd-ó-vhá-fhúra
```

Contour Simplification

Tone Erasure cannot account for the appearance of a High tone on the first stem vowel in an example like nd-ó-vhá-fh!úra since it depends upon the first stem vowel receiving its tone from the tone associated with the immediately preceding morpheme--but once Meeussen's Rule applies the next preceding morpheme has a Low tone, not a High tone. There is thus no way for the first vowel of the verb stem to become High-toned. Low Raising, on the other hand, does account for the High tone on the first vowel of the verb stem since it changes that vowel's tone to High when a High prefix precedes. Once this change in the tone of the first vowel of the stem has taken place it does not matter any longer that the preceding prefix may be changed to Low by Meeussen's Rule. We conclude that it is Low Raising rather than Tone Erasure that is at work in Venda.

At this point let us review briefly. We have shown that the behavior of object prefixes and the -ó- past tense marker provides additional evidence for a rule of Low Raising. We have given evidence that Low Raising involves changing the initial Low of a verb stem to High and that it must be ordered before Meeussen's Rule. We must stipulate that Meeusssen's Rule cannot affect a verb stem when it is preceded by one of the High prefixes that triggers Low Raising, although Meeussen's Rule does apply to High prefixes when they are preceded by other High prefixes.

There are still other prefixes that trigger Low Raising. For instance, the potential marker -ngá- cited above has this effect. Consider the data in (38):

(38) High verb stems

ndi-ngá-vhóná 'I might see'
ndi-ngá-tshímbílá 'I might walk'
ndi-ngá-thómólóla 'I might start again'
ndi-ngá-ḷáísúlúla 'I might unload'

Low verb stems

ndi-ngá-líma 'I might plough'
ndi-ngá-líndèla 'I might wait'
ri-ngá-vhángísana 'we might quarrel with one another'
ri-ngá-pándámedzana 'we might pursue one another'

The High verb stems illustrate the fact that a High on a verb stem is unaffected by the High-toned -ngá-. The Low verb stems show that the initial Low of a verb stem is raised to High after the -ngá- prefix. The High on the first stem vowel then spreads onto the second stem vowel (the resulting contour tone simplifying when in the environment for Contour Simplification).

The negative prefix -sá- is also a trigger for Low Raising, as (39) establishes:

(39) High verb stems

u-sá-vhóná 'not to see'
u-sá-tshímbílá 'not to walk'
u-sá-sómbólóla 'not to unwind'
u-sá-ḷáísúlúla 'not to unload'

Low verb stems

u-sá-ámba 'not to speak'
u-sá-gídíma 'not to run'
u-sá-sínyútshela 'not to get angry at'
u-sá-sínyútshelana 'not to get angry at one another'

Again we see that High verb stems are unaffected by the High-toned prefix -sá- whereas the first vowel of a Low stem is raised to High (with subsequent spreading and, in some cases, simplification of the resulting contour tone).

Most High-toned prefixes in Venda (a) trigger Low Raising and (b) fail to trigger Meeussen's Rule on a following verb stem. There are two exceptions. That is, there are two prefixes which (a) do not trigger Low Raising and (b) do trigger Meeussen's Rule on a following verb stems. These two constructions are illustrated in (40) and (41).

(40) <u>High verb stems</u>

ndi-khoú-sâla 'I am remaining behind'
ndi-khoú-vhúdzisa 'I am asking'
ndi-khoú-sǒmbolola 'I am pounding'
ndi-khoú-ḷáisulula 'I am unloading'

<u>Low verb stems</u>

ndi-khoú-sêa 'I am laughing'
ndi-khoú-gwǎdama 'I am kneeling'
ndi-khoú-vhǎnyuludza 'I am forcing my way through'
ri-khoú-sínyutshelana 'we are getting angry at one another'

(41) <u>High verb stems</u>

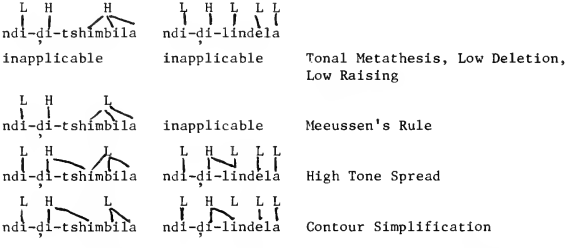
ndi-ḍí-hângwa 'I usually forget'
ndi-ḍí-tshímbila 'I usually walk'
ndi-ḍí-thǒmolola 'I usually start again'
ndi-ḍí-ḷáisulula 'I usually unload'

<u>Low verb stems</u>

ndi-ḍí-vhâla 'I usually read'
ndi-ḍí-líndela 'I usually wait'
ndi-ḍí-pǎndamedza 'I usually pursue'
ri- ḍí-pǎndamedzana 'we usually pursue one another'

Examination of these data shows that High verbs and Low verbs have exactly the same shapes--this is because the application of Meeussen's Rule to High verbs causes these verbs to be Low-toned. The derivations of <u>ndi-ḍí-tshímbila</u> (a High verb stem) and <u>ndi-ḍí-líndela</u> (a Low verb stem) are shown in (42):

(42)



We do not at the present time have any explanation for why <u>-khoú-</u> and <u>-ḍí-</u> fail to trigger Low Raising and do trigger Meeussen's Rule in contrast with the other High prefixes. There are, however, additional perplexing aspects to the behavior of these two prefixes--they clearly require detailed investigation that is beyond the scope of the present paper.

Having given substantial justification for the rule of Low Raising, we can now return to an examination of the justification for Tonal Metathesis. So far we have seen that the sequence of a High-toned subject prefix and the Low-toned -a- prefix in front of a Low verb stem appears to trigger the metathesis of the prefixal Low in front of the High of the subject prefix. We can now examine other situations where a sequence HLL appears in verbs and see whether they are subject to the proposed metathesis process or not.

One potential case of a HLL sequence involves the past tense marker -ó- examined above. This morpheme may be followed by the prefix -no- to form a complex verb that can be glossed as 'have already Verbed'. The -no- prefix can be argued to be Low-toned. Examples of this constuction are given in (43).

(43) High verb stems

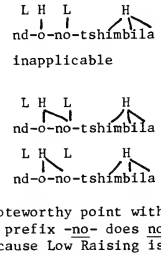
nd-ó-nó-vh!ónā 'I have already seen'
nd-ó-nó-tsh!ímbílā 'I have already walked'
nd-ó-nó-tsh!étshékánya 'I have already cut into pieces'
nd-ó-nó-f!úlúfhédzísa 'I have already promised'

Low verb stems

nd-ó-nó-líma 'I have already ploughed'
nd-ó-nó-líndêla 'I have already waited'
nd-ó-nó-ádzūlula 'I have already rolled it up'
r-ó-nó-pándámedzana 'we have already pursued one another'

The High verb stems are straightforward if we assume that -no- is Low-toned. (44) shows the derivation for nd-ó-nó-tsh!ímbílā.

(44)



The only noteworthy point with respect to (44) is the observation that the Low of the prefix -no- does not undergo Low Raising. We have assumed that this is because Low Raising is a rule that is restricted to the initial Low of a verb stem (cf. the formulation of Low Raising given in (20)). We have encountered no evidence that Low Raising ever affects prefixal Low tones.

Turning to the Low verb stems in (43), we see that these forms can also be derived in a straightforward manner provided that we assume the existence of a rule such as Tonal Metathesis. (45) gives the derivation for nd-ó-nó-líndêla.

(45) L H L L L L
nd-ó-no-líndela

LLH L L L
nd-ó-no-líndela Tonal Metathesis

inapplicable Low Deletion

LLH H L L
nd-ó-no-líndela Low Raising

inapplicable Meeussen's Rule

LLH H L L
nd-ó-no-líndela High Tone Spread

inapplicable Contour Simplification

Notice that Tonal Metathesis places the Low from -no- in front of the High associated with -o-. This creates a sequence of two unassociated Low tones (since -o- is itself preceded by a floating Low tone as a result of the contraction of the subject prefix ndi- with the -o-). When a word that ends in a High precedes an example such as nd-ó-nó-líndêla, there is a downstep between the preceding High and the -o- prefix. Compare the examples in (46):

(46) H !nd-ó-nó-líma
H !nd-ó-nó-líndêla

Of course, the downstep in H !nd-ó-nó-líndêla can be explained just by the floating Low arising from the contraction of ndi- and -ó- and does not give any crucial evidence that the Low from -no- has metathesized in front of the -ó- prefix. Nevertheless, we do have clear evidence that the Low associated with -no- is no longer present between the High associated with -o- and the verb stem tone. The absence of this Low tone in its expected position can be explained by appeal to Tonal Metathesis. And there is nothing about the pronunciations in (46) that is inconsistent with such an appeal. We conclude, therefore, that the -ó-no- tense lends credibility to the Tonal Metathesis rule.

The future tense also lends credibility to the Tonal Metathesis rule. Examples of this tense are given in (47):

(47) High verb stems

ndi-do-lálá 'I will lie down'

ú-dó-l!álá 'he will lie down'

ndi-do-tévhúlá 'I will pour out'

ú-dó-t!évhúlá 'he will pour out'

ndi-do-thǒmǒlǒla 'I will start again'

ú-dǒ-th!ǒmǒlǒla 'he will start again'

Low verb stems

ndi-do-vhala 'I will read'

ú-dǒ-vhǎla 'he will read'

ndi-do-vuledza 'I will finish'

ú-dǒ-vǔlêdza 'he will finish'

ndi-do-phuphuleza 'I will feel all over'

ú-dǒ-phǔphǔledza 'he will feel all over'

Let's consider the High verbs first. It is clear that the prefix -do- marks the future tense and that it is Low-toned (cf. the first person subject forms). When a High prefix precedes the future marker, the High spreads onto the future marker, creating a contour tone that will then undergo Contour Simplification. The resulting floating Low tone explains the downstep between the future marker and the verb stem.

The Low verbs in (47) illustrate that when -do- follows a High prefix and precedes a Low stem, the Low associated with the future marker is no longer present on the tonal tier at its expected position. Since in an example like ú-dǒ-vǔlêdza we have a HLL sequence, the proposed rule of Tonal Metathesis would predict that the Low of the future marker would be moved in front of the High subject prefix. In other words, we expect the following derivation:

```
(48)   H  L  L L  L
       |  |  | |  |
       u-do-vuledza

      LH     L L  L
       |     | |  |
       u-do-vuledza    Tonal Metathesis

       inapplicable    Low-Deletion

      LH     H L  L
       |     | |  |
       u-do-vuledza    Low Raising

       inapplicable    Meeussen's Rule

      LH     H L  L
       /\    |\ |  |
       u-do-vuledza    High Tone Spread

       inapplicable    Contour Simplification
```

This derivation predicts that there will be a downstep between such words and a preceding word that ends in a High. This prediction is correct, as the data in (49) shows.

(49) H !ú-d̲ó-líma[8]

H !ú-d̲ó-líndêla[8]

The behavior of the future tense marker -d̲o- parallels the behavior of the present tense marker -a̲- in the environment before a Low verb stem and after a High-toned subject prefix. The future tense marker is interesting in that it can be shown to exhibit the same behavior pattern after another High-toned prefix, namely, the potential marker -ng̲á-. Consider the data in (50).

(50) High verb stems

ndi-ngá-d̲ó-r!éngá 'I may yet buy it'
ndi-ngá-d̲ó-f!árísá 'I may yet help'
ndi-ngá-d̲ó-vh!ófhólóla 'I may yet loosen it'
ndi-ngá-d̲ó-l̲!áísúlúla 'I may yet unload it'

Low verb stems

ndi-ngá-d̲ó-líma 'I may yet plow'
ndi-ngá-d̲ó-líndêla 'I may yet wait'
ndi-ngá-d̲ó-sínyútshela 'I may yet get angry at'
ri-ngá-d̲ó-pándámedzana 'we may yet pursue each other'

In the case of the High verb stems in (50), the High associated with -ng̲á- spreads onto the Low-toned future tense marker, creating a contour tone that will undergo Contour Simplification. The floating Low caused by Contour Simplification is responsible for the downstep between the vowel of the future tense marker and the verb stem High. In the case of the Low-toned verb stems in (50), we see again that there is no trace of the Low associated with the future tense marker. If we assume that Tonal Metathesis has placed this Low in front of -ng̲á-, then the derivation of examples like ndi-ngá-d̲ó-líndêla is straightforward.

(51)

```
  L   H  L  L  L L
  |   |  |  |  | |
ndi-nga-d̲o-lindela

  L  LH     L  L L
  |   |     |  | |
ndi-nga-d̲o-lindela      Tonal Metathesis

inapplicable            Low-Deletion

  L  LH     H  L L
  |   |     |  | |
ndi-nga-d̲o-lindela      Low Raising

inapplicable            Meeussen's Rule

  L  LH     H  L L
  |   |\    |\ | |
ndi-nga-d̲o-lindela      High Tone Spread

inapplicable            Contour Simplification
```

The derivation in (51) is interesting in that it establishes clearly that the rule of Tonal Metathesis is not confined to a word-initial HL prefixal sequence. In examples involving the -a- tense (cf. !ú-á-líma), the HL prefix sequence is word-initial. But in cases like ndi-ngá-dó-líma the HL sequence is itself preceded by a Low-toned prefix. It would be interesting to know what would happen if one had a sequence of two High-toned prefixes followed by a Low-toned prefix; we have not so far encountered this situation. We predict that when such a HHL sequence preceded a Low verb stem, the Low of the prefix would metathesize between the two Highs, creating a downstep between the Highs. Verification of this prediction must await the discovery of relevant data.

We have now presented ample justification for the rules of Low Raising and Tonal Metathesis. We conclude that there is substantial evidence in Venda for two quite distinct sources of downstep--namely, Contour Simplification and Tonal Metathesis; nevertheless, both of these sources involve a floating Low tone. In one case the floating Low arises from the operation of a phonological rule that disassociates a pre-penult vowel from the Low part of a HL contour. In the second case the floating Low arises from a phonological rule that relocates a Low tone in front of a preceding High tone when this sequence of High and Low is located on prefixes located before a Low-toned verb stem.

There is a third source of downstep in Venda which we would also like to argue involves the presence of a floating Low tone. This floating Low tone, however, is not the consequence of the operation of a phonological rule but rather has its source in the morphology of the language.

Recall that the present tense form of the verb is marked by a prefix -a- located between the subject prefix and the verb stem. This prefix is Low-toned. Present tense forms with this prefix occur only when the verb word is final in the clause. If another word follows, then the verb word lacks the -a- prefix in the present tense. The 'short' forms for both High and Low verb stems are shown in (52).

(52) High Verbs

ndi-vhónā...	ndi-tshímbílā...
ú-vh!ónā...	ú-tsh!ímbílā...

Low Verbs

ndi-líma...	ndi-líndela...
ú-límā...	ú-líndéla...

The first person forms in (52) do not present any difficulties. The third person forms, however, are quite striking. Consider the High verbs first. The essential problem posed by an example such as ú-vh!ónā is the appearance of a downstep between the High-toned subject prefix and the High-toned verb stem. If the only morphological components that make up this word are the subject prefix and the verb stem, then there is no available explanation for the observed downstep. However, if we recall that the -a- prefix is Low-toned,

then a rather plausible account of the downstep in ú-vh!óná is available. We can simply assume that the present tense is marked by both a segmental shape (-a-) and a tonal shape (a Low tone). These two parts of the present tense marker are independent. The segmental part is used only when the verb word is clause-final, otherwise it is absent. The tonal part, however, is present both clause-finally and also clause-medially. When the verb word is medial, the Low tone of the present tense has no tone-bearing unit to associate with and thus remains floating in the tonal tier. When the verb word is clause-final, the Low tone of the present tense is able to associate with the vowel -a-.

The assumption that the present tense is always marked by a Low tone is also consistent with the pronunciation of Low verbs in (52). Consider an example like ú-límá... We predict the following derivation:

```
(53)   H L  L L
       |    | |
       u- -lima...

      LH    L L
       |    | |
       ú- -lima...    Tonal Metathesis

       inapplicable  Low-Deletion

      LH    H L
       |    | |
       u- -lima       Low Raising

       inapplicable  Meeussen's Rule

      LH    H L
       |    /\
       ú- -lima       High Tone Spread

      LH    H L
       |    /\
       u- -lima       Contour Simplification[9]
```

This derivation suggests, of course, that if such a word is preceded by another word ending in a High, there will be a downstep between the two words. This is correct:

```
(54)   H !ú-límá...

       H !ú-líndéla...
```

The above treatment of the 'short' form of the present tense provides evidence that Tonal Metathesis applies to a HL prefixal sequence whether or not the L is associated.

In the course of this paper we have encountered numerous instances of downstep and have shown that in all cases these downsteps could be insightfully accounted for in terms of a floating Low tone. We believe that we have constructed a great deal of support, therefore, for the view that in Venda all instances of downstep can be regarded as simply instances of downdrift where the triggering Low tone is unassociated with any element in the segmental tier.

NOTES

[1]All of the data on Venda nominals cited in this paper are drawn from Westphal's study. Much of the verbal data is likewise drawn from Westphal, but we have also incorporated examples that we elicited from Mr. T. Sengani at the University of South Africa in the summer of 1983. We would like to express our appreciation to Mr. Sengani for his assistance. Mr. Sengani's pronunciation largely conforms to the data cited by Westphal, but his speech is characterized by the application of one (apparently low-level rule) that is only marginally attested in Westphal's materials. This rule involves the lowering of certain High-toned vowels once their High tone has spread onto a following vowel. Our transcriptions have been modified so as to undo the effects of this rule.

[2]Presumably contour tones are permitted on penult vowels but no other vowels due to the fact that penult vowels are regularly lengthened (otherwise there are no long vowels in the language). Since penult lengthening is restricted to phrasal penult vowels, we predict that words with a HL contour on their penult vowel will simplify this contour tone when another word follows. Westphal's data do illustrate this phenomenon. However, some of Westphal's statements imply that there are cases where this simplification does not take place; further work is needed to clarify this issue.

[3]So-called 'monosyllabic' stems such as -wa exhibit tonal patterning that is quite distinct in some cases from longer Low-toned verb stems. These monosyllabic stems will be ignored in this paper.

[4]In (19) we assume that Tonal Metathesis applies before Low-Deletion. This sequencing of the rules will require that we modify Low-Deletion so that it cannot affect the floating Low created by Tonal Metathesis. This can be done by specofying in the structural description of Low-Deletion that only associated Lows delete. We assume that Tonal Metathesis applies before Low-Deletion since Tonal Metathesis is a word-level rule dependent on the morphological structure of a word whereas Low-Deletion is a phrase-level rule.

[5]Low Raising, like Tonal Metathesis, is a word-level rule whose operation is dependent on the morphological structure of a word. We assume that it applies before the phrase-level rule Low-Deletion. Later we will demonstrate that Tonal Metathesis is crucially ordered before another phrase-level rule, Meeussen's Rule.

[6]The floating Low tone created by the contraction process would escape Low-Deletion for the same reason that the floating Low tone created by Tonal Metathesis does--namely, Low-Deletion affects only associated Low tones.

[7]In (31) we have not indicated what the vowel quality of the third person singular subject prefix is in the past tense. This prefix has the segmental shape u- in some tenses and a- in other tenses. Notice that in the past tense, the second person singular prefix u- glides to w- while the third person plural prefix vha- elides its vowel. Since the third person singular prefix is entirely absent in the past tense, it seems likely that it must have been the vowel a- rather than the vowel u-.

[8]Westphal does not actually cite these pronunciations but just states that the pronunciation of such forms are parallel to forms involving the prefix -a-. Westphal does cite the pronunciation of these words in post-High but phrase-medial position. The downstep shows up in these transcriptions (but there appear to be typographical errors with respect to some other aspects of the pronunciation).

[9]Recall that in these examples the verb word is followed by another word (indicated by the ... in our transcription). The presence of this word means that the vowels in the verb word itself are all in pre-penult position (at the phrasal level) and are thus susceptible to the part of Contour Simplification that says that a pre-penult vowel associated with a HL sequence is disassociated from the L. This explains why the final vowel of the verb is High in H ¡ú-líma... but not in, say, H ¡ú-á-líma. In the former example the final vowel disassociates from its underlying Low due to the pre-penult simplification principle, whereas in the latter case the final vowel disassociates from the preceding High due to the phrase-final contour simplification principle.

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THE MORPHOLOGICAL RULE OF LEARNED BACKING AND LEXICAL PHONOLOGY*

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The phenomenon of Learned Backing in French, described by Dell and Selkirk (1978), will be discussed in light of two recent theories of lexical phonology, those of Lieber (1981) and Mohanan (1982). After summarizing what Dell and Selkirk meant by Learned Backing, I will try to show that it is not best described by levels of word formation such as are proposed in Mohanan's model, but instead is better described by a lexicon with an organization of the type proposed by Lieber. To show the latter, some aspects of Lieber's theory will be discussed in detail; in particular, I will attempt to clarify her notion of a morpholexical rule, and determine how this type of rule is distinguished from a string dependent rule in her theory. Throughout, less concern will be taken with the exact formulation of rules and more with a clarification that will facilitate comparison of the explanations offered by Lieber's and Mohanan's theories. Lastly, I will look at Dell and Selkirk's treatment of some problem cases for their Learned Backing analysis, and I will argue that Lieber's theory, which would allow morpholexical Learned Backing alternations alongside a more regular string dependent Backing rule, offers a better solution than the ones proposed by Dell and Selkirk, which assume only one rule under which all Learned Backing phenomena would fall.

Learned Backing (LB), as described by Dell and Selkirk (1978), is actually a series of different phonological alternations which are limited to a small class of "learned" roots and suffixes in French, and which are not productive: new words do not show these alternations, however they are combined with inflectional or derivational affixes. The alternations occur both in roots and in suffixes, and they are called Learned Backing by Dell and Selkirk since the two most common alternations in the series change a front **ɛ** and oe to a back a and **ɔ**, respectively.

To explain LB, Dell and Selkirk propose dividing the set of roots as well as the set of suffixes in French into two separate classes, distinguished by the lexical diacritic features +L for the learned class (whose elements show or cause LB alternations), and -L for the nonlearned class (whose elements neither show nor can cause LB alternations). They propose this because there are no specific phonological environments that condition the LB phonological changes in those roots and suffixes which contain sounds that may undergo such changes. Rather, an alternation in a root or a suffix is dependent on only two things: 1) whether the root or suffix is a "learned" one -- a member of the small class of learned items; and 2) whether a suffix added to the right of the root or suffix in question is itself a member of the learned class. In other words, the alternations are morphologically conditioned. I will assume that Dell and Selkirk have correctly distinguished the roots and suffixes of French as learned or nonlearned.[1] The data below, taken from Dell and Selkirk, show exactly how the LB alternations work. The words of 1 below are learned, and those of 2 are nonlearned:

1. Learned roots:

a.	seul	'alone'	c.	grec	'Greek'
	fleur	'flower'		opaque	'opaque'
	peuple	'people'	d.	règle	'rule'
	vain	'vain'		ministre	'member of Cabinet'
	mer	'sea'			
b.	fête	'feast'			
	âpre	'harsh'			

2. Nonlearned roots:

pastel	'pastel'	portrait	'portrait'
moderne	'modern'	orgueil	'pride'
grammaire	'grammar'		

When combined with the learned suffixes of 1' below, one can see that the roots of 1 above undergo certain phonological changes[2]:

1'. Learned roots and learned suffixes:

a.	sol-itude	'solitude'	c.	grec-is-er	'to hellenize'
	flor-al	'floral'		opac-ité	'opacity'
	flor-iste	'florist'		([k] --> [s])	
	popul-aire	'popular'			
	van-ité	'vanity'	d.	régul-ier	'regular'
	mar-in	'sailor'		ministér-iel	'pertaining to Cabinet'
b.	fest-iv-ité	'festivity'			
	aspér-ité	'asperity'			

On the other hand, the affixation of suffixes which, just like the suffixes in 1', are learned, as in 2' below, will have no effect on the nonlearned roots of 2 above:

2'. Nonlearned roots and learned suffixes:

pastell-iste	(not *pastall-iste)	'pastellist'
modern-is-er	(not *modarniser)	'modernize'
grammair-ien	(not *grammar-ien)	'grammarian'
portrait-iste	(not *portrat-iste)	'portrait painter'
orgueill-eux	(not *orgoill-eux)	'proud'

When combined with nonlearned suffixes (or with inflectional affixes), the learned roots of 1 above, in contrast to the situation seen already in 1' above, do not undergo any of the LB changes. This can be seen in 1" below:

1". Learned roots and nonlearned suffixes (compare 1'):

a.	seule-ment	'only'	b.	fêt-ard	'merry-maker'
	fleur-ette	'little flower'		âpre-té	'harshness'
			d.	régl-er	'to rule'
	peupl-ade	'tribe'		régl-ette	'small rule'
	vaine-ment	'in vain'		ministr-able	'prospective member of Cabinet'
	a-merr-ir	'to land on the sea'			

The evidence from 1' and 2' is straightforward: certain French suffixes (learned ones) allow phonological changes in roots, but only in some roots; that is, learned roots. 1" shows that even learned roots will not change unless the suffix following is learned. In 3 below is given a rough formula-

tion of the (LB) phonological rules responsible for the changes in 1' above. By not showing an environment in which the rules will occur, I wish to emphasize the lack of phonological conditioning in them (see Dell and Selkirk for more extensive rule formulations):

3. Phonological changes in 1', associated with Learned Backing:

a. oe --> ɔ
   ɛ --> a

b. $\emptyset$ C --> s C
   [+stop] [+stop]

c. k --> s
   (velar softening)

d. XC{l, r} --> XCV{l, r}

There are a few other alternations which Dell and Selkirk mention, but the rules in 3 suffice to show that there are in fact a series of changes which one can associate with LB. Note that a root may undergo more than one change if it contains more than one element subject to change: peuple --> populaire undergoes rules 3a and 3d, for example, since the root peuple has the front vowel oe as well as the consonant plus liquid combination pl. The point is that none of these changes will occur unless a learned root is combined with a learned suffix.[3]

I. Below will be discussed the possibility of describing LB by the use of levels like those in Mohanan (1982). A levels analysis would provide, first of all, for a lexicon in which learned roots were marked by the diacritic feature +L, and nonlearned roots would not need to be marked at all.[4] Word formation rules would operate at different levels, and these would attach suffixes to roots. Following each word formation rule at a given level would come any relevant phonological rules. For instance, all word formation rules (WFRs) involving learned suffixes could occur on an earlier level, and those involving all nonlearned suffixes would then take place on a later level. I will assume, for example, that learned suffixes are added to roots at Level I, and that the nonlearned ones are added at Level II in the lexicon of French.[5] For my purposes here I will also assume that no other levels exist in French. As for the LB phonological rules, they will, according to the theory, occur automatically on Level I, after the morphological rules which add the learned suffixes to both the lexically marked +L and the lexically unmarked roots. Since, as 2' above showed, the LB rules will not apply when a root is nonlearned, these rules will have to specify that they are restricted to +L roots only; this will allow the correct forms of 1' to be generated, while preventing incorrect forms such as those starred in 2' from being generated. Below is an example of how the levels system just described would give the correct outputs for the words vanité of 1'a, and vainement of 1"a. While the root of both words is +L, the suffix -ité is learned (= a Level I suffix), and the suffix -ment is nonlearned (= Level II):

4. LEXICON: vain (/vɛn/)
   [+L]

	vain] +L	vain] +L
Level I		
Morphology	------	vain] ité] +L
Phonology (= LB rules)	------	van] ité] +L
Level II		

Morphology	vain]ment] (+L)	------
Phonology	------	------
Output	vainement (ɛ) (no sound change on root)	vanite´ (ɛ ⟶ a) (the root changes)

In the next example, the derivation is given for pastelliste of 2', a word with a nonlearned root that nevertheless has a learned (Level I) suffix. In order to get the correct (nonbacked) result, as was mentioned earlier, the LB phonological rules of Level I must apply only to +L roots. For example, rule 3a given above would need to be revised to approximately:

3a'. $\left\{\begin{matrix} oe \longrightarrow o \\ \varepsilon \longrightarrow a \end{matrix}\right\} / X \_\_\_\_ Y \begin{matrix}] \\ +L \end{matrix}$

in order to prevent its application to nonlearned roots.

5. LEXICON: pastel (/pastɛl/)

	pastel]
Level I	
Morphology	pastel] iste]
Phonology	(does not apply due to feature restriction on rule 3a')
Level II	
Morphology	------
Phonology	------
Output	pastelliste (ɛ) (no sound change as expected, on the nonlearned root)

The levels system as described so far is desirable for the following reason: the system eliminates the need for a diacritic on suffixes. In contrast to Dell and Selkirk's proposal that both roots and suffixes be diacritically marked, here only the learned roots need be lexically marked (by +L) as such, because of the existence of the LB phonological rules which refer to the feature "+L" (see 3a'). The information that would be conveyed by a diacritic on the suffixes (that information being that the suffix causes a LB phonological change, when combined with a +L root) is in the levels system available through reference to the level at which a WFR applies: Level I suffixes cause LB on +L roots, while Level II suffixes do not. The elimination of a suffix diacritic is desirable because it allows for the elimination of some morphological information from phonological rules. That is, the placement of rules like 3a' above in Level I Phonology eliminates the need to mention in the LB phonological rules themselves anything about the nature of the suffix to which a +L root might be attached. The only suffixes that will be attached at the point where the LB rules occur will be learned ones, since only these are attached at Level I. However, if there are no levels, then suffix type (along with root type) will have to be specified in the LB phonological rules. In a no-leveled system, 3a' would have to be 3a" below:

3a". $\begin{Bmatrix} oe \rightarrow o \\ \varepsilon \rightarrow a \end{Bmatrix} / X\_\_\_\_Y]_{+L}\ Z]_{+L}$

The evidence given so far for a levels analysis of LE in French is inconclusive. One must ask what predictions such an analysis makes about French derivation. When, for instance, two suffixes instead of only one are combined with a root, the levels analysis predicts that the following combinations could exist:

6. a. root] suffix] suffix] (Level I)
   learned learned

   b. root] suffix] suffix] (Level II)
   nonlearned nonlearned

   c. root] suffix] suffix] (Level I --> Level II)
   learned nonlearned

On the other hand, the following combination is ruled out, given the ordering of WFRs imposed by a levels analysis:

6. d. * root] suffix] suffix] (* Level II --> Level I)
   nonlearned learned

Since when a nonlearned suffix is attached at Level II, the rules attaching learned (Level I) suffixes have already been passed through, one should not be able to affix a learned suffix to a root already having a nonlearned suffix.

But the data of French does not support this prediction of a levels analysis. Dell and Selkirk point out that in French there are restrictions on suffix sequences because some suffixes can only be added to a root, not to a derived (root+suffix) form. Nevertheless, among suffixes that can be added to an already suffixed form, one can find sequences of nonlearned suffix+ learned suffix, like in 6d above. Dell and Selkirk do point out that French has very few examples of this type, and all those that they were able to find are listed below:

7. A nonlearned suffix followed by a learned suffix (no phonological change in the nonlearned suffix):

ouvr-iér-isme	'workerism'
voy-eur-isme	'voyeurism'
conten-eur-is-er	'containerize'
ros-iér-iste	'rose grower'
pépin-iér-iste	'nursery gardener'
tromp-ett-iste	'trumpetist'
corn-ett-iste	'cornetist'
japon-ais-ifier	'Japanesify'

Dell and Selkirk note that most of the suffixes which can be added to a derived (root+suffix) form are learned suffixes (and these are mostly added to root+ learned suffix combinations, as in 6a), although 8 below, which contains examples of combination type 6c, shows that some nonlearned suffixes may as well be added to derived forms. This seems to indicate that one could not explain away the examples in 7 by saying that learned suffixes behave idiosyncrati-

cally in derivation, since nonlearned ones can behave the same way:

8. A learned suffix followed by a nonlearned suffix (no phonological change in the learned suffix[6]):

joy-eus-eté	'joyousness'
form-elle-ment	'formally'
chass-er-esse (from chasse+eur+esse)	'huntress'

If there were other evidence for levels in French, one could perhaps explain the problematic examples of 7 by something like Mohanan's loop. But since Mohanan used this device for reverting to an immediately higher level only when he postulated more than two levels for a given language to begin with, this would seem an inappropriate and undesirable solution here, since there is no evidence that French has more than two levels (if one accepts that it even has two). Using a loop in a two-level system seems to be tantamount to not having levels at all, and thus is in my opinion not a viable answer to the problem at hand.

Another possible way of dealing with the data of 7 in a levels system is through lexical reanalysis (idea of Michael Kenstowicz). For example, ouvr-ier 'worker' of 7 could be considered a single (nonlearned) unit to which -isme is affixed. Or, -iér-isme could be the single unit. The latter possibility is less attractive, since the single unit -iér-isme would be a Level II (nonlearned) suffix, even though -isme alone would very definitely be a Level I, learned phonology inducing suffix (due to the existence of words like urban-isme 'urbanism' from urbain 'urban'). This solution would also entail having unanalysable units such as -eur-isme to account for voyeurisme in 7, and would thus claim that only coincidence causes two distinct unanalysable units to both end in -isme. And finally, if it were found that -ier and -eur had to remain as individual suffixes in the grammar, the second of the reanalysis possibilities would complicate things by proliferating suffixes in the grammar.

The first reanalysis possibility, which would analyse ouvr-ier of 7 as a single unit, is slightly more attractive. First, from a semantic point of view, it is unknown what percentage of speakers of French would associate the word ouvrier with the related word oeuvre 'work' (a noun), or the the word cornet 'cornet' with corne 'horn' (-et is a diminutive suffix). Thus, these items might possibly be semantically noncompositional. However, there are many other words in -et and -ier that might be more semantically compositional for speakers than ouvrier and cornet, such as ferm-ier 'farmer' and cigar-ette (related to ferme 'farm', and cigare 'cigar', respectively). The point is that semantic compositionality in the case of words in -et or -ier might vary from word to word and from speaker to speaker. But it is doubtful that one would want to claim a structural variation along with this semantic variation; this would mean that structural composition is a continuum, like semantic composition[7]. Lieber (1981) discusses at length (pp. 65-70) this problem of compositionality, and states: "once we list [words or] phrases in the lexicon, we imply that they lack internal structure." It seems undesirable therefore, to place words like ouvrier in the lexicon, however semantically noncompositional they might turn out to be.

Another argument against lexical reanalysis comes from the fact that,

even though few suffixes will attach in French to root+suffix combinations, those few suffixes which can do so are capable of attaching to a large number of items potentially. Thus, although the examples in 7 are the only ones attested in French that Dell and Selkirk could find of a nonlearned suffix+ learned suffix combination, native speakers' intuitions allow for the coining of countless words (none of which ever show a LB phonological change in the nonlearned suffix, as expected). For instance, any adjective in -ais, like japon-ais 'Japanese', could form a verb in -ifi-er. The verb *japonaisifier of 7, though unattested, was found by Dell and Selkirk to be acceptable to native speakers. The Dictionnaire inverse de la langue française (Juilland, 1965) provides many other adjectives that could form -ifi-er words, and a native speaker readily gave me "definitions" for these unattested words: *mahonnais-ifier 'make someone like General McMahon', *lyonnais-ifier 'make like someone/something from Lyon', *cantonais-ifier 'make like (the) Cantonese', *béarnais-ifier 'Béarnesify', *navarrais-ifier 'Navarresify', *nivernais-ifier 'Nivernaisify', etc. The same is true of nouns in -ier with the suffix -isme. Besides ouvrier-isme of 7, there could be: *fermier-isme 'farmerism', *officier-isme 'officerism', etc. Dell and Selkirk even point out the possible *cigarett-isme, with the diminutive noun in -et. Given the large number of potential words on these models, it seems to me that it would be undesirable to list even those words actually attested in -isme (like ouvrier) or other suffixes as unanalysable wholes. There are too many actual words and potential words to make lexical reanalysis a feasable solution.

The above conclusion makes it necessary to return to the problem for a levels theory presented by the French Learned Backing data. Although a better solution than the lexical reanalysis one might exist to account for 7, I do not know what it would be. An even worse solution than the above would be to allow learned suffixes like -isme that attach to words with nonlearned suffixes (like those in 7) to belong to both Level I and Level II word formation. The necessary evidence in favor of such a solution would be some otherwise learned roots that do not change phonologically with a set of otherwise learned (Level I) suffixes, like -isme:

7'. terreur 'terror' --> terror-iser 'terrorize'; but *terreur-isme 'terrorism'. The actually occurring word does change: terror-isme.

Evidence like that in 7' above might be construed as showing that some suffixes could be both regular and learned, and thus would belong on both Levels I and II. This would not be an unimaginable situation in a language. Lieber notes in her discussion of German umlaut (p.177) that there are affixes in German that "only sometimes" condition umlaut, along with those affixes that always do, and those that never do. In part III of this paper (in 21a) I will present data in which some learned affixes appear to only sometimes condition LB on learned roots[8]. However, although this situation can exist, it is not one well described by a levels theory[9]. In-between suffixes would further complicate a levels analysis because a given +L root would have to be marked for the level at which it received a suffix which was on both the Levels I and II. This means that an extra diacritic, such as + or -Level I would have to be associated with learned roots. So, although one could argue that some in-between suffixes exist along with learned and nonlearned suffixes in French, such data would not help to salvage a levels analysis for LB, since this data would just require the postulating of yet another (ad hoc) diacritic.

Although the ordering of suffixes in 7 is perhaps the most crucial evidence against a levels analysis, other evidence will now be discussed. Above, it was said that the gain from a levels analysis is that it eliminates the need for marking suffixes with a diacritic, +L or -L. But even this gain is not a real one, since it turns out that suffixes must contain this information anyway. This can be seen by looking at instances where two learned suffixes are combined with a root (the most common kind of two suffix derivation) as in the examples below:

9. Two learned suffixes: the first one changes phonologically:

a.	afrique+ain+iste --> afric-an-iste	'Africanist'
b.	amérique+ain+is-er --> américain-iser	'Americanize'
c.	solide+aire+ité --> solid-ar-ité	'solidarity'
d.	ital+ien+iste --> ital-ian-iste	'Italianist'
e.	nerv+eux+ité --> nerv-os-ité	'nervousness'

In all cases above, the first attached suffix of the word undergoes LB phonological rule 3a. Note that this has occurred even though none of the roots in 9a-e could be characterized as +L. The roots in 9a and b meet the structural descriptions for LB rules 3b and 3c, but neither root changes when a learned suffix is added: see africain and not *afriscain ([sk]) by 3b, or *afrisain ([s]) by 3c. The roots in 9c and d do not even meet LB rules' structural descriptions. The root in 9e meets the structural description of LB rule 3a, but there is no change when it is combined with a learned suffix: see nerveux and not *narveux, showing that here, too, the root is nonlearned. Thus, the roots have nothing to do with the LB phonological changes of the first suffixes; these changes are due rather to: 1) the fact that the first suffixes are themselves learned; and 2) the adding of a second learned suffix. One can corroborate cause 1) by comparing 9 with 7 above. Even though the second suffix in all of the words of 7 is learned, we do not get any of the forms in 7" below, because the first suffixes are nonlearned:

7". Incorrect versions of 7, where the first nonlearned suffix undergoes LB changes:

*ouvr-iar-isme	*pépin-iar-iste
*voy-or-isme	*tromp-att-iste
*conten-or-iser	*corn-att-iste
*ros-iar-iste	*japon-as-ifier

Cause 2) above can be shown to be true by looking at the examples in 8. Here, because the second suffix is nonlearned, the first suffixes do not change, even though they are learned, to give *joy-os-eté, *form-alle-ment, and *chass-or-esse.

Given this information, it is evident that the LB phonological rules cannot refer only to roots, but must refer to a +L segment of any kind preceding a learned (Level I) suffix. Since not all what have been called "Level I" suffixes are such that they would have to be marked +L (because not all of them, like -itude, -al, and -iste of 1', contain sounds capable of undergoing LB rules), one could retain levels by marking as +L only those Level I suffixes that can undergo LB (when followed by a +L suffix). But this then would divide Level I learned suffixes into two separate classes: something that seems less desirable than Dell and Selkirk's original postulation of a +L diacri-

tic on all learned suffixes. After all, it is only a coincidence that not all Level I suffixes are capable of changing phonologically when followed by a Level I suffix; one could imagine a language where all such suffixes would uniformly undergo change.

Since the elimination of suffix diacritics, which was the gain obtained from the levels analysis, cannot be maintained in light of evidence from 9; and since other evidence, from 7, counts against a levels analysis as well, I am led to the conclusion that a levels theory cannot be used to account for LB in French[10]. The next part of this paper will attempt to incorporate the above data into Lieber's system of organization of the lexicon instead.

II. Lieber's (1981) system has three main components: 1) a permanent lexicon which contains morpholexical rules and redundancy rules (an alternative to morphological conversion); 2) a lexical structure component which has the devices of binary branching trees and feature percolation conventions; and 3) a component consisting of string dependent morphologically restricted (not entirely phonological) rules. The lexical structure component will not be of concern here; instead I will attempt to clarify the notion of a morpholexical rule, and in doing so, determine more clearly how this type of rule is distinguished from a string dependent rule.

In the first chapter of Lieber's dissertation, morpholexical rules are regarded as a replacement for morphological readjustment rules that would be triggered by the correct feature specifications of lexical items (p. 12). For example, for German umlaut, the morphological readjustment rule $V \longrightarrow \ddot{V}/$ $\underset{+\text{ plural umlaut}}{\underline{\quad\quad}]}$ would be triggered when the feature <u>+pl. umlaut</u> was present in the matrix of an item in the lexicon. Rules such as the umlaut rule occur before more regular phonological processes at surface structure. On the other hand, morpholexical rules occur in the lexicon, which Lieber calls the word formation component of the grammar, as opposed to the phonological component. These rules are relational rules, and not directional ones like the morphological readjustment rules. Their purpose is to relate independent items in the lexicon, or roots and stems. The least or first element in a pair of items related by a morpholexical rule is a root. Thus for example a morpholexical rule like the following replaces the umlaut rule given above: $C_0VC_0 \sim C_0\ddot{V}C_0$. This rule would relate independent items already in the lexicon, such as: (Bach, Bäch), (Vater, Väter), (Kloster, Klöster). Both elements in each pair are stems, and the first members of the pairs are roots.

Lieber gives many good reasons for preferring morpholexical rules to morphological readjustment rules. One of the strongest reasons is that both members of pairs such as those above are used in affixational processes in many (all?) languages. That is to say, using Lieber's example of umlaut again, it would be hard to explain how some compounds in German have umlauts in them if the compounds are formed from words in the lexicon, and umlaut is assigned only after word formation according to lexical feature specifications (like <u>+pl. umlaut</u>, above). But one must return to Lieber's word formation component as a whole in order to grasp how her system really differs from others proposed.

As was said above, Lieber's word formation component actually consists

of three subcomponents. Morpholexical rules are part of 1) the permanent lexicon; affixation (word formation) takes place in 2) the lexical structure component; and other productive morphological processes besides affixational processes are captured by 3) string dependent rules. The first question that must be addressed is, what kind of relations between lexical items can be captured in morpholexical rules? Lieber answers the question in part this way (p. 41): "Morpholexical rules ... do not define a uniform formal relation between two lexical items, but instead mimic all the sorts of relations defined by productive morphological operations." (emphasis mine.) Thus, morpholexical rules are rules that do exactly the same things that rules in Lieber's components 2 and 3 do. For example, morpholexical rules that mimic 2 will look like affixation rules. Lieber proposes several of this type of morpholexical rule to describe Latin verb classes (p. 87): X ~ Xa, X ~ Xy, etc. Other morpholexical rules will not appear to be any different from string dependent rules. The best example from Lieber of a string dependent-type morpholexical rule is that of umlaut. In the early chapters of her dissertation Lieber postulates that umlaut is a morpholexical relation. However, later in chapter 4 she gives good reasons to revise this analysis, and she places most umlaut phenomena in the string dependent component of word formation (the third component). When a subgroup of all the umlaut phenomena does not conform straightforwardly to her revised analysis, Lieber proposes a morpholexical relation for just this subgroup of data. Although independent evidence allows Lieber to later reject the half morpholexical, half string dependent analysis and to maintain a unified, productive, string dependent morphological rule for German umlaut, her morpholexical proposal is important because it shows that her theory allows for the same rule to exist in different forms in two different components of word formation: namely, in the case of umlaut, in the permanent lexicon in the form of a morpholexical rule, and in the third, string dependent component. It can be assumed that the theory would also allow the same rule in the morpholexical and affixational components. The relevance of this "same rule" observation is that Lieber achieves a formalization of morphological function. Two rules which achieve the same structural result (a change in a string, or an addition to a string) can thus play very different roles with respect to the morphology or to the grammar as a whole: while one rule (the morpholexical one) might be limited in scope and peripheral to the grammar, another (either an affixational or a string dependent one) might have a more integral role in the grammar. Lieber enumerates the characteristics which she discovered that can be attributed to morpholexical rules (p. 187) and to string dependent rules (p. 203). Defining characteristics such as these, when viewed as constraints, "rule out many conceivable morphological rules" as Lieber says (p. 203), and they also allow one to decide upon the correct place for a rule in a grammar. Without discussing any further the character of Lieber's lexicon, I will present a schema of the three components (see also Lieber's chart, p. 64), and then continue the discussion of the data from LB in French.

I Permanent Lexicon	II Lexical Structure Component	III String Dependent Morphological Processes
-idiosyncratic, relatively non-productive rules	-productive rules -affixational rules	-productive rules -string dependent rules
-mimic string dependent rules, OR -mimic affixational rules		

Above, I have already given good reasons as to why a levels theory does not successfully accommodate the data of LB. Here, I will explain the advantages to allowing LB to take place in Lieber's lexicon. First of all, correct affixation in Lieber's system is brought about through subcategorization frames located in the lexical entry of an affix in the permanent lexicon. The subcategorization of an affix allows it to occur or not to occur with a given element. As Lieber explains (p. 35), subcategorization frames can refer to the category (Noun, Verb, etc.) of an item to which a given affix attaches (in the second, affixational component), and "can indicate other diacritic features of the items to which they [affixes] attach." It is in fact the presence, in the lexical entry of an affix, of the subcategorixation frame which allows it to be formally distinguished in the theory from a stem. Lieber's theory then, does not achieve correct ordering of affixes through the ordering of affixational processes, but through subcategorization. Thus, in order to allow the sequences (problematic for the levels analysis) discussed above of nonlearned suffix+learned suffix, as in 7, the subcategorization frames would have to be designed to permit it. Later I will show how this could be accomplished with LB.

Another advantage to Lieber's theory for the LB data is that the status given to affixes and stems is equal: they each have the same type of entry in the lexicon. As a group, affixes and stems are called "lexical terminals", and they are distinguished only, as said above, by subcategorization frames. This differs from Mohanan's theory (1982) where there is segregation of groups of affixes in levels, and where it is not clear exactly where, in comparison with affixes, the stems are located (see Mohanan, p. 11). The reason that Lieber's claim about stems and affixes is attractive with respect to the LB data is that, as was seen above, both stems and suffixes in French show the same phonological alternations, triggered always by the presence of learned suffixes. In Lieber's theory, if one decides to describe LB alternations by means of morpholexical relations, both stems and affixes can enter in these relations. Using the same data that has already been presented above in 1, 1', and 9, these alternations could tenatively be stated as follows (for convenience, I use French orthography here as elsewhere instead of a strict phonological representation):

10. a. Alternating stems:

seul ~ sol	fête ~ fest
fleur ~ flor	grec ~ grec ([k] ~ [s])
vain ~ van	regle ~ regul
mer ~ mar	

b. Alternating suffixes:

-ain ~ -an	-ien ~ ian
-aire ~ -ar	-eux (-euse) ~ -ose

Just to make complete the list in 10b, I will add the other suffixes which Dell and Selkirk have found to alternate:

10. b'. More alternating suffixes:

-el ~ -al	-eur ~ -or
-ier ~ -ar	-t-eur ~ -t-or

Note that a different morpholexical rule would be required for each different alternation in 10a, b, and b' above. Thus, all the stems and affixes with the relation $C_0 oeC_0 \sim C_0 \rho C_0$, that is, seul, fleur, -eux, -eur, and -t-eur would all make up one lexical class[11]. The other stems and affixes above would be in various other lexical classes.

If, instead of a morpholexical analysis, one decided to describe LB in Lieber's system by third component string dependent rules, one could still do this more easily than in Mohanan's theory, due to the lack of separation in the lexicon of affixes and stems. In this case a diacritic, +L, would be part of the lexical entry of alternating stems and of all affixes that either condition, or condition and undergo LB changes (of course, both forms of +L stems and affixes would no longer be listed in the permanent lexicon by morpholexical rules under this analysis). There is no need (in fact, it would be undesirable) to distinguish, in the permanent lexicon, +L suffixes that change from those (again +L) that do not change in any way, only because they meet none of the structural descriptions for LB changes. (Recall that one revision of the levels analysis of LB called for a formal division of these suffixes by the +L diacritic.) The structural descriptions of the string dependent learned rules (see the rule in 3a" for an example) in the third component would take care of making that distinction.

Now that I have led up to, and briefly described, the two possible ways in Lieber's theory of treating LB, I will flesh out the details of these alternatives. By doing so I hope to show that the string dependent rule solution is the superior one for the majority of the LB data. Above, I have briefly explained how a morpholexical analysis of LB would look. But I have not explained how this analysis would allow the correct combinations of stems and affixes. Lieber's theory puts affixes and stems together in the second component, the lexical structure component, by referring to the subcategorization frames that are part of the entry of affixes in the permanent lexicon. Therefore it is necessary to determine just how such frames would look, for all kinds of suffixes that can attach to alternating stems.

Although, as the rules in 3 above show, there is more than one phonological alternation associated with LB, for the sake of simplicity let us examine just one of these: $\underline{\varepsilon} \sim \underline{a}$ (in orthography this is often $\underline{e} \sim \underline{a}$, or $\underline{ai} \sim \underline{a}$). We will then be interested here in stems with the $\underline{\varepsilon} \sim \underline{a}$ alternation and in suffixes with $\underline{\varepsilon}$, that either do or do not show this alternation. First, taking the alternating $\underline{\varepsilon}$ suffixes from the complete list in 10b and b', we have:

11. Learned suffixes in $\underline{\varepsilon} \sim \underline{a}$:

a. -ier ~ -ar	d. -el ~ -al
b. -aire ~ -ar	e. -ain ~ -an
c. -ien ~ -ian	

Since Dell and Selkirk also provide a list of nonalternating suffixes, the $\underline{\varepsilon}$ suffixes can be taken right from their list:

12. Nonlearned, nonalternating suffixes in $\underline{\varepsilon}$:

a. -ier b. -et c. -ais

A close look at the lists of 11 and 12 reveals that they have one element in common, namely 11a and 12a, the suffix -ier (which Dell and Selkirk say is /ɛr/ underlyingly). This seems to indicate that this suffix is sometimes learned and sometimes not. 1'd shows -ier as a learned suffix, since régulier comes from règle (see the rule in 3d). It is also an alternating suffix, as pairs like régul-ier / régul-ar-iser ('regular', 'regularize') and particul-ier / particul-ar-isme ('particular', 'particularism') from Dell and Selkirk show. But in 7 above, where -ier was called a nonlearned suffix, there is the word ouvr-iér-isme without a learned change. However, that there are really two distinct -ier suffixes, one learned and one nonlearned, can be maintained, since there are two distinct category changes involved in -ier derivation. Learned -ier in general changes a noun to an adjective as in règle $]_N$ --→ régulier $]_A$ and in particule $]_N$ --→ particulier $]_A$ ('particle', 'particular'). On the other hand, nonalternating, nonlearned -ier changes a noun into another noun, as in ferme $]_N$ --→ fermier $]_N$, already mentioned above. I think that Mohanan's theory also would prefer to call these two different derivational processes (and two different affixes), and Lieber's theory requires it, since her permanent lexicon is divided exhaustively into mutually exclusive subsets, each of whose members are all of the same category. In Lieber's theory, learned -ier would be in the category Adjective, and its subcategorization frame would thus specify that it attaches to nouns, since it makes nouns into adjectives. Nonlearned -ier would also subcategorize for nouns, but it also would itself be a member of the Noun category. It should be kept in mind then, that although a group of alternations can be described by the same morpholexical rule, the alternation pairs of stems would not necessarily be part of the same lexical class, since lexical classes are subsets of category classes. Thus for example, seul and fleur, which alternate with sol- and flor- respectively, would be members of the category classes Adjective and Noun respectively, and each of these category classes would have a lexical class (a subset of a category class) defined by an identical alternation rule. Although Lieber does not spell out this, it necessarily follows from the framework she has set up. To return to the suffix -ier, that this is two different suffixes, one learned and one nonlearned, can be maintained.

Getting back to the question at hand, of how to explain LB by morpholexical relations and affix subcategorization frames, we already have in 11 a list of alternating, learned suffixes, and in 12, a list of nonalternating, nonlearned suffixes. But of course there are also nonalternating suffixes that will induce LB on preceding elements, and therefore must somehow be considered learned. Some of these have already been seen in 1' and 7 above, and they are repeated here:

13. Nonalternating but nevertheless learned suffixes:

-itude	-is-er
-al	-isme
-iste	-in
-ité	

These obviously do not alternate because they do not meet any of the structural descriptions in 3 above for LB. Yet because they induce LB phonological rules, we know that they are learned. As will be seen, the existence of the suffixes in 13 is a problem since following Lieber's theory, nonalternating

learned suffixes could not be in the same morpholexical class with alternating learned ones (like in 11); and the existence of two types of learned suffixes also complicates subcategorization. The schema below shows how Lieber's permanent lexicon would describe Learned Backing:

14. Morpholexical Learned Backing Schema:

<u>Category Class I</u> (Noun, Verb, or Adjective, etc.)

<u>Lexical Class A</u>: defined by the LB morpholexical rule $X \pounds X \sim XaX$.
(lexical items or lexical terminals:)
(stems:)
$P_1 \sim Q_1$
$P_2 \sim Q_2$
$P_3 \sim Q_3$
(suffixes:)
$S_1 \sim T_1$
$S_2 \sim T_2$

<u>"Lexical Class" B</u>: No morpholexical rule, nonalternating stems and suffixes.
(lexical terminals:)
(stems:)
P_4
P_5
P_6
(suffixes:)
S_3
S_4
S_5
S_6 (+L)
S_7 (+L)

<u>Category Class II</u> (a category different from Cat. Class I)
. . . . . .

Note that Lexical Class B above is not strictly a lexical class, since Lieber's theory requires an exhaustive partitioning of the lexicon into category subsets, but not an exhaustive partitioning of each category into lexical class subsets. Nonalternating items would thus seem not to be formally a part of any lexical class (lexical classes are defined by a morpholexical rule), but it is convenient here to refer to them as a class. Also, as was said before, there is no need to distinguish stems from affixes, because in the full lexical entries subcategorization frames would do this formally. The third thing to note is that two of the nonalternating suffixes in the schema above have been marked "(+L)". This is not a formal mark, but at this point is added solely for convenience of exposition, to show that although these learned suffixes do not alternate, they do induce LB. Next I will fill in the schema in 14 with more French data from Dell and Selkirk (see their article for glosses). To the left is the root $\sim$ stem alternation as it would appear in the lexicon, and to the right simply for reference are listed the words in question:

15. Morpholexical ɛ ~ a alternation:

Category Class I: Noun

Lexical Class A: defined by the morpholex. rule XɛX ~ XaX.

(lexical terminals:)

(stems:)

nɔtɛ́r ~ nɔtar	(notaire / notariat)
mɛ́r ~ mar	(mer / marin)
grɛ́n ~ gran	(grain / granule)
dɔmɛ́n ~ dɔman	(domaine / domanial)
ʃɛ́r ~ ʃar	(chair / charnel)
mɛ́n ~ man	(main / manuel)

(suffixes: see suffixes listed in 11)

-ɛn ~ -an	(africain / africaniste)
	(américain / américaniser)
-iɛn ~ -ian	(parisien / parisianiser)
	(hégélien / hégélianisme)
-ɛr ~ -ar	(ovaire / ovarien)
	(volontaire/ volontariat)

"Lexical Class" B: nonalternating forms, no morpholex. rule.

(lexical terminals:)

(stems:)

pastɛl	(pastel / pastelliste)
mɔdɛ́rn	(moderne / moderniser)
gramɛ́r	(grammaire / grammairien)
pɔrtrɛ	(portrait / portraitiste)

(suffixes: see suffixes listed in 12)

-iɛr	(ouvrier / ouvriérisme)
-ɛt	(cornet / cornettiste)

(learned but nonalternating suffixes: see list in 13)

-iste (+L)	(italien / italianiste)
-in (+L)	(mer / marin)

Category Class II: Adjective

. . . . . .

Note that it could be argued that the alternating suffixes of 15 form adjectives instead of nouns, and then that a noun can be zero-derived from the adjective. Whether this is true or not has no relevance here, since the purpose of 15 is to show the equal status of stems and affixes in Lieber's system. If the alternating suffixes listed form adjectives, then they simply would be part of a lexical class with alternating ɛ ~ a adjective stems.

Now I will work out the system of subcategorization, using the schema in 14 above. I will not mark category in these subcategorizations, although of course in the complete subcategorization frames this would be included. The first thing that will be necessary is a diacritic that allows subcategorization frames to refer to one of the members of alternating (morpholexical) pairs, the P member or the Q member, or the S or the T member in 14 (these letters have no theoretical significance, but are used only to visually distinguish the different elements under discussion). This is allowed in Lieber's theory, and in fact, proves to be necessary, as Lieber notes (p. 92) that "inflectional affixes characteristically choose to attach to only one of the listed stem forms." She sets up diacritics for three Latin stem types, and claims later that comparison of the classes (defined by such diacritics) that an affix

attaches to can determine relative productivity of that affix (pp. 112-115). Although I do not agree with this claim, the important point here is that diacritics used to refer to stem types (a right or left member of an alternation pair) have an integrated and justifiable place in Lieber's system[12]. Here I will use the diacritic +P to refer to the class of roots, or first elements in the alternation pairs (formally in the theory (p. 43) roots are least elements, a subset of stems); and to refer to the α or T elements of 14, the elements that appear before learned suffixes. Now I can show subcategorization frames for nonlearned suffixes S_3, S_4, and S_5; for nonalternating learned suffixes S_6 and S_7; and for the first member only of the pairs of alternating suffixes, S_1 and S_2, of 14 above:

16. Subcategorization incorporating the diacritic +P:

a. S_3, S_4, S_5:

Lexical class A, +P]
Lexical class B

b. S_6, S_7, and S_1, S_2:

Lexical class A, -P]
Lexical class B

The diagram in 16 translates in the following way: nonlearned and nonalternating suffixes (S_3, S_4, S_5) can combine with any nonalternating stem from Lexical class B, and also with the first member (the +P, root member) of the alternating stem pairs of Lexical class A (any combinations would of course be subject to category and also to semantic restrictions). The first members of the pairs of learned alternating suffixes (S_1, S_2) and also the learned but nonalternating suffixes (S_6, S_7) can combine with any nonalternating stem (Lexical class B), and with the second member (the -P, stem member) of the pairs of learned alternating stems in Lexical class A.

It would be useful at this point to give examples of how the subcategorizations of 16 will allow correct stem+suffix combinations in French. For an example of a nonlearned (and therefore nonalternating) suffix as in 16a, we can pick -et from the list in 12. This suffix may, first, combine with any nonlearned (nonalternating, Lexical class B) stem, as in corne+et --> cornet. Secondly, -et may combine with any first (+P) member of the pairs of alternating (and therefore learned) stems of Lexical class A. One such pair, seen in 10a, is fleur ~ flor. So -et can combine with fleur (+P), giving fleur-ette, a correct form seen already in 1". But the subcategorization of 16a will not allow a nonlearned suffix like -et to combine with the second (-P) member of Lexical class A stem pairs. Thus, the combination flor+et giving *flor-ette is ruled out by 16a. This restriction is formally expressed through the employment of the ± or -P diacritics.

For an example of a first (+P) member from a (learned, alternating) suffix pair as in 16b (S_1, S_2), the suffix -aire can be taken from 11b. This suffix can combine with a nonlearned, nonalternating stem from Lexical class B. One such stem not yet given is parcelle 'small fragment', which gives the combination parcell-aire 'divided into small portions'. The never occurring stem *parcalle would not exist in the lexicon (Lexical class B stems do not alternate), and thus no subcategorization would even be necessary to rule out the incorrect *parcall-iste. The suffix -aire can, however, also combine with

learned (alternating) stems; specifically, as the subcategorization of 16b shows, it can combine with any second (-P) member of a stem pair from Lexical class A. Given the pair peuple ~ popul (see 1a and 1'a), the subcategorization in 16b allows only the combination popul-aire and not *peupl-aire, because in the latter it is the +P member that has combined, contrary to the subcategorization specifications of -aire.

16b gives not only the subcategorization for the first member of an alternating (learned) suffix pair, but also the subcategorization for nonalternating but still learned suffixes (S_6, S_7). One such suffix is -ité in 13. This will combine with the -P member of the pair vain ~ van (of 10a), giving van-ité (seen in 1'a), but may not combine with the +P member to give the incorrect *vain-ité. It can also combine with nonlearned stems, as in univers-ité 'university', and complex-ité 'complexity' (see Dell and Selkirk for more nonlearned roots in -ité). Since there would exist no alternate forms *univars or *complax in Lexical class B, there is no way that the incorrect *univars-ité and *complax-ité could be formed.

One set of suffixes has been left out of the subcategorization frames of 16. This is the set of second (-P) members of alternating (learned) suffix pairs, such as T_1 and T_2 in the schema of 14. Since, as was seen in 9, these forms (see the right hand members of the elements of 11) only appear when a learned suffix follows them, their subcategorization must indicate that only learned suffixes like either S_1, S_2 or S_6, S_7 can follow them. For this reason, neither subcategorization frame of 16 would be applicable to suffixes T_1, T_2: the frames in 16 do not indicate what must follow the suffix. Since in 14 the suffixes S_1, S_2 and S_6, S_7 are not all members of the same lexical class, the system described so far has no way of formally referring to them together. To accomplish this, a new diacritic, +L, must be introduced that would be part of the lexical entries of S_6, S_7 and also of S_1, S_2, T_1, T_2. Using this diacritic, a subcategorization frame can now be set up for suffixes like T_1, T_2:

16. c. T_1, T_2:

$$\begin{array}{l} \text{Lexical class A, } -P \\ \text{Lexical class B} \end{array} \quad \underline{\qquad\qquad} \; \rfloor \; X \; \begin{array}{c} \rfloor \\ +L \end{array}$$

16c indicates that the backed versions of learned suffixes (T_1, T_2) must have a +L suffix following them. Preceeding can be any element from Lexical class B, or a member of Lexical class A that has in fact been backed (in other words, a second member of the Lexical class A alternation pairs). The second bracket in 16c is what indicates that another +L element must follow a T_1 or T_2. An example of a suffix subcategorized by 16c is -ar (see 11b) whose "partner", -aire, was discussed above, for the subcategorization in 16b. We saw that 16b permits the form parcell-aire. 16c, on the other hand, rules out the incorrect *parcell-ar, because no learned (now formally, any +L) suffix follows -ar. 16c would also prohibit the incorrect *popul-ar (16b allows popul-aire) for the same reason. But, 16c allows popul-ar-ité 'popularity' since a suffix follows -ar, and that suffix, -ité (like S_6, S_7: see 13) is learned, and now formally +L. Another suffix subcategorized as in 16c is -al (-P), whose partner, as shown in 11d, is -el (+P). Just like popul-ar-ité, 16c allows form-al-ité 'formality' (see form-elle-ment in 8). But it prohibits the incorrect *form-alle-ment because the suffix -ment is not a learned suffix, and thus is a Lexical class B suffix without the feature +L, and therefore cannot follow -al.

As is probably obvious, the analysis just presented in 15 and 16 has drawbacks, although it does "work". First, the analysis removes completely one of the advantages that Lieber's lexicon was said to have over the levels analysis. That is, the advantage of having affixes and stems with an equivalent status in the theory. This was desirable in the case of LB because of the identical alternations that learned stems and affixes show before a learned element. On the surface the above analysis does give affixes and stems an equivalent status since they are both listed in the same way in the permanent lexicon. But, the feature +L artificially imposes a distinction between the two. This feature is attached only to learned affixes and it thus sets them apart from learned stems, which never need the feature under a morpholexical analysis. It therefore in a sense hides the basic similarity that these stems and affixes have, something which a theory presumably would not want to do. (Note that the features +P or -P do not have this characteristic. They refer to both stems and affixes, depending only on which member of a morpholexical pair they are, the right or the left member.) Secondly, the analysis is unattractive in that it does not neatly distinguish between the learned and the nonlearned suffixes. The nonlearned suffixes have one subcategorization frame (16a), but there are two distinct frames for the learned ones (16b and 16c), depending on whether they alternate or not. The two groups (learned and nonlearned suffixes), which one would want to formally distinguish in a theory, cannot be so distinguished by the subcategorization frames alone, but need the ad hoc feature +L to distinguish them. The last complaint against a morpholexical analysis is the following: it has been said that morpholexical rules "mimic" productive string dependent and affixational rules. The LB analysis above thus mimics the type of rule which string dependent rules are, but does not really capture the fact that the LB alternations are conditioned by the elements which follow elements capable of alternation. The subcategorization frames stipulate what can and what cannot occur in a string, but do not explain what does occur. This is especially true of the subcategorization for the suffixes like T_1, T_2. Just how these suffixes relate to the other +L marked suffixes is made theoretically unclear, since they have a different subcategorization from other +L suffixes.

Thus I conclude that the morpholexical analysis of LB explains no more than would a levels analysis, which has already been rejected for LB in this paper. I now turn to the remaining possibility: a third component, string dependent analysis for the bulk of the LB data, similar to Lieber's analysis for German umlaut.

The schema for a string dependent analysis of LB is a great deal simpler than the previous morpholexical analysis. The string dependent analysis does not provide for the inclusion of alternating forms in the permanent lexicon (that is, alternations involving LB). Instead, for example, the **ɛ** form of all learned roots and stems would be listed. Furthermore, a diacritic, +L, would be part of the lexical entry of all learned stems and affixes, thus distinguishing clearly between learned and nonlearned stems, and learned and nonlearned affixes (the morpholexical analysis failed to distinguish the two kinds of affixes in a simple way):

17. String dependent, third component LB schema:

Category Class I (Noun or Verb, etc.)
Lexical Class A (no morpholexical rule):
(lexical terminals:)

(stems:)	P_1
	P_2
	P_3
	P_4 +L
	P_5 +L
(affixes:)	P_6
	P_7
	P_8 +L

Lexical Class B:

. . . . . .

The "equivalent status" problem for stems and affixes is unambiguously not a problem here. As Lieber's theory originally intended, only subcategorization frames would distinguish stems and affixes. This analysis also does not distinguish alternating learned, and nonalternating but nevertheless learned suffixes. It thus makes the attractive claim that the suffixes of 11 and 13 above are only different due to the chance of their phonological makeup, and that they function in the same way in the morphology.

The string dependent rule in the third component of Lieber's lexicon to account for LB would be, very generally, as follows:

18. String dependent, third component, Learned Backing rule:

$$X \rightarrow Y \;/\; \underline{\qquad\qquad}\; \underset{+L}{]}\; Z \;\underset{+L}{]}$$

The rule is stated in such a general way here to allow for the variety of LB rules shown in 3 above. Note that the fact that LB phonological changes take many forms would have caused a proliferation of lexical classes in a morpholexical analysis: each alternation would have to be dealt with in a different and theoretically totally unrelated lexical class. But here, the third component would unify in one place all the LB rules, capturing better the nature of the processes. The string dependent rule also captures better the environmental nature of LB, by which is meant that all LB alternations have the same cause: a following learned suffix. The subcategorization frames of the morpholexical analysis fail to do this in a satisfying way.

In the string dependent analysis of LB, stems would enter the third component with affixes already attached, and with the lexical feature +L marked on learned stems and affixes. After passing through the LB rules, correct phonological forms would result: only those words which had a +L feature could undergo LB phonological changes, and only then if they met the structural description for some LB rule. In 19 below are some examples:

19. Learned Backing in the third component:

Output of second component: affixation	Third component LB phonological rules	Result
corne]et]	----------	corn-et

parcell]aire$]_{+L}$	----------	parcell-aire
pastel]iste$]_{+L}$	----------	pastell-iste
vain$]_{+L}$ité$]_{+L}$	van$]_{+L}$ité$]_{+L}$	van-ité
règl$]_{+L}$ier$]_{+L}$	régul$]_{+L}$ier$]_{+L}$	régul-ier
règl$]_{+L}$ier$]_{+L}$ité$]_{+L}$	I. régul$]_{+L}$ier$]_{+L}$ité$]_{+L}$	
	II. régul$]_{+L}$ar$]_{+L}$ité$]_{+L}$	regul-ar-ité
forme]el$]_{+L}$ité$]_{+L}$	I. ---------	
	II. forme]al$]_{+L}$ité$]_{+L}$	form-al-ité
forme]el$]_{+L}$ment]	I. ---------	
	II. ---------	form-elle-ment

From the above, I conclude that in Lieber's theory, the bulk of the LB data would have to be analysed by a diacritic on learned elements in the permanent lexicon, and a series of string dependent, morphological rules in the third component. I hope to have shown why this is so.

III. The third and last part of this paper will now turn back to Dell and Selkirk's article from which the data presented here has been taken. In my opinion, the intent of their article was to argue for the necessity of having morphological features (like that of $\underline{+L}$) in a grammar, alongside but differing from the traditional distinctive phonetic features. Although they do present a partial theoretical apparatus in which such morphological features would operate, they do not (in the context of the article to which I am referring) commit themselves to a complete theory, but present some possible ways that such a theory would behave. This is done during discussion of lexical items that cause problems for the rule of LB that they have postulated, a rule that differs little from the LB string dependent rule that I have described and argued for above. Where I think that Lieber's theory differs from the partial theory that Dell and Selkirk present is in the way that each theory would deal with some of these problem examples. It is here that I think that Lieber's theory is at least potentially superior, and this is what I will now attempt to show. First, I will present the problem data for Dell and Selkirk's LB rule along with their solutions. Second, I will point out some drawbacks to their solutions; and lastly, I will show how I think Lieber's theory would handle the problem data and why I think her theory does this in a superior way.

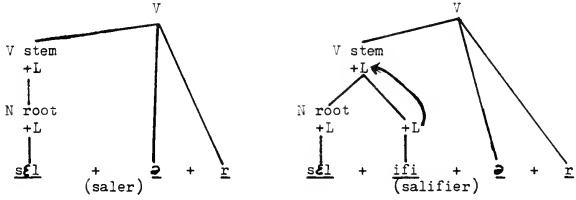
One set of problem examples that Dell and Selkirk discuss is a group of words that show LB alternations where there is no overt derivational suffix that could be said to trigger (or not to trigger) LB. For example:

20. LB not triggered by a suffix:

sel / sal-er	'salt; to salt'
faim / affam-er	'hunger; to deprive of food'
braise / embras-er	'live coal; to set fire to something'
main / man-ier	'hand; to manipulate'
fleur / déflor-er	'flower; to deflower'
couleur / color-er	'color; to color'
odeur / inodore	'odor; odorless'

douleur / indolore	'pain; painless'
chair / carne	'flesh; tough meat'

Dell and Selkirk present good evidence to show that no inflectional affixes such as the -er of verbs can be associated with LB, since there are many counter instances where LB is not caused (in the presence of a known learned root) by these affixes. One of these counterexamples is the verb fleurir 'to flower' alongside the verb déflorer in 20 with a backed vowel. Therefore, given a LB rule like in 18 above, the problem is simply how to account for the vowel change in the derived forms of 20 when there is no element Z (see 18) that triggers the change. Dell and Selkirk propose two possible solutions. One is to postulate empty derivational suffixes with the feature +L that induce LB on a +L element to their left. This is not Dell and Selkirk's preferred solution, however, since they would rather "exclude in principle an analysis which posits empty suffixes whose sole function is to bear a morphological feature." (p. 38) (Lieber also argues against zero affixes because of the undesirable multiplication of zeros in the lexicon: see chapter 3 of her dissertation for the details.) Dell and Selkirk's second and preferred solution revolves around the assignment of the feature +L exceptionally, in cases like 20, to a stem node dominating a +L root. This assignment would take place only when 1) no +L suffix were present to project its feature onto the stem node; and 2) the +L root showed up as having undergone LB even without a following +L suffix. In other words, this solution would rewrite the LB rule so that backing on a +L root would be triggered by a +L feature on a stem. The +L feature would get to the stem node exceptionally through assignment and normally through projection from the +L suffix. For example, Dell and Selkirk give the following trees for sal-er in 20 and sal-ifi-er 'to salify'. In sal-ifi-er, the feature on the +L suffix -ifi- is projected onto the stem, whereas on sal-er, the feature is assigned:



In both cases, the outcome is a backed root vowel.

This solution does accomplish what it sets out to do; however, there are some drawbacks to it. First, a stem (as Dell and Selkirk, and not Lieber, use the term) is a product of word formation, whereas roots and affixes are present in the lexicon. This means that under Dell and Selkirk's analysis the feature +L can be assigned in two different areas of the grammar: to roots and suffixes in the lexicon, and to stems at some later point. For a more constrained theory, it would be in principle desirable to limit the assignment of such morphological features to only one area of the grammar. Otherwise deficiencies in a theory can be masked too easily by allowing exceptions in any area in which they crop up. Another problem has to to with the unified

way in which Dell and Selkirk describe LB phenomena: the same rule for them accounts for 1) the majority of cases of LB where it is triggered by a suffix; and 2) the few cases where no suffix is present to trigger it. However it seems to me that there is a fundamental difference between these two types of LB. Suffix triggered LB is highly regular: there are few cases where a +L root vowel will not be backed when a +L suffix follows (see 21a below for some of the exceptional cases). On the other hand, there is no way to predict if and when a +L root vowel will be backed in zero suffix derivational processes: recall the pair fleurir/déflorer. Although LB is a minor rule in the grammar of French, it seems that LB involving no suffix trigger is more minor still than suffix induced LB. By describing in one rule both types of LB phenomena, Dell and Selkirk fail to capture formally their differences.

Below is given data which Dell and Selkirk admit cannot be handled by their revised rule of LB. In 21a are words with a +L suffix (and a +L root) that nevertheless do not undergo LB; and in 21b are +L root vowels that are backed even though a -L suffix follows:

21.	a.	fleur / fleur-iste	'flower; dealer in flowers'
		laine / lain-ier	'wool; pertaining to wool (adj.)'
		douleur / doulour-eux	'pain; painful'
	b.	sel / sal-ière	'salt; salt box'
		faim / fam-ine	'hunger; starvation'
		braise / bras-ier	'live coal; clear glowing fire'
		main / man-ette	'hand; handle'
		fleur / flor-issant	'flower; flourishing'
		couleur / color-is	'color; coloring'
		odeur / odor-ant	'odor; fragrant'
		douleur / dol-ent	'pain; whining'
		chair / char-nu	'flesh; fleshy'

These cases are exceptions to Dell and Selkirk's rule: although there are suffixes present to project their feature of +L or -L onto the stem, LB operates in the presence of a projected -L feature and does not operate in the presence of a projected +L, contrary to expectations. The data in 21 can be said to have something in common with that in 20, in that in 20 and 21 no feature on a suffix is responsible for the triggering of LB: in 20, this is because there is no suffix, and in 21 because LB operates (or does not operate) contrary to what the suffix feature predicts. The cases in 21 cannot be salvaged like those in 20 by the assignment of a feature to the stem to cause proper application of LB, because the stems in trees for words in 21 would already have the wrong feature projected up from the suffix. Next I will show how Lieber's theory could deal with the data of both 20 and 21.

In part II of this paper the idea of treating suffix triggered LB by a morpholexical rule was considered and rejected. The most important reason for this rejection was that a morpholexical rule is incapable of capturing the fact that the nature of the following element determines whether a front or back variant of a vowel shows up in a root or suffix. On the other hand, such a fact can be captured by a string dependent rule. So if one did not want to claim that a suffix were conditioning a certain LB-type change, a morpholexical rule might be appropriate. This is exactly the state of affairs in 20 and 21 above, where the claim is that no feature on a suffix (whether

nonexistent in 20 or present in 21) is responsible for whether a front or back variant of a +L root vowel shows up. If, instead of being considered +L, all the roots of 20 and 21 were -L in the lexicon but were in morpholexical pairs showing their front vowel ~ back vowel variants, then an explanation of the behavior of the roots in 21 (impossible under Dell and Selkirk's rule of LB) would be possible. 23 below shows what morpholexical pairs for some of the roots in 20 and 21 would look like; the idea is the same as that shown in 15 above:

23.	sel ~ sal -L -L	main ~ man -L -L
	faim ~ fam -L -L	fleur ~ flor -L -L
	braise ~ bras -L -L	

The morpholexical pairs in 23 would explain, first, suffixless derivation of pairs like fleurir/déflorer, verbs with different meanings formed from the same noun root. In the lexical entry of the noun in question there are two stems ("stem" being used here in Lieber's formal sense; see above) available for derivation, fleur and flor, and both are used in order to form two different verbs. There would be no string dependent LB rule at work in the derivation of déflorer under this explanation; simply the right hand member of the pair fleur ~ flor would be "picked".[13] No feature +L would be present in any tree for déflorer; thus the LB rule could not, and would not need to apply.

Since Dell and Selkirk were able to explain suffixless derivation of words like déflorer, it is in explaining the data of 21, which Dell and Selkirk's LB rule could not account for, that the morpholexical analysis proves superior. Only if the roots in 21 are not +L in the lexicon can one explain why the value of the suffix feature (+ or -L) cannot trigger or fail to trigger LB in the usual way. If the roots are not +L, one would expect the suffix feature value to have no influence on the root. Take first the example of fleuriste in 21a. Under a morpholexical analysis this word would be formed when the fleur member of the fleur ~ flor morpholexical pair were chosen for derivation with -iste which is +L. But the +L feature on the suffix would not be able to trigger LB, because the root fleur would be -L lexically, not +L. The same would be true in the case of floriste, seen in 1' above. Although the derivation would pick the flor member of the fleur ~ flor pair, LB would still not apply since flor too would be -L. In both cases, due to the -L roots, the structural description of the LB string dependent rule would not be met, so fleuriste and floriste would not be exceptions to this rule (as fleuriste would be for Dell and Selkirk), but the rule simply would not be applicable to them.

In 21b, where the suffixes are -L, the words would also be out of the domain of the LB string dependent rule, which requires triggering by a +L suffix. But backed vowels could occur in these words if the backed versions of the stems were picked from the morpholexical pairs. So, in sal-ière, the sal member of the sel ~ sal pair would have been picked for the derivation in -ière, and of course both sel and sal would be -L.

Thus, Lieber's theory is able to account for the range of LB phenomena in French, including that in 20 and 21 above. Not only can Lieber's theory account for more data than can Dell and Selkirk (who could not account for 21), but it does this in a constrained way. While Dell and Selkirk had to resort to morphological feature assignment both in the lexicon and in word formation (or elsewhere besides the lexicon), Lieber's theory contains the "exceptions" that morphological features represent within the lexicon. Furthermore, by describing the LB phenomena by means of a string dependent rule for the regular, suffix induced backing and by means of a "mimic" morpholexical rule for the unpredictable cases of backing like in 20 and 21, Lieber's theory captures formally the fact that the structural outcome of backed vowels actually has its source in rules which function very differently in the grammar of French as a whole. The morpholexical rule relating lexical pairs with front and back vowels is merely a limited rule that mimics the regular (although still minor) process captured by the string dependent LB rule of 18 above. I conclude that Lieber's theory can give a more illuminating and more complete picture of Learned Backing phenomena in French than can the explanation originally set forth by Dell and Selkirk.

This paper has attempted, by looking at the theories of lexical phonology of Mohanan and of Lieber, and at the original analysis of Learned Backing as presented by Dell and Selkirk, to find the best explanation for the facts of a small part of French morphology. It has also attempted to elucidate Lieber's organization of the lexicon. The analysis presented here shows, since Lieber's morpholexical rules mimic more productive phonological rules, that to attain the proper explanation for any morphological process in her theory one must carefully consider where the process should be located in the lexicon. It is my opinion that Lieber's theory can facilitate an understanding of morphology in general since it provides a formal way to distinguish major morphological rules from less important ones. The claims the theory makes about things like productivity are worth exploring as well. Another possibility of the theory not mentioned by Lieber but suggested by some of Tranel's (1981) comments on French morphology (beyond the scope of discussion here) is that the various components of the lexicon might allow a delineation of rule properties so that predictions could be made about future productivity of any given rule. If further exploration of both Lieber's and Mohanan's theories shows that different types of rules are best suited to a levels analysis, a morpholexical analysis, or the type of analysis which Lieber's third component string dependent rules provide, such information might provide new generalizations about morphology.

NOTES

*Many thanks to Michael Kenstowicz and Charles Kisseberth for their ready help with this paper. I am also grateful to Joëlle Mankopf for providing definitions and intuitions.

[1]Some of the lexical items which Dell and Selkirk consider learned, and to which they would assign the feature +L will be considered in part III of this paper as Learned Backing related items without the lexical feature +L, and items not capable of undergoing the LB rule. For instance, because of

the pair floriste / fleuriste (both with a +L suffix), I will analyse fleur in 1a below not as +L but as one member of the morpholexical pair fleur ~ flor. At this point, however, I am merely explaining Dell and Selkirk's data, and everything "learned" would by them be considered as +L.

[2]Minor phonological changes which have no bearing on LB will not be discussed here. See Dell and Selkirk's brief outline of French phonology for more information on these changes.

[3]The "exceptional" cases where no learned suffix is present in a word and a learned root nevertheless shows a backed vowel, as in sel / sal-er, will be discussed in part III.

[4]Dell and Selkirk note that in order to show the minor character (in the sense of Lightner, 1968) of the rule of LB in the grammar of French as a whole, all roots could be redundantly specified as -L and then learned roots could be assigned the feature +L in the lexicon. I agree with this view of things.

[5]The opposite assumption, that Level I contains nonlearned suffixes, and Level II learned ones, would not lead to conclusions different from the ones I will arrive at here. See below.

[6]Were the order of the proposed levels reversed so that Level II contained learned suffixes and Level I contained nonlearned ones, the problem of the existence of logically ruled out data would remain. In this case, 6c would be the suffix combination ruled out instead of 6d, and the examples of 8 would be problematic instead of those of 7.

[7]Although I believe that structural composition is also a continuum, I think that it is less characterized as such than is semantic composition.

[8]However, I will conclude from this data not that there are in-between suffixes in French, but that the roots in question are not +L. See part III.

[9]On the other hand, Lieber's theory could more easily accommodate in-between items. See her discussion of German umlaut.

[10]I wish by no means to claim that levels explanations have been "proven" incorrect by the above analysis. I have only shown that levels do not give a good explanation for the data of LB, but obviously not that they are never necessary.

[11]Note that this is a generalization: as will be seen later, a lexical class must consist of members of the same category. So seul, an adjective, and fleur, a noun, would actually be in different lexical classes for their respective categories.

[12]See Anshen and Aronoff (1981) for an interesting analysis of productivity, that differs from Lieber's conception.

[13]It should be noted here that in Lieber's theory, category changes that do not involve suffixation are not carried out by word formation, but by the listing of the same stem in the lexicon under as many categories as it appears in. Thus fleur ~ flor would be both a noun and a verb, and neither would be

derived from the other. Still both stems fleur and flor would be available to form different verbs. I do not wish to take up the question of whether this is the best way to handle such category changes here; however, even in a system where these category changes take place through derivation, the morpholexical pair analysis explains better, in my opinion, than would a string dependent rule, pairs like fleurir / déflorer.

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EPENTHESIS AND SONORITY IN LEBANESE ARABIC*

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This paper discusses the conditions for the application of epenthesis in Lebanese Arabic (LA). It shows that this rule is governed by two types of principles: 1) the universal principle that sonority decreases from the vowel of the nucleus to the margins of the syllable; and 2) certain language particular deviations from the universal principle of (1).

It is a well known fact that Arabic in general does not tolerate a sequence of more than two consonants. Due to this, all Arabic dialects employ a rule of epenthesis that has the effect of inserting a vowel to break up an "undesirable" consonant cluster. However, there is some dialectal variation in regard to the quality of the epenthetic vowel and its placement. In Sudanese Arabic, for example, the epenthetic vowel is /a/, while in most (if not all) other dialects it is /i/.[1] Again, in a variety of dialects, the epenthetic vowel is subject to rounding harmony (e.g. Palestinian, Iraqi), while in others (e.g. Syrian) it is not.[2] With respect to the placement of the epenthetic vowel, there are dialects (e.g. Egyptian) that insert it after the second consonant in a three consonant cluster, while others (e.g. Lebanese, Iraqi) insert it before the second consonant.[3]

It is widely accepted in the literature that epenthesis is a result of the rules that govern the metrical structure of the syllable. Therefore, understanding the operation of this rule is dependent on understanding the syllabification rules of the language. For this reason, the following discussion will begin by providing a brief account of the approach used in this paper before discussing the relevance of the metrical structure of the syllable to the application of epenthesis in one Arabic dialect, LA. It is to be concluded that the rule applies if the consonants of the rime violate the principle that sonority decreases from the nucleus towards the right margin. To illustrate the validity of this principle, a detailed analysis of the sonority hierarchy of consonants (and stipulations to such hierarchy) as it relates to epenthesis will be provided.

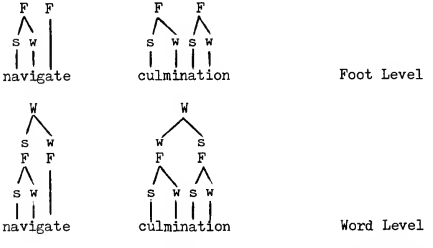
Following Kiparsky (1980) and others, I assume here that the syllable branches binarily into an onset to the left and a rime to the right, as illustrated in the following English words:

(1)

O = Onset, R = Rime, $ = Syllable node

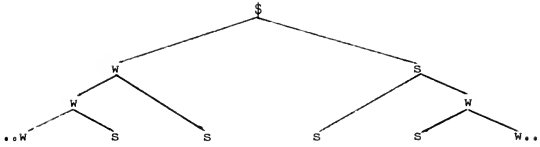
In an attempt to explain the accentual systems of various languages, some linguists (e.g. McCarthy (1979, 1980, 1982) and Hayes (1982)) have adopted the following (grossly simplified) relational approach. Each word has four prosodic levels organized in the following downward manner: the word, the foot, the syllable, and the segment. After segments are organized into syllables, by means of distinct rules on each of the other levels, syllables, feet, and words are labled s(trong) and w(eak). The difference between the two labels is that the beat of s is stronger than the beat of w. By means of this approach, stress can be read off the metrical tree by tracing the path of s's from the top node down to the lowest level. In English, for example, (again grossly simplified), syllables are organized into maximally binary feet labeled s and w. They are labeled s if they branch, and w if they do not. For example:

(2)



To go back to the level of the syllable, inspired by Kiparsky (1980), we maintain that in a manner equivalent to the s-w relationship that holds among the syllables of the word, there are prominence relationships among the subconstituents of the syllable, i.e., between the onset and the rime, and among the segments that each dominates. Prominence in this case, however, is determined by the sonority of the segments. Thus, given any two sister nodes, the more sonorous one is labeled s and the other w. Based upon this principle and the notion of decreasing sonority, an acceptable syllable is one whose immediate branching is right-dominant, whose onset is also right-dominant, but whose rime is left-dominant, as exemplified in the following diagram:

(3)



Note that the increasing sonority of the onset and the decreasing sonority of the rime can only be captured by means of a left branching onset and a right branching rime as in the universal template of (3).

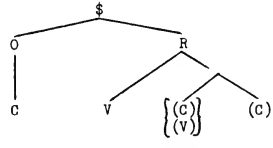
What about Lebanese Arabic? In LA, prominence relationships exist only within the rime since the onset can contain only one consonant.[4] Therefore, the discussion related to this language will concentrate totally on the rime.

The rime in LA may contain a maximum of three elements of timing.[5&6] Given the fact that LA has both short and long vowels, five rime shapes result from the above restriction. The following are illustrations:

(4)	V:	sa.?u	'they watered'
	VV:	?aa.lu	'they said'
	VC:	dal.wak	'your pail'
	VVC:	faas.diin	'spoiling (pl.)'
	VCC:	samm.kin-š	'he didn't poison you (pl.)'

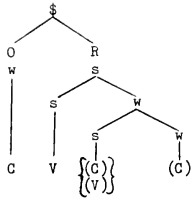
Assuming that long vowels and long consonants are represented as two segments on the CV tier, and as one on the segmental tier, we can capture the above generalizations about the syllable in LA by means of the following template:

(5)



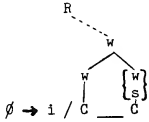
While (5) captures the constraints that specify the number of segments that may occupy every node in a LA syllable, only a template such as (6) is adequate enough to capture, in addition to the above, the phonotactic constraints on the syllable. It should go without saying that (6) is a subset of the universal template (3):

(6)



The advantage of the relational template in (6) lies not only in its ability to more adequately characterize the acceptable structure of a LA syllable, but also in its ability to predict the environment for the application of epenthesis. Since epenthesis applies to break up a consonant cluster, it operates only to rimes of the shape VCC. Now, given (6), epenthesis applies only if the consonant cluster in the rime is anything but s-w. In other words, the rule becomes the natural outcome resulting from the violation of (6): it applies if the two consonants in the rime are of equal sonority (i.e., s s or w w), or if the first consonant is less sonorous than the second (i.e., w s). Following is a formulation of this rule:

(7)



One rather interesting observation due here is that although epenthesis is obligatory if violation of the sonority principle occurs, it is not prohibited if this principle is obeyed (i.e., s w). In fact, apart from two contexts, 1) where C_1 is a glide, and 2) where C_1 and C_2 are identical, epenthesis may optionally apply irrespective of the sonority of the consonants in the sequence. Therefore, in the following discussion where we exhaustively study the sonority hierarchy of consonants in LA, we should bear in mind that unless otherwise noted, epenthesis may apply to break up any sequence of two consonants in the rime of a syllable.

Before moving any further, a note about the contexts that prohibit the application of epenthesis is due. The first context, where C_1 is a glide, will be discussed in detail a little later. Therefore, it will be ignored at this point. As for the second context, where C_1 and C_2 are identical, it exhibits two types of phonological behavior. The first type occurs if both consonants are in the same morpheme. In this case, C_1 and C_2 act as a single long consonant, and consequently, they prohibit the application of epenthesis. For example, ?imm 'mother', sitt 'grandmother', and raff 'shelf' are grammatical, but *?imim, *sitit, and *rafif are not. This type of behavior provides good motivation in favor of representing a sequence of identical segments in the same morpheme as one on the segmental tier, and as two on the CV tier, as in (8) below:

(8)

```
? m                r f
| ⋀                | ⋀
CVCC               CVCC
 |                  |
 i                  a
```

On the other hand, if a morpheme boundary separates a sequence of two identical consonants, epenthesis may optionally apply. For example, /fit-t/ 'I entered' and /sabbat-t/ 'I proved' can have two possible phonetic representations. The first is identical to the underlying forms, i.e., without epenthesis (cf. fit-t and sabbat-t), and the second is one where epenthesis has applied (cf. fit-it and sabbat-it).

The difference between a geminate consonant cluster occurring in the same morpheme, and another occurring across morpheme boundary is due to what Guerssel (1979) refers to as the Adjacency-Identity Constraint (AIC), where "adjacent" refers to a "no-boundary context". According to this constraint, no rule will apply that will change the adjacency of two identical consonants. Therefore, epenthesis will be blocked if the geminate occurs in the same morpheme. However, when the same geminate consonant is separated by a morpheme boundary, the rule will be allowed to apply.

Having formulated the rule of epenthesis above, we move now to concretize our claims regarding the sonority principle and its influence on the rule under discussion. We will do so by providing what we believe to be a complete list of all possible consonant clusters that may exist in the syllable rime of the language. But before undertaking the discussion of sonority hierarchy, a note about the "segmental" context of the rule is necessary. A syllable rime in LA may contain two consonants in two cases. The first is when the word ends in VCC##, and the second is when the word contains a CCC sequence internally. In general terms, both contexts invoke epenthesis. However, I believe that there are slight differences related to the degree of influence of each context. Namely, I believe that an internal CCC sequence constitutes a better and more demanding environment for the application of the rule. For example, it will be seen below that there are certain cases where a definite judgment cannot be provided as to whether the rule must apply or not. If such cases exist in a CC## context, the same type of sequence occurring in a CCC context is very often ungrammatical. Again, some acceptable sequences word finally may be questionable word internally.

Another note about the context used below is related to the grammatical category of the words. To show that category has no significance to the application of the rule, we have attempted to include nouns as well as verbs in our data. However, since there are no verb stems that end in CC##, illustrations from verbs have been given for the internal CCC sequence.[7]

In the transcriptions below, I have invariably used i to represent the epenthetic vowel. I must note, however, that this representation is rather inadequate since an inserted vowel is more prone to suprasegmental features such as "guttural" and "emphatic" than an underlying vowel is. Leaving

details aside, the feature "guttural" lowers the epenthetic vowel, (e.g., /nahr/ → nahar 'river', but /?ibn/ → ?ibin 'son' and /dars/ → daris 'lesson'), while the feature "emphatic" rounds it, (e.g., /baTn/ → baTun 'belly').[8]

Previous literature, old and recent (e.g., Bloomfield (1933), Jespersen (1913), Kiparsky (1980), Welden (1980), etc.) often claimed that sonority hierarchy can be drawn as follows:

(9) Most Sonorous — Least Sonorous

vowels glides liquids nasals obstruents

While the hierarchy constructed in (9) is true, it is by no means sufficient. Therefore, we will take it as the basis of our study only inasmuch as the organization of the following discussion is concerned. In other words, the discussion in the ensuing pages will follow the path of sonority of the second consonant from the top echelon down to the bottom, according to (9). Thus, we will proceed in the following order: G(lides), L(iquids), N(asals), and O(bstruents) which will be divided into F(ricatives) and P(losives). A phonemic chart of all the consonants of LA is shown in fig. 1.

1. Glides: Glides have two peculiar characteristics that distinguish them from all other consonants. First, it is acoustically impossible to determine whether a sequence of the type C G is broken up by epenthesis or not, since a glide loses its consonantal quality when it occurs in the segmental context of epenthesis (i.e., CGC or CG##). The following examples illustrate this point:

(10) G G: /9awy/ → 9awi 'barking', /nawy/ → nawi 'intending'.

L G: /žaly/ → žali 'washing', /dalw/ → dalu 'pail'; /bary/ → bari 'sharpening', /žarw/ → žaru 'puppy'.

N G: /bany/ → bani 'building'; /ramy/ → rami 'throwing', /ħamw / → ħamu 'cold sores'.

F G: /?asy/ → ?asi 'being strict'; /ħašy/ → ħaši 'stuffing', /?azy/ → ?azi 'hurting', /9uSy/ → 9uSi 'sticks', /ħaZy/ → ħaZi 'gaining', /nafy/ → nafi 'denying', /9afw/ → 9afu 'pardon'.

P G: /ħaby/ → ħabi 'looting', /?abw/ → ?abu 'basement', /raty/ → rati 'darning', /9ady/ → 9adi 'transferring disease', /laTy/ → laTi 'seeking shelter', /raDy/ → raDi 'pleasing', /ħaky/ → ħaki 'talking'.

Gut G: /wa9y/ → wa9i 'awareness', /nahy/ → nahi 'ban, discouragement', /lahw/ → lahu 'pleasure, fun', /waħy/ → waħi 'inspiration', /raxy/ → raxi 'loosening', /raxw/ → raxu 'loose', /laǧy/ → laǧi

	LABIAL	DENTAL	ALVEOLAR	EMPHATIC	PALATAL	VELAR	PHARYNGEAL	GLOTTAL
STOPS	b	t d		T D		k		?
FRICATIVES	f		s z	S Z	š ž	x ǧ	ħ ʕ	h
NASALS	m	n						
LATERALS		l						
VIBRANTS		r						
GLIDES	w				y			

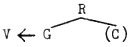
Fig. 1: A phonemic chart of the consonants of Lebanese Arabic

'cancelling', /sa?y/ → sa?i 'watering; /yiʕwr-u/ → yiʕur-u 'they hurt', /yistahwn-u/ → yistahun-u 'they find s.th. easy', /yiħwž-u/ → yiħuž-u 'they cause to be in need of s.th.', /yistaxyr-u/ → yistaxir-u 'they give the choice', /yixwt-u/ → yixut-u 'they drive s.o. out of his mind'.

The underlying status of the glide in the above data can be confirmed by various pieces of evidence. First, if a vowel initial suffix is added to any of the nouns in (10), the final vowel appears as a glide, contrary to words that end underlyingly in a vowel. Compare, for example, <u>?abw-ak</u> 'your basement' to <u>?abu-uk</u> 'your father', the latter of which also appears as <u>?abu</u> when it stands alone.

Secondly, LA contains a rule of "syncope" whose role is to delete a short unstressed vowel if it occurs in a non-final open syllable. If the final vowel in (10) is assumed to be underlying, we will encounter a difficult problem accounting for the retention of this vowel when it occurs in the context of syncope, as in the words <u>bárí-na</u> 'our sharpening' and <u>?ábu-na</u> 'our basement'. Alternatively, however, if we assume that the words in (10) end underlyingly in glides, the appearance of the vowel can

be accounted for by rule (11), and its retention in forms taking a vowel initial suffix, by ordering this rule after syncope as shown in (12):

(11) 

(Vocalization)

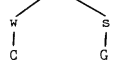
(12) a.	/bary/	/bary-na/	
	bary	bary-na	Stress Assignment[9]
	----	-------	Syncope
	bári	bári-na	Vocalization

But

b.	/bari/	/bari-na/	
	bári	bári-na	Stress Assignment
	----	*bár-na	Syncope

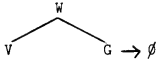
Having proven that the words in (10) end underlyingly in a glide, we now turn back to the issue of sonority. The data in (10) can be analyzed in two equally plausible ways. The first is the direct and simple way described in rule (11) and illustrated in (12). As for the second way, it would be to assume that the phonetic representation of the data in (10) is the result of two rules, epenthesis and glide deletion. Epenthesis, one can legitimately say, is necessitated by the fact that a sequence of the type C G results in a relational structure of the type (a) or (b) of (13), both of which are in violation of the template shown in (6):

(13) a.

b. 

If this position is adopted, two other rules will be needed. The first, "vowel rounding", rounds the epenthetic vowel if it is followed by a round glide, and the second, "glide deletion", deletes the glide if it follows a vowel in a weak metrical position:

(14) $\underset{[+high]}{V} \longrightarrow +round \quad / \quad \underset{[+round]}{\_\_\ Glide}$ Vowel Rounding (VR)

(15) 

Glide Deletion (GD)

The need to specify weak metrical syllable for the application of the rule arises from the fact that in words such as 9amáy-na 'we blinded', and 9míi-na 'we got blind' (from /9imiy-na/) where the glide is in a strong syllable, it is retained (as in the first example), or changed into a vowel (as in the second example). This issue being outside the scope of this study, we will suffice with the above observations here. As for now, let us see how the above analysis works for the derivation of the words

rámi and dálu-na:

(16)	/ramy/	/dalw-na/	
	rámy	dálw-na	Stress Assignment
	rámiy	dáliw-na	Epenthesis
	-----	dáluw-na	VR (14)
	rámi	dálu-na	GD (15)

In addition to the above, glides have also the peculiar characteristic of being the only consonants that prevent epenthesis from applying when they occur in the left position of the cluster. For example:

(17) G L: ħawl 'around', xayl 'horses', dawr 'turn', ġayr 'other than', (but *ħawil, *xayil, *dawir, *ġayir).

G N: 9awn 'aid', 9ayn 'eye', lawm 'blame', ġaym 'clouds', (but *9awin, *9ayin, *lawim, *ġayim).

G F: baws 'kissing', tays 'billy goat', mawz 'bananas', žayš 'army', xawf 'fear', Sayf 'summer', fawž 'battalion', (but *bawis, *tayis, *mawiz, *žayiš, *xawif, *Sayif, *fawiž).

G P: Sawb 'towards', 9ayb 'shame', Sawt 'voice', bayt 'home', ?awd 'leading', Sayd 'hunting', šawk 'thorns', layk 'look!' (but *Sawib, *9ayib, *Sawit, *bayit, *?awid, *Sayid, *šawik, *layik).

The only exception to the generalization illustrated by the data above is in cases where a guttural consonant is involved, as we shall see later. Therefore, in the forthcoming discussion of liquids, nasals, and obstruents, instances where the first consonant is a guttural will be ignored.

2. Liquids: In discussing liquids, some distinction must be made between r and l, since the latter is more sonorous than the former. Unfortunately, however, this hypothesis can only be partially tested for one can find underlying sequences of the type lr, but not rl. It must be noted here that a sequence of the first type exists only across morpheme boundary; namely, when the dative suffix is appended to a verb ending in r. A sequence of this type is always broken up. For example:

(18) r+l: *ħafar-l-na 'he dug for us', *sakkar-l-na 'he shut for us'.

Another piece of evidence for the higher sonority of l can be found if we examine sequences of the type N L. Such sequences are more likely to be broken up if the nasal precedes l than if it precedes r. We must note here that there are no instances in the language where n precedes r or l in a word stem. But there are sequences of the type mr, ml, and n+l (where l is the dative suffix). For example:

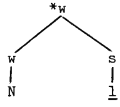
(19) m l: *ħiml 'load', *?aml 'lice'; *?aml-na 'our lice', *?am-l-na 'he rose for us', *nam-l-na 'he slept for us', *yimls-u 'they get smooth', *yistamlħ-u 'they brown nose'.

n+l: *kan-l-na 'he was for us'.

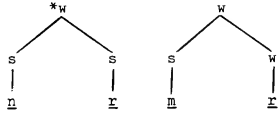
m r: ?nimr 'tiger', ?amr 'order'; ?nimr-na 'our tiger', ?amr-na 'our order', ?yimr?-u 'they pass' ?yistamrD-u 'they act sick'.

What can be concluded from the above data is that m may be more sonorous than r since a sequence of the type mr is acceptable, while as we shall see in the next section, rm is not. Given the above observations, the relationship between l and N, and between r and each of the two nasal segments can be formalized according to the following relational diagrams:

(20) a. l and N:



b. r and N:



Apart from the problems encountered as we discuss the relationship between liquids and nasals, data involving liquids seem to be very easy to analyze. A sequence of an obstruent and a liquid is not tolerated by the language whether the obstruent is a continuant or a stop. For example:

(21) F L: *nasl 'progeny', *9azl 'seclusion', našl 'pickpocketing', *?aSl 'origin', *?ifl 'lock', *9ižl 'veal'; *yisl?-u 'they boil', *yuzlT-u 'they swallow', *yistašl?-u 'they act carelessly', *yuSlb-u 'they crucify', *yiflt-u 'they release', yižl?-u 'they spoil' (e.g. a child).

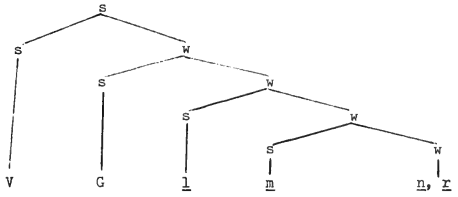
*nisr 'eagle', *9izr 'excuse', *našr 'publishing', *?aSr 'palace', *ħafr 'digging', *ħaZr 'ban', *?ižr 'foot'; *yisr?-u 'they steal', *yišr?-u 'they suck up', *yuSrf-u 'they spend', *yifrš-u 'they furnish', *yizrk-u 'they corner', *yižrš-u 'they grind'.

P L: *?abl 'before', *?atl 'killing', *9adl 'justice', *raTl 'mass unit (in Beirut = 2.566 kg.)', *šikl 'shape'; *yiblf-u 'they bluff', *yitlf-u 'they damage', *yidlf-u 'they leak', *yuTlb-u 'they request', *yistaklb-u 'they act greedy (lit. like dogs)'.

*ħibr 'ink', *satr 'overlooking', *nidr 'vow', *?aTr 'melted sugar', *xuDr 'green (pl.)', *zikr 'souvenir'; *yibrd-u 'they feel cold', *yitrk-u 'they leave', *yidrs-u 'they study', *yuTrš-u 'they paint', *yuDrb-u 'they hit', *yikrž-u 'they scramble (intr.)'.

A simple conclusion of the discussion provided so far is summarized in the following diagram:

(22)



3. Nasals: Similar to liquids which display varying degrees of sonority, data involving nasals suggest that /m/ is more sonorous than /n/. Notice, for example, that a sequence of the type rN is less grammatical if the nasal involved is /n/ rather than /m/:

(23) l N: ħilm 'dream', talm 'furrow'; ?yilms-u 'they touch'.

r N: ?firn 'oven', ??arn 'horn'.

r m: *farm 'chopping', *harm 'chopping'; *yirmš-u 'they blink', *yirmz-u 'they symbolize'.

As far as I know, there are no syllable rimes which contain the sequence /ln/. This may be the result of some restriction on the cooccurrence of these two consonants, or it may be just coincidental. Notice that unlike a sequence involving /l/ and /r/ which may not be tautosyllabic, there are syllables which contain /l/ and /n/. For example, /ʕalan/ 'he announced', /lang/ 'brand new', etc.

Moving down the scale of sonority, we notice that a sequence of two nasals cannot be tolerated by the grammar. However, we must note that this generalization can be partially tested only, since there are underlying clusters of the type /mn/ but none of the type /nm/. For example:

(24) m n: *?amn 'peace', *samn 'margarine'.

Even though it is possible to assume that m is more sonorous than n, the ungrammaticality of (24) may be the result of some restriction that prohibits the clustering of consonants of the same category, which in this case is nasal.

Let us now consider sequences of the type O N. Similar to O L, O N is regularly broken up by epenthesis as the following examples illustrate:

(25) F N: *?ism 'name', *9azm 'will', *ǧišm 'dumb (pl.)', *waSm 'blemishing', *ḥažm 'size'; *yuzmT-u 'they slip out', *yišml-u 'they include', *yuSmd-u 'they persist', *yistažm9-u 'they recollect'.

*ḥizn 'sorrow', *ḥuSn 'fortress', *dafn 'burial'; *yisnd-u 'they support', *yiznx-u 'they stink', *yišn?-u 'they hang (s.o.)'.

P N: *9atm 'darkness', *?idm 'old (pl.)', *?aTm 'losing (in children's games)', *9aDm 'bones', *ḥikm 'ruling'; *yidml-u 'they bury', *yuTmr-u 'they bury', *yuDmr-u 'they make a wish', *yikmd-u 'they suppress'.

*?ibn 'son', *fatn 'charming (v.n.)', ḥuDn 'lap', *rikn 'nook'; *yuTnb-u 'they ask repetitiously'.

4. Fricatives: Apart from gutturals which will be discussed separately, LA tolerates any sequence involving a fricative preceded by either a liquid or a nasal (and naturally a glide, too). For example:

(26) L F: fils 'a small coin' (in Iraq & Jordan = 1/1000 Dinar), falš 'spreading out', talž 'snow', balS 'tricking', balf 'bluffing'; yilz?-u 'they stick', yilžm-u 'they put the bridle on..', yilf?-u 'they seam'.

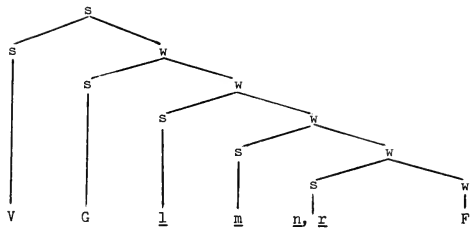
9irs 'wedding', farz 'sorting out', farš 'furniture', marž 'meadow', 9arS 'bastard', ḥarf 'letter'; yirsx-u 'they precipitate', yirz?-u 'they bestow', yiršd-u 'they guide', yiržf-u 'they shiver', yurSd-u 'they observe', yurfD-u 'they reject'.

N F: lams 'touching', ramz 'symbol', rimš 'eyelid', ḥomS 'Homs', damž 'combining'; yimsk-u 'they hold', yimzž-u 'they mix', yumSl-u 'they curdle'.

/?ins/ → ?ĩs 'humans', /9anz/ → 9ãz 'goats', /?inš/ → ?ĩš 'inch', /ǧinž/ → ǧĩž 'wantonness', /šanS/ → šãS 'chance', /9inf/ → 9imf 'violence'; /yinsf-u/ → yĩsf-u 'they detonate', /yinzf-u/ → yĩzf-u 'they bleed', /yinšr-u/ → yĩšr-u 'they publish', /yinžd-u/ → yĩžd-u 'they save', /yunSt-u/ → yũSt-u 'they listen', /yunZr-u/ → yũZr-u 'they look into', /yinfx-u/ → yimfx-u 'they blow'.

The behavior displayed in the data above is unquestionably the natural result of the fact that fricatives are less sonorous than both liquids and nasals. That is, given any two sister nodes, one being L or N and the other being F, the latter (i.e., F) will be labeled w, and the L or N will be labeled s. Thus, (22) can be expanded in light of the new data as follows:

(27)



Before moving any further, it is necessary to point out two important observations about the data involving N F sequences. First, notice the lack of words involving an underlying sequence of a labial nasal and a labial (or more accurately "labio-dental") fricative. When we study sequences of the type N P next, it will be seen that the language does not contain an underlying sequence of a labial nasal and a labial stop, either. We believe that this restriction is not simply coincidental. More specifically, this phenomenon is probably due to Greenberg's (1966) universal which states that the contrast between correlative sets is neutralized in that both could not occur. (By correlative sets is meant a group of phonemes, usually two in number, which differ only in a single feature; e.g. voicing). This universal seems to be well at work in imposing restrictions on the cooccurrence of radical consonants in a Semitic root, to insure that successive ones contrast in more than one feature, as Greenberg (1978) later notes. Such a contrast does not only explain the absence of a labial nasal - labial obstruent sequence, but it also explains the absence of many other types of sequences, as will be clearly observed in data to be presented later in this paper.

The second observation is related to the interaction between the nasal consonant /n/ and its environment, and the influence of epenthesis on this interaction. What we are referring to here are two assimilatory processes that take place in the context VnF. The first process, "nasal assimilation", provides /n/ with the same point of articulation of a following obstruent. Recall from (26), for example, that the words involving the underlying sequence /nf/ surface with mf, instead. For the sake of convenience, these words will be repeated here: /9inf/ → 9imf, /yinfx-u/ → yimfx-u. Evidence for the underlying status of the /n/ in these words can be gathered as one observes the different classes that the radicals composing them exist in. For example, 9inif 'he acted violently', 9aniif 'violent', etc., and nafax 'he blew', nafx 'blowing', naafix 'blower', etc.

When we study sequences whose C_2 is a plosive, it will be seen that nasal assimilation is not restricted to sequences of the type /nf/. It rather extends beyond that to include all obstruents. For example, the underlying sequences /nb/ and /nk/ surface as mb and ŋk, respectively. In attempting to formulate the rule under discussion, the question arises as to whether tautosyllabicity is required for its application or not. Although a definite answer to this question can best be reached after a

spectographic analysis, I believe that there is atrong tendency for nasal assimilation to apply irrespective of whether the two consonants constituting the sequence are tautosyllabic or not. However, unlike the case where the sequence is tautosyllabic, the application of the rule can be spared if /n/ and the following obstruent exist in two different syllables. For example, while 9inf sounds very artificial, 9inf-ak 'your violence' is acceptable, though not very likely to be produced in normal speech. On the basis of this discussion, nasal assimilation will be formulated as the segmental rule of (28) below:

(28) Nasal Assimilation (NA):

$$/n/ \longrightarrow [\alpha \text{pt. of artic.}] \ / \ \_ \begin{bmatrix} +\text{obstruent} \\ \alpha \text{pt. of artic.} \end{bmatrix}$$

Turning now to the second type of assimilation, this process has the effect of nasalizing a vowel when it is followed by /n/ and an obstruent. The same remarks provided above about the relationship between tautosyllabicity and the application of nasal assimilation, are true about the relationship between tautosyllabicity and "vowel nasalization". Therefore, for the same reasons as those mentioned above we will formulate the rule of vowel nasalization segmentally as follows:

(29) Vowel Nasalization (VN):

$$V \rightarrow \tilde{V} \ / \ \_ \ \begin{matrix} n \ C \\ [+\text{obstruent}] \end{matrix}$$

It must be noted before proceeding any further, that the influence of this rule is more apparent when the consonant following /n/ is a continuant rather than a non-continuant. But since we are interested in determining the presence or absence of nasality rather than in determining it degree, we will adhere to the more general form of the rule as given in (29) instead of restricting it to continuants.

Notice that words containing the sequence nF in (26), specifically those whose F is non-labial, lose their nasal consonant /n/ after VN takes place. This behavior apparently results from the application of an "n-Deletion" rule. This rule has to be restricted to cases when /n/ is followed by a continuant since, as we shall see later, this consonant is retained if it is followed by a plosive. Therefore, it will be formulated as follows:

(30) n-Deletion:

$$n \rightarrow \emptyset \ / \ \tilde{V} \ \_ \ C \begin{bmatrix} +\text{obst} \\ +\text{cont} \end{bmatrix}$$

In order to account for the retention of the nasal consonant in nF sequences whose F is a labial, n-Deletion will be ordered after NA (i.e. (28)) has applied. This ordering will allow /n/ to change into m when followed by /f/, and consequently, escape n-Deletion.

As far as the interaction between epenthesis and the above two processes (i.e. NA and VN) is concerned, correct derivations can be reached only if epenthesis precedes both rules. When studying the following derivations, one must keep in mind that both (a) and (b) are possible due to the optionality of epenthesis in the context N F:

(31)	a.	/9inf/	/?ins/	b.	/9inf/	/?ins/	
		9inif	?inis		----	----	Epen. (Opt.)
		-----	-----		9imf	----	NA
		-----	-----		----	?ĩns	VN
		-----	-----		----	?ĩs	n-Deletion

Moving down the scale of sonority, we notice that in a sequence of the type F F, distinction must be made between two groups of fricative consonants: coronals, including /s/, /z/, /š/, /ž/, /S/, and /Z/; and non-coronals, including only /f/. A sequence of fF[+coronal] is more tolerated than a sequence of [+coronal]Ff. The least acceptable sequence is one whose elements are both [+coronal]F. For example:

(32) f F: nafs 'self', /?afz/ → ?avz 'jumping', /xafž/ → xavž
+cor 'palpitation', 9afS 'gallnuts', /ħufZ/ → ħuvZ 'memorization'; yifsd-u 'they spoil', /yifzr-u/ → yivzr-u 'they disembowel', yifsx-u 'they step', /yifžr-u/ → yivžr-u 'they explode', yufSl-u 'they separate'.

F f: ?nasf 'detonation', *9azf/?9asf 'playing music', ?kašf 'uncovering', *ražf/?rašf 'trembling', ??aSf 'bombardment'; *yisf?-u 'they smack'. *yušfT-u 'they take without permission', *yuSfn-u 'they ponder'.

F F: *?as-š 'he didn't measure', *nasž/*nažž 'weaving',
+cor +cor *faraz-š/*faras-š 'he didn't sort out', *mazž 'mixing', *ħažz 'booking', *maž-š/*maš-š 'it didn't wave', *ra?aS-š 'he didn't dance', *ǧaZ-š/*ǧaS-š 'he didn't anger'; *yišd-u/*yižd-u 'they bow in worship', *yišb-u/*yižb-u 'they decry', *yižzb-u 'they attract', *yižzm-u 'they confirm'.

The distinction between coronal and non-coronal fricatives is not only required for understanding the behavior of F F sequences, but also for the understanding of P F sequences, as well. A cluster of the type P F is different from F F in that the former has no restrictions on the quality of the first consonant so long as the second is coronal. In other words, the language tolerates a sequence such as [+coronal]P F, but not Pf, irrespective of what P is used. For example:

(33) P F: /ħabs/ → ħaps 'prison', xibz 'bread', labž 'kicking', /xabS/ → xapS 'jumbling', /dabš/ → dapš 'rocks'; /yistabsl-u/ → yistapsl-u 'they act courageously', yibz?-u 'they spit', /yistabšr-u/ → yistapšr-u 'they take as a good omen', /yubST-u/ → yupST-u 'they please'.

fat-š 'he didn't enter', /l-?ids/ → l-?its 'Jerusalem', /xadš/ → xatš 'scratching', 9aTs 'sneezing', ?aTš

'cutting off', /9awwaD-š/ → 9awwaT-š 'he didn't compensate', 9aks 'opposite', /nakz/ → nagz 'poking', nakš 'digging'; /yidšr-u/ → yitšr-u 'they rush out', yuTšr-u 'they spread out', yiksr-u 'they break', /yikzb-u/ → yigzb-u 'they lie', yikšf-u 'they uncover'.

P F: *natf 'plucking', *?adf/*?atf 'sending away', *?aTf 'picking' (e.g. fruits), *9akf 'leaning to'; *yidfš-u/*yitfš-u 'they push', *yuTfš-u 'they rush out', *yikfr-u 'they blaspheme God'.

There are two interesting points related to the data in (32) and (33) above. First, these two pieces of data contain the only cases we have seen so far where the language tolerates a sequence that violates the sonority principle. Second, these data show that the only case where the language may tolerate a sequence of the type O F (where O & F = +coronal) is when the O is a non-continuant.

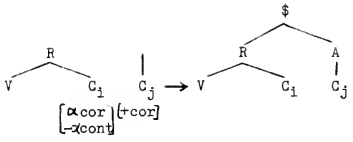
In fact, neither of the two problems pointed out above should be very surprising as we happen to encounter the same type of behavior in other languages. In English, for instance, we find examples such as width, axe, depth, paths, and even sixths, texts, etc., which contain two (in the first two words) or three (in the last two words) consonants following the maximum number of segments permissible in the syllable rime of English. German is another case where the same type of behavior is displayed; for example, Obsts, Herbsts, etc. Notice that all the "extrametrical" segments (to use Kiparsky's (1980) term) are coronal in both languages. The difference between German and English, on the one hand, and LA, on the other, is that the former two languages may have three extrametrical consonants, while in LA the maximum is one, after which a rule of "vowel insertion" applies (cf. note 6). However, assigning the number of possible extrametrical segments perhaps follows from limitations imposed by individual grammars instead of being an inherent phonological limit, as Kiparsky (1980) notes.

Another point of distinction between German and English, and LA, is that allowing such violations to the sonority principle is only optional in LA, but obligatory in German and English. For example, the LA word /9aks/ can be pronounced either as 9aks or as 9akis. The English word /siks/, however, can be pronounced only as siks, and never as *sikis.

Having discussed the question of the special status of coronals in general, let us now deal with the second problem observed in the data in (32) and (33); namely, the correlation between violating the sonority principle and admitting a sequence of the type O F. Once again, we encounter here some pattern of behavior that is not unique to LA. English, for instance, tolerates a sequence such as f F[+coronal], or P F[+coronal], but not [+coronal] F F[+coronal]. For example, rufs, wulvz, aadz, and raats are grammatical, while *aašz, *brijz, and *horsz are not.

With the above facts in mind, we will assume that when the third element of a syllable rime is coronal, the language employs an optional rule that allows epenthesis to be spared. According to this rule, the coronal consonant will be treated as an appendix to the syllable. Thus, it can be formulated as follows:

(34)



In order to account for the problem raised above, the [α] notation has been used to prohibit the appending rule from applying if the first consonant in the cluster is both coronal and continuant.

Before moving on to study clusters whose C_2 is a plosive, a further note about 0 F (or more accurately, 0 0) clusters is due. In addition to the two types of assimilation discussed above as we dealt with N F sequences, there is a third type illustrated in (33), and whose environment is 0 0. In the above discussion of sequences involving two fricatives (or P F), it was mentioned that if the first consonant is a non-coronal fricative, epenthesis becomes only optional. Though correct, this statement requires some clarification. In fact, a sequence of the above mentioned type is acceptable only if both obstruents that it contains agree in voicing. If they do not, the grammar will either have to break up the cluster by epenthesis, or to employ a rule of "voicing assimilation" (VA) to guarantee this type of agreement. The effect of VA can be clearly seen in (33).

A close observation of the data in (33) may suggest that the role of VA is to provide an obstruent with the same value of voicing as another following it. In a similar manner to the case of NA and VN, it is not necessary for C_1 and C_2 to be tautosyllabic for VA to operate. For example, /lafZ-ak/ 'your pronunciation and /nakz-ak/ 'your poking' normally appear as lavZ-ak and nagz-ak, respectively, although /f/ and /Z/ in the first example, and /k/ and /z/ in the second are in two different syllables. Therefore, in an equivalent manner to NA and VN, VA will be treated as a segmental rule. Following is a formulation of this rule:

(35) Voicing Assimilation (VA):

$$\text{Obstruent} \rightarrow [\alpha \text{ voice}] \ / \ \_\_ \ \begin{matrix}\text{Obstruent} \\ [\alpha \text{ voice}]\end{matrix}$$

When we discuss plosives, new information about this process will be acquired, and some modification of this rule will be required. Presently, however, let us assume the validity of this rule, and proceed to discuss its interaction with epenthesis. Similar to the ordering required previously while dealing with nasal assimilation, voicing assimilation has to follow epenthesis for the two possible pronunciations to be derived. Observe the following derivations:

(36)	/nakz/	/dabǧ/		/nakz/	/dabǧ/	
	nakiz	dabiš		----	----	Epen. (Optional)
	-----	-----		nagz	dapš	VA
	nakiz	dabiš	But	nagz	dapš	PR

5. Plosives: The behavior of plosives adds confirming evidence to the role that sonority plays in conditioning epenthesis. Any sequence whose C_2 is a plosive and whose C_1 is a glide, a liquid, a nasal, or a non-guttural fricative, is tolerated in the language. However, data involving N P or O P require some considerations that have to be dealt with separately. Let us have a look at data involving L P first:

(37) L P: kalb 'dog', ʔilt 'endive', ʔild 'leather', xalt 'mixing', milk 'ownership'; yilbs-u 'they wear', yilt?-u 'they meet', yulTm-u 'they slap on the face', yilkm-u 'they punch'.

darb 'road', dir-t 'I turned', ?ird 'monkey', farT 'stripping off'(e.g. fruits), ?arD 'earth', fark 'rubbing'; yirbk-u 'they puzzle', yirtm-i 'he throws himself', yirdm-u 'they destroy', yirkd-u 'they run'.

The data provided above do not require any further stipulation since they very straightforwardly obey the principle of decreasing sonority. But what about N P and O P? Let us take N P first. Recall from the previous section that a vowel in the context VnF is nasalized, and that /n/ is later dropped (if epenthesis does not apply, that is). Recall also that there is another process of assimilation, NA, which gives /n/ the same point of articulation as a following obstruent. When we study sequences of the type N P --or more specifically, nP-- we observe similar, but not identical phenomena. In fact, the only difference between the two contexts is related to the question of n-Deletion. Unlike the /n/ located before a fricative, an /n/ located before a plosive does not delete. For example, the word /bint/ is pronounced as bint (or binit), but not as bit. This type of behavior confirms the validity of the rule of n-Deletion as formulated in (30), i.e. it must apply only before continuants.

Note that in the data below, only the effect of NA, but not VN is represented:

(38) N P: ?im-t 'I rose', ħamd 'praise'; ytamtm-u 'they murmur'.

/zanb/ → zamb 'guilt', bint 'girl', ʕind 'at', bunT 'point', /ħank/ → ħaŋk 'jaw'; /yinbr-u/ → /yimbr-u 'they answer with rage', yintl-i 'it gets full', yindr-u 'they vow', yunTlib 'it gets requested', yinksir 'it gets broken'.[10]

Notice that, similar to N F, N P does not contain sequences of a labial nasal and a labial plosive. The absence of such a sequence confirms the prediction stated earlier that this phenomenon is due to Greenberg type restrictions on the adjacency of two radical consonants.

As we move down the scale of sonority, we encounter a very expected type of behavior with F P sequences. Since fricatives are more sonorous than plosives, it is natural that epenthesis will not be necessary. The following data support this claim:

(39) F P: /nasb/ → nasp 'relating', ?is-t 'I measured', ?usT 'fee' (installment), misk 'musk'; /yisb?-u/ → yisp?-u 'they precede', yistlim 'he receives', /ydasds-u/ → ydasts-u 'they examine by touching', yusTl-u 'they astonish', yiskt-u 'they remain silent'.

kizb 'lying', 9iz-t 'I needed', wizk 'victory in a game'; ykazdr-u 'they stroll', yizkr-u 'they mention'.

/9iǰb/ → 9iǰp 'grass', 9iǰ-t 'I lived', /ħaǰd/ → ħaǰt 'crowd', muǰT 'comb', kiǰk 'kiosk'; /yiǰbk-u/ → yiǰpk-u 'they entangle', yiǰtr-u 'they buy', yuǰTf-u 'they wash (the floor)', yiǰkr-u 'they thank'.

hiǰ-t 'I got furious', maǰd 'glory'; yiǰbr-u 'they oblige', yiǰdl-u 'they braid', yTaǰTǰ-u 'they bounce (tr.)'.

/xaSb/ → xaSp 'fertile', ħuS-t 'I felt restless', /?aSd/ → ?aSt 'intention'; /yuSbr-u/ → yuSpr-u 'they bear patiently', /yuSdr-u/ → yuStr-u 'they issue'.

ġuZ-t 'I angered', yuZbT-u 'they aim'.

lift 'turnip', šafT 'snatching', /rafD/ → rafT 'rejection', safk 'bloodletting'; yiftl-u 'they turn around', /yifdr-u/ → yiftr-u 'they measure with the hand', yufTm-u 'they wean', yifks-u 'they spoil'.

The data above reflect an interesting fact about voicing assimilation. These data can be divided into two groups. In a like manner to O F sequences discussed earlier, the first group exhibits the operation of voicing assimilation. This group contains sequences of the type F P, where F = [-voice] and P = [+voice]. However, unlike O F where VA provides C_1 with the same voicing feature as C_2, in the present case it is C_2 that acquires the voicing feature of C_1. Examples of this group are listed in (40d) below. As for the second group, it contains sequences of two obstruents that disagree in voicing without requiring VA to apply. These sequences are of the type F P, whose F is [+voice] and P is [-voice]. Examples of this group are listed in (40e) below. For convenience, (40) includes data representing all types of O O sequences that may spare epenthesis, and summarizes the changes that these sequences undergo to be acceptable:

(40) a. F F ⟶ F F
-v +v +v +v

/?afz/	?avs	?afiz	*?afs	*?aviz	*?afz	'jumping'
/lafZ/	lavZ	lafiZ	*lafS	*laviZ	*lafZ	'pronunciation'

b. P F ⟶ P F
+v -v -v -v

/ħabs/	ħaps	ħabis	*ħabz	*ħapis	*ħabs	'jail'
/xabS/	xapS	xabiS	*xabZ	*xapiS	*xabS	'smashing'
/kadš/	katš	kadiš	*kadž	*katiš	*kadš	'biting'

c. P F → P F
-v +v +v +v

/nakz/	nagz	nakiz	*naks	*nagiz	*nakz	'poking'

b. F P → F P
-v +v -v -v

/9iš̌b/	9iš̌p	9iš̌ib	*9iž̌b	*9iš̌ip	*9iš̌b	'grass'
/ħaš̌d/	ħaš̌t	ħaš̌id	*ħaž̌d	*ħaš̌it	*ħaš̌d	'crowd'
/naSb/	naSp	naSib	*naZb	*naSip	*naSb	'fraud'

e. F P → F P
+v -v +v -v

/wizk/	*wizg	wizik	*wisk	*wizig	wizk	'victory'
/hiž̌-t/	*hiž̌-d	hiž̌-it	*hiš̌-t	*hiž̌-id	hiž̌-t	'I got furious'
/ġuZ-t/	*ġuZ-d	ġuZ-it	*ġuS-t	*ġuZ-id	ġuZ-t	'I angered'

Groups (a), (b), and (c) have two things in common. First, all three groups conform to VA as formulated in (35); and second, in all three groups the second obstruent is a continuant. However, when the order of F and P is reversed as in (d), the sequence seems to have acquired the underlying voicing feature of the continuant. In other words, it seems that the quality of the obstruent determines the directionality of the rule here. This phenomenon can be explained in a very straightforward manner if reference is made to the sonority profile of the obstruents. Due to the higher sonority of continuants, their quality has a longer lasting effect on their environment, and consequently, their influence on plosives is stronger than the reverse. Finally, (e) shows that this principle is true only insofar as C_1 is voiceless. These observations reflect the operation of two rules:

1. A general VA rule, (35), which states that C_1 acquires the same voicing feature as C_2 (where C_1 and C_2 = 0)

2. A more specific rule restricted to cases where C_1 is a voiceless fricative and C_2 is a plosive. By using the notions s and w in relation to sonority, this rule can be formulated as follows:

(41) Devoicing:

$$\begin{array}{ccc} w & & s \\ | & & | \\ C_2 & \rightarrow [\text{-voice}] \;/ & C_1 \_\_\_ \\ \text{+Obst} & & \begin{bmatrix}\text{+Obst} \\ \text{-voice}\end{bmatrix} \end{array}$$

As far as the ordering of VA and Devoicing is concerned, Dev. operates before VA in order to prevent the latter from causing a continuant obstruent to assimilate to the voicing quality of a non-continuant if it precedes that non-continuant. For example:

(42)	/lafZ/	/nakz/	/ħabs/	/9iǰb/	/wizk/	
	----	----	----	9iǰp	----	Devoicing
	lavZ	nagz	ħaps	----	----	VA

To take P P now, similar to the principle conditioning the bahavior of P F, distinction must be made here between coronals and non-coronals. A sequence of any plosive and a non-coronal plosive is not tolerated in the language, while a sequence of a non-coronal and a coronal is:

(43) P P: *ħabk/*ħapk 'weaving', *fatk 'eradicating'; *ykabkb-u/
-cor *ykapkb-u 'they throw away'.

*nadb 'wailing', *?uTb/*?uDb 'pole (e.g. South and North)', *rikb/*rigb 'riding'; *ybatbt-u/*ybadbt-u 'they gossip or complain repetitiously', *yidbk-u 'they dance (Lebanese folk dancing)', *yuDbT-u 'they control', *yistakbr-u/ *yistagbr-u 'they find s.th. too big'.

P P: sakt 'silence', /rakd/ → ragd 'running'; yistaktr-u
-cor +cor 'they find something too much', ydakdk-u[11] 'they stuff'.

/sabt/ → sapt 'Saturday', 9abd 'slave', /labT/ → lapT 'kicking'; /yibtr-u/ → yiptr-u 'they amputate', yibdl-u 'they exchange', yDabDb-u 'they pack up', /yubTl-u/ → yupTl-u 'they invalidate'.

As far as epenthesis is concerned here, no further stipulation is required since it can be accounted for by the same appending rule used in the section on fricatives (cf. section 4.). The above data, however, are useful in that they add confirming evidence to the directionality of rule (35). Thus, in a sequence of the type P P, the voicing of the left plosive is influenced by that of the right plosive. For example, /sabt/ and /labT/ can be pronounced either as sapt and lapT, or as sabit and labiT, but not as *sabd or *labD.

What happens now when a syllable rime contains a sequence of two coronal plosives?

There are only four coronal plosives in LA: /t/, /d/, /T/, and /D/. A syllable rime containing any two of these consonants can be optionally spared the application of epenthesis. If this rule does not apply, the sequence undergoes the rule of voicing assimilation which renders it a geminate. (44) illustrates the different possibilities for the words /barad-t/ 'I felt cold' and /9araD-t/ 'I exhibited':

(44)	i	ii	iii	iv	v	vi
	/barad-t/	barat-t	barad-it	*barad-d	*barat-it	*barad-t
	/9araD-t/	9araT-T	9araD-it[12]	*9araD-D	*9araT-iT	*9araD-t/T

Recall that VA follows epenthesis. With this in mind, the forms in column ii (where VA has apparently applied) show that a sequence of two coronal plosives can occur in the syllable rime of the language. Hence,

our claim that the appending rule of (34) is blocked if C_1 is a coronal continuant is corroborated.

The ordering we established previously between epenthesis and VA can also be supported by evidence from the data in (44). Unlike underlying geminates separated by morpheme boundary, the forms in column v show that epenthesis fails to apply to a geminate that has resulted from the application of VA. Notice the derivations that result from each manner of ordering between epenthesis and VA:

(45) a. Epenthesis before VA:

/barad-t/		/barad-t/	
barad-it		-------	Epenthesis (Optional)
--------		barat-t	VA
[barad-it]	OR	[barat-t]	PR

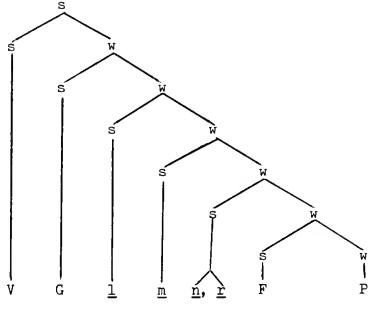
b. VA before Epenthesis:

/barad-t/		/barad-t/	
barat-t		barat-t	VA
barat-it		-------	Epenthesis (Optional)
*[barat-it]	OR	[barat-t]	PR

The above derivations illustrate that ordering VA before epenthesis does not only fail to produce the two possible pronunciations given in (a), but also allows ungrammatical forms to be derived. Therefore, we will maintain the ordering established earlier between the two rules; i.e., epenthesis before VA.

To conclude the discussion so far, we have seen two factors influencing the operation of epenthesis. The first, sonority, allows epenthesis to be spared only if the sequence of consonants (not exceeding two), is a sub-tree of the following expanded relational template:

(46)



The second factor conditioning epenthesis is the appending principle of (34), which states that a dental obstruent may be optionally appended to the syllable if preceded by any obstruent other than a coronal fricative.

6. Gutturals: Gutturals, especially /9/ are peculiar for two reasons: their influence on the epenthetic vowel, and their behavior with respect to allowing the rule to operate. As far as this point is concerned, unlike other cases of epenthesis where the vowel normally appears as high, it appears as low when adjacent to a guttural.[13]

As for the second point, the peculiarity of gutturals is exhibited in the fact that they deem obligatory the application of epenthesis in a sequence of the type C Gut (where C may be any consonant, including glides). The only exception to this generalization is the glottal stop /?/, which may be located somewhere between a fricative and a nasal. Such behavior is, in fact, not unexpected since /?/ is the only non-continuant among all the gutturals available in LA. Following is a comprehensive list of all the C Gut combinations:

(47) G Gut: *bay9 'selling', *naw9 'sort'.

*yistawhm-u 'they imagine'.

*bawh 'unveiling' (a secret); *zayh 'stepping aside'.

?ǰayx 'sheikh'.

fay? 'awakening', zaw? 'taste'.

L Gut: *bal9 'swallowing', *zar9 'planting'; *yir9b-u 'they scare'.

*yilhm-u 'they inspire', *yirhn-u 'they pawn'.

*šalh 'undressing', *šarh 'explanation'; *yilhm-u 'they weld'.

*Sarx 'screaming'.

*marǧ 'rubbing'.

sal? 'boiling', ?far? 'difference'; yul?T-u 'they catch', ?yur?S-u 'they dance'.

N Gut: *ǰam9 'addition', *man9 'prevention'; *yistam9n-u 'they study carefully', *yin9ǰ-u 'they freshen'.

*yistamhl-u 'they ask for respite'.

*?amh 'wheat', *manh 'granting'; *yistamhS-u 'they inspect with scrutiny', yistanhs-u 'they consider s.th. a bad omen'.

*yinxr-u 'they bore holes into'.

*Sumǧ 'glue'; *yinǧl-u 'they swarm'.

?ham? 'yelling in anger', *ǰan? 'hanging'; *yin?l-u 'they move'.[14]

F Gut: *naf9 'benefit', *baz9 'show of power', *wis9 'width';
*yiz9l-u 'they anger', *yis9l-u 'they cough', *yiš9l-u
'they light a fire'.

*yhazhz-u 'they shake', *yiǰnr-u 'they make famous',
*yiǰhz-u 'they get rid of', *yuZhr-u 'they show'.

*safħ 'foot'(of a mountain), *rašħ 'a cold', *mazħ
'kidding', *naSħ 'advising'; *yizħm-u 'they crowd
(tr.)' yisħr-u 'they enchant', *yiǰħd-u 'they dis-
believe'.

*nafx 'blowing', *nasx 'copying', *fasx 'stepping',
*bazx 'living luxuriously'; *yuSxn-u 'they get hot',
*yisxr-u 'they snore'.

*bazǧ 'emerging'; *yistazǧr-u 'they find small',
*yisǧl-u 'they keep busy'.

*saf? 'slapping', *9iš? 'infatuation', *baz? 'spitting',
*9až? 'mess'; *yiz?r-u 'they roar', *yus?T-u 'they
fail', *yiš?l-u 'they lift', *yiž?r-u 'they frown'.[15]

P Gut: *nat9 'pulling with a jerk', *rad9 'deterring', *waD9
'situation', *nab9 'stream', *nak9 'nudging';
*yit9b-u 'they tire', *yib9d-u 'they send away'.

*yithm-u[16] 'they accuse', *yidhš̌-u 'they surprise'.

*fatħ 'opening', *madħ 'praise', *saTħ 'roof', *faDħ
'exposing's.o.', *dabħ 'slaughtering', *fakħ 'limping';
*yitħf-u 'they excel', *yħabħb-u 'they get a rash'.

*laTx 'blotting', *Tabx 'cooking'; *yitxm-u 'they stuff',
*yidxl-u 'they enter'.

*fadǧ 'causing a bruise in the head', *maDǧ 'chewing',
*tabǧ 'tobacco'; *yubǧD-u 'they hate'.

*nat? 'vomitting', *sid? 'truth', *nuT? 'uttering',
*dib? 'glue for catching birds'; *yit?n-u 'they master',
*yid?s-u 'they hit', *yib?r-u 'they disembowel'.

When a guttural precedes another consonant, however, it becomes necessary to distinguish between /9/ and the remaider of the group. /?/, /ǧ/, /x/, /ħ/, and /h/ induce epenthesis (in the order of their listing), <u>always</u> when followed by a continuant, but <u>optionally</u> when followed by a stop. Following again is a comprehensive illustrative list of all possible sequences of this type:

(48) Gut L: *sahl 'plain', ?šahr 'month'; *yihlk-u 'they exhaust',
*yihrb-u 'they escape'.

*wahl 'mud', *bahr 'sea'; *yihlf-u 'they swear',
*yihr?-u 'they burn'.

*bixl 'parsimony', *Saxr 'rocks'; *yixl?-u 'they
create', *yixr?-u 'they violate'.

*baǧl 'mule', zuǧr 'smallness'; *yiǧl?-u 'they shut', *yiǧrz-u 'they stab'.

*na?l 'moving', *na?r 'coring'; *yi?l?-u 'they worry (tr.)', *yu?rS-u 'they pinch'.

Gut N: ?wahm 'illusion', ?dihn 'fat'; ?yihml-u 'they neglect'.

*lahm 'meat', *lahn 'tune'; *yihml-u 'they carry'.

*laxm 'fooling', *Suxn 'hot'; *yixmš-u 'they scratch', *yixn?-u 'they strangle'.

*liǧm 'lang mine', *Duǧn 'grudge'; *yiǧmz-u 'they wink'.

*ši?m 'pessimism', *ha?n 'feeding one's anger'; *yu?mr-u 'they order', *yi?n9-u 'they persuade'.

Gut F: ?lahf 'snatching', ?dahs 'hitting (with a car)', ?nahš 'biting ferociously', ?wahž 'glare'; *yihzm-u 'they defeat', ?yihšl-u 'they rush out', *yihžr-u 'they quit'.

?lihf 'quilts', ?lahs 'licking', ?wahš 'monster', ?bahS 'stones', ?lahZ 'looks'; ?yihfr-u 'they dig', ?yihsd-u 'they envy', ?yihzf-u 'they cancel', ?yihžz-u 'they book', ?yuhSr-u 'they limit'.

*sixf 'triviality', ?bixš 'hole', ?naxz 'pricking', ?šaxS 'person'; *yixf?-u 'they beat (eggs)', ?yixsm-u 'they discount', ?yixžl-u 'they embarrass'.

*liǧz 'riddle', *maǧS 'stomack cramps'; *yuǧfr-u 'they forgive', *yiǧsl-u 'they wash', *yiǧzl-u 'they spin', *yuǧSb-u 'they force'.

*sa?f 'ceiling', ?ya?s 'despair', ?na?š 'sculpture', ?ba?ž 'smacking', ?ra?S 'dancing'; *yi?fl-u 'they lock', *yi?sr-u 'they capture'.

*yu?šT-u 'they fall down', *yista?žr-u 'they rent'.

Gut P: laht 'panting', žihd 'effort', rahT 'band', nahb 'looting', nahk 'encroaching', yihtf-u 'they cheer', yihdf-u 'they aim', yuhDm-u 'they digest', yuhbT-u 'they fall down', yihkl-u 'they worry'.

taht 'under', lahd 'grave', sahb 'pulling', Duhk 'laughter'; yihtri? 'it burns', yihdf-u 'they throw' ?yuhDn-u 'they embrace', ?yihbs-u 'they jail', ?yihkm-u 'they rule'.

taxt 'bed', suxT 'anger', naxb 'toast'; yixtm-u 'they end', yixdm-u 'they serve', yuxTb-u 'they get engaged', ?yixbz-u 'they bake'.

baǧt 'catching by surprise', waǧd 'bastard', DaǧT 'pressure'; yiǧtn-i 'he gets rich', yiǧdr-u 'they stab in the back', ?yuǧDb-u 'they anger'.

wa?t 'time', 9a?d 'contract', la?T 'catching;
yi?tl-u 'they kill', yi?dr-u 'they can', ?yu?Tf-u
'they pick', *yu?Dm-u 'the gnaw', *yu?br-u 'they bury'.

When it comes to /9/, it may precede any consonant allowing epenthesis only optionally. This observation is shared by other linguists who worked on LA, (cf. Barthélemy 1935, Mattsson 1911, for example). Observe the following data:

(49) 9 L: na9l 'shoe sole', ǧa9r 'hair'; ?yi9ln-u 'they announce', ?ya9rf-u 'they know'.

9 N: da9m 'support', la9n 'cursing'; ?ya9ml-u 'they do', ?yista9nd-u 'they act stubbornly'.

9 F: Du9f 'weakness', da9s 'trodding', na9š 'grave', ba9ž 'belching', na9S 'n. of Lebanese town', wa9Z 'preaching';
yi9fš-u 'they catch', yi9zm-u 'they invite', yi9ǧb-u 'they please', ?yu9Sr-u 'they squeeze'.

9 P: ba9t 'sending', wa9d 'promise', fa9T 'answering back in anger', ba9D 'some', ka9b 'heel, bottom', da9k 'rubbing';
yi9tn-u 'they care', yi9dm-u 'they execute', yu9Tb-u 'they cause to disfunction', yi9br-u 'they cross', yi9ks-u 'they reverse'.

The type of behavior displayed above is a reflection of the close similarity between /9/ and vowels. In fact, this sound, similar to all emphatics and other pharyngeals, is subject to much dialectal, socio-linguistic (mainly sexual), and contextual (linguistic) variation. One rather interesting property about /9/ is that it is often pronounced as a consonant prevocalically, (e.g., 9aadil 'just' ma9aarif 'acquaintances'.) Elsewhere, however, it sounds more like a harsh vowel than a real consonant. This final note is especially true about /9/ in word-final position. For example, the words /šaari9/ 'street' and ša9ra 'a hair' can be easily interpreted as šaari and ša'ra, respectively. The same point can be further confirmed by observing the problems foreign learners of Arabic face as they attempt to identify or produce this sound. The difficulty in producing /9/ is contributed to by the failure to hear it almost as much as by physiological reasons. The best evidence to this effect is that students seem to have no major problem in producing /9/ in isolation or word-initially, but they do in words such as /ǧaari9/ and /ǧaami9a/ which are often mispronounced as šaare and ǧaamiya.

The implication of the above discussion is that one cannot treat gutturals as if they constitute a single group that share all common features as far as sonority is concerned. In other words, compared to other groups of consonants which display slightly varying degrees of sonority, there are bigger gaps within the group of gutturals. The only property that is, more or less, shared by this group is the fact that the application of epenthesis becomes necessary if a guttural consonant

comes as the second element of a CC sequence in a syllable rime. In fact, if we put the above two statements together, a strange pattern of behavior emerges. To be specific, assume that a sequence of two gutturals exists in a syllable rime. If the principle of decreasing sonority is to be followed literally, one should expect epenthesis to be spared if, say, the rime contains the cluster 9? or 9x. If, however, the peculiar principle that a Gut Gut sequence is broken up applies, regardless of the quality of the first consonant, then the above two clusters will be unacceptable.

Unfortunately, these two hypotheses cannot be sufficiently tested for there are only two possibilities of a sequence of two gutturals in the language. The first is a combination of /?/ (as the first or second consonant) and another guttural. In a sequence of the type ? Gut, epenthesis is necessary, which is in compliance with the two principles mentioned above. For example, *fa?9 'detonating', *la?ħ 'placing carelessly', *yi?9d-u 'they sit down', etc.

When it comes to Gut ? sequences, only examples involving the three most sonorous gutturals are available; i.e., /9/, /ħ/ and /h/. In this case, the principle of sonority supersedes that governing the gutturals. In other words, such sequences, though may not be very normal, are acceptable. Such judgment is, in fact, not unexpected since, as mentioned above, /?/ is the only non-continuant in the group of gutturals. For example, na9? 'cawing', ʔyi9?d-u 'they convene', nah? 'braying', sah? 'crushing', ʔyiħ?d-u 'they bear grudge against', etc.

The second possibility for data involving two gutturals is the sequence x9. In compliance with the general sonority rule and the guttural specific rule, such a sequence is not acceptable. For example, *nax9 'expectorating', and *bax9 'turning down'.

7. Conclusion: Using an exhaustive illustrative body of data, this paper has attempted to attain three objectives. The first objective has been to formulate the rule of epenthesis on a sound basis that takes into consideration both the phonological and phonotactic constraints on the syllable structure. It achieved its goal by supporting a relational metrical approach to the syllable. The second objective has been to draw, in as much as possible, a detailed hierarchy of the consonants in LA, and to show to what extent such hierarchy is obeyed by the grammar. Finally, the third objective has been to point out the violations from sonority hierarchy that the grammar may allow. Such violations were shown not to be unusual in world languages.

For the sake of easy reference, we will end this study with, 1) an expanded rime tree of LA, and 2) a table of the contexts that require the application of epenthesis, and those which do not.

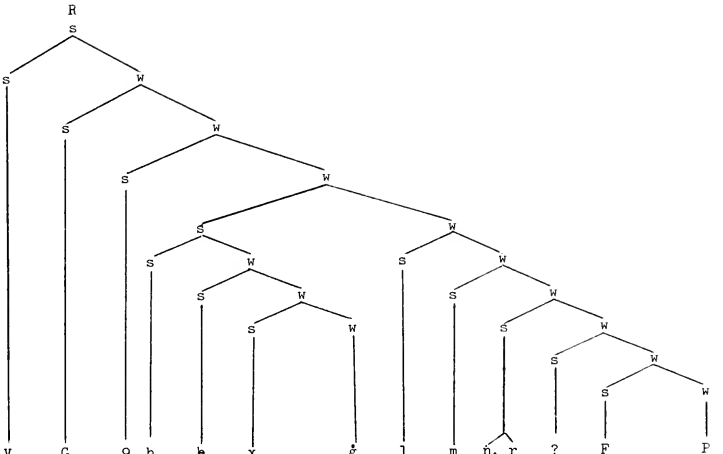


Fig. 2: An expanded Lebanese Arabic syllable rime.

Fig. 3: A table of the correspondence between sonority and epenthesis

C_1 \ C_2		G	L		N		F		P		Gutturals				
			l	r	m	n	f	+cor	-cor	+cor	ɢ	h, ħ,	x, ġ		?
G		-	+	+	+	+	+	+	+	+	-	-	?		+
L	l	-	+		+		+	+	+	+	-	-			+
	r	-	-	+	-	?	+	+	+	+	-	-			?
N	m	-	-	+	+	-		+		+	-	-			?
	n	-	-			+	+	+	+	+	-	-			-
F	f	-	-	-		-	+	+	+	+	-	-			-
	+cor	-	-	-	-	-	?	-	+	+	-	-			-
P	-cor	-	-	-	-	-	-	+	-	+	-	-			-
	+cor	-	-	-	-	-	-	+	-	+	-	-			-
Gutturals	ɢ	-	+	+	+	+	+	+	+	+	+				+
	h	-	-	?	?	?	?	?	+	+					+
	ħ	-	-	-	-	-	?	?	+	+					+
	x	-	-	-	-	-	-	?	+	+	-				
	ġ	-	-	-	-	-	-	-		+					
	?	-	-	-	-	-	-	?		+	-	-			+

+ : sequences is acceptable

- : sequence is unacceptable

? : sequence is questionable

blank: sequence is not available in the language

G: Glide

L: Liquid

N: Nasal

F: Fricative

P: Plosive

NOTES

*I would like to thank Michael Kenstowicz for his extensive help with this paper.

[1]Compare Sudanese Arabic /?umm-na/ → ?ummana 'our mother', to LA /?ibn/ → ?ibin 'son'.

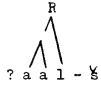
[2]Compare Palestinian Arabic /Tifl/ → Tifil 'baby' and /baTn/ → baTin 'stomach' vs. /ʕumr/ → ʕumur 'age', to Syrian Arabic Tifəl, baTən, and ʕumər.

[3]Compare Egyptian Arabic /rigl-na/ → riglina 'our foot', to LA /?iǯr-na/ → ?iǯirna 'our foot'.

[4]It must be noted that there is one case where the syllable onset appears to contain more than one consonant in LA: word initial position. In the dialect under study (Beiruti), any sequence of two consonants may occur at the beginning of the word, regardless of the sonority of these consonants. For example, ?tool 'kill!', druub 'roads', etc. Since there are no restrictions on the quality of the consonant clusters that may occupy word initial position, and since such a position is the only one where more than one consonant can occur in syllable initial position, we may legitimately assume that the extra consonant is a "prefix" or "appendix" to the syllable rather than part of the onset. See Kiparsky (1980) and Halle and Vergnaud (1980) for a discussion of these notions.

[5]Any C or V counts as one element of timing. A geminate consonant and a long vowel count as two elements each.

[6]If, in the process of syllabification, some consonant cannot be accomodated in the rime or the onset of the syllables it is located between, two rules take place depending on the shape of the rime of the previous syllable. If this rime has the shape VVC, a rule of "nucleus-reduction" takes place changing VV into V. After this rule applies, the stranded consonant can be accomodated into the rime. For example, /?aal-ʃ/ 'he didn't say' undergoes the following derivation:



Syllabification

Nucleus Reduction & Resyllabification

If, on the other hand, the rime has the shape VCC, and is followed by a stranded consonant, a rule of "vowel insertion" that is similar to epenthesis applies. But unlike epenthesis which applies within a syllable rime, vowel insertion is a syllabification rule that operates if some consonant cannot be accomodated in any syllable. In LA, the only context that meets the conditions of this rule is a CC-ending verb followed by the

negative suffix /š/; e.g. /9milt-š/ → 9milt-iš 'I didn't do', /sa?alt-š/ → sa?alt-iš 'I didn't ask', etc. Evidence for the distinction between vowel insertion and epenthesis is mostly related to the fact that while epenthesis is optional if the sonority of the consonants in the rime decreases from the vowel to the rightmost consonant, vowel insertion is obligatory irrespective of the quality of the consonants. For further details on the above two rules, see Abu Salim (1982) and Haddad (1984).

[7]We must note here that judgments on words containing the internal sequence CCC are the same regardless of the word category. For example, while both *ħabl-kun 'your rope (pl.)' and *yiblf-u 'they bluff' are ungrammatical, both 9ilbt-u 'his box' and yilbs-u 'they wear' are grammatical.

[8]See Haddad (1984) for a detailed discussion on the influence of "emphasis" on epenthetic vowels.

[9]In LA, stress falls on the rightmost heavy syllable (i.e., VV, VC, VVC, or VCC) without exceeding the antepenult. For example, bára, dáras-it, dárb-i, 9allám-ni, 9allam-ú-u.

[10]Some of the data used here belong to Measure VII verbs. These verbs are more frequently pronounced as nCiCiC, instead of nCCiC, as they appear above. The alternative (and more frequent) pronunciation of the words belonging to this category is the following: yintíli, yunTúlib, and yinkísir. However, we have used the forms provided in (33) above for illustrative purposes.

[11]It is not clear whether VA, Devoicing, or simply no rule at all apply here.

[12]A more adequate representation is one which shows all the segments to be emphatic; i.e., as 9ARAT-T and 9ARAD-IT (or 9ARAD-UT, see Note 8).

[13]We must note that this statement is too general and overly simplified. A precise description of the quality of the epenthetic vowel in LA, however, is too complicated to deal with here.

[14]We feel that one of the reasons n? is not a permissible sequence is that it is acoustically impossible to produce a glottal nasal consonant; i.e., a consonant that results from the application of NA to sequences of the above noted type.

[15]It is possible to do without epenthesis in the context F?##, but in this case, /?/ is pronounced as a silent sound. That is, the speaker can feel it, but the listener cannot hear it.

[16]This verb is often produced in its Measure VIII form; i.e., as yittíhm-u.

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(PRE-)RIG-VEDIC CONVERGENCE OF INDO-ARYAN WITH DRAVIDIAN? ANOTHER LOOK AT THE EVIDENCE[1]

Hans Henrich Hock

This paper represents an up-date on an earlier publication (Hock 1975) in which the evidence for (early) convergence between Sanskrit and other languages of South Asia was examined. Since then, further publications on the subject have appeared, my views on certain issues have changed, and additional data have come to my attention. A reexamination of the issue therefore seems appropriate. The conclusion of that reexamination is that (pre-)Vedic convergence between Sanskrit and Dravidian is not established beyond a reasonable doubt, but that the post-(Rig-)Vedic era offers a more promising field for establishing convergent developments.

It has become customary to introduce papers on India, especially on the South Asian sprachbund, with a reference to the--possibly apocryphal--story of the blind men and the elephant. An introduction suitable for a paper on the origin of this linguistic area would seem to have to consist in a reference to the--certainly apocryphal--story of the blind men who set out to observe the birth of the elephant.

There can be no doubt that there is such an "elephant" as the South Asian convergence area and that there are other, similar "elephants" around the world. Moreover, since these areas result from the convergence of originally quite distinct languages and language families, they clearly must have arisen over time. The chronology and circumstances under which these convergence areas began to arise, however, are notoriously difficult to determine. (Cf. e.g. Schaller 1975 for the Balkan sprachbund.)

In the South Asian case, the difficulties faced by those trying to describe the birth of the "elephant" include at least the following:

(a) Only one of the relevant language families, namely Indo-Aryan (represented by Sanskrit), is attested anywhere near the time at which the convergence possibly might have begun.

(b) The other languages are attested much later. In fact, with the exception of Tibetan and the literary Dravidian languages, attestations do not begin before the last century.

(c) Linguistic reconstruction, which could increase the time depth for these languages, still is very much in its infancy. Even for Dravidian, the best researched group, many crucial details have not yet been worked out.

(d) There is no independent, reliable evidence for the early distribution of these languages with respect to each other. There is at least some evidence suggesting that the present-day distribution may result from recent

migrations. Thus, Bloch (1946) has pointed out that the place names in territory now held by Dravidian Kurukh and Malto are Munda--not Dravidian--in origin. Moreover, Kurukh tradition still refers to the migration of the Kurukh speakers into Munda territory (cf. the quotes in Hahn 1911 and Vesper 1971).

(e) We cannot even be certain that all the eventual parties to the convergence, viz. Indo-Aryan, Tibeto-Burman, Munda, and Dravidian, were present in the South Asian subcontinent at the time that convergence may have begun.

(f) Conversely, we cannot be certain that there may not have been other languages or language families in the area; cf. the case of the language isolate Burushaski, located on the fringes of the area, but linguistically constituting a part of the South Asian sprachbund. (Cf. Berger 1974:10-11, 42-3, 54, 160 for retroflex/dental contrast, absolutives, the order SOV, and the (non-obligatory) use of the absolutive nuxá(ten) 'having said' as a quotative marker.)

(g) Finally, educated guesses aside, we have no reliable evidence for determining the relative stages in their chronological development at which the various languages may have first come in contact with each other. Thus, assuming that, say, Dravidian and Indo-Aryan contact goes back as far as the earliest Indo-Aryan migrations into South Asia, we have no incontrovertible evidence to establish whether that contact was between speakers of dialectally relatively undifferentiated Proto-Indo-Aryan and Proto-Dravidian, between Proto-Indo-Aryan and dialectally differentiated Dravidian, or any other conceivable combination.

Under these circumstances, any case made for a specific scenario of early contact--and for specific consequences of that contact--must needs be circumstantial. Circumstantial cases of this sort, however, should be established in the same manner as circumstantial cases in a court of justice: They ought to be established beyond a resonable doubt. That is, in each case it ought to be established that the nature of the evidence is such that it precludes any interpretation other than the one advocated. (Needless to say, just as in a court of justice, failure to establish a case does not necessarily mean that the proposed interpretation of the facts is wrong; it merely means that the evidence for the case is insufficient.)

While in principle, scholars concerned with the beginnings of South Asian convergence would not disagree with this characterization of how a case for early convergence should be established, in practice, there are considerable disagreements.

In the following discussion I will concentrate on just one issue, namely the question as to whether an acceptable circumstantial case can be made for the claim that convergence between Indo-Aryan and Dravidian began in pre-Vedic times, with evidence for this convergence being found as early as the Rig-Veda, and that this convergence was in terms of changes in the vocabulary and structure of Indo-Aryan toward Dravidian.

To prevent any misunderstandings, I feel I need to make a few declarations before starting the actual discussion: I am approaching the issue as a historical linguist, not as a partisan to the "superiority" or "purity" (or the like) of one language over another. Specifically, while in Hock 1975 I did without much thinking quote Thieme's (1955) claim that early Sanskrit was so "puristic" that it could not have accepted mleccha, i.e. "barbarian" words, my position now is that this claim is just as much in need of justification by evidence as the claim that Sanskrit underwent Dravidian influence in pre-Rig-Vedic times. As far as I can see, however, the arguments in Thieme 1955 (or in Deshpande 1979) are insufficient for such a claim, at least for early Vedic.

* * *

One of the arguments for early Dravidian influence comes from the area of vocabulary. Some scholars, such as Southworth (1979), seem to attach great importance to vocabulary correspondences between (Rig-Vedic) Sanskrit and Dravidian. Emeneau (1971), on the other hand, has taken a more cautious approach, limiting to seven the number of what in his view are probable or at least attractive cognates; cf. (1) - (7).

(1) mayūra 'peacock' : Ta. maññai, mayil, Ma. mayil ..., Pa. mañjil/ mañil, Ga. mañgil, mayyīl etc. (DED 3793) -- Munda mara?, Saka mur-ūsa

(2) budbuda 'bubble' : Te. buḍabuḍa 'with a bubbling noise', Tu. buḍubuḍu 'in drops'; cf. non-redupl. Ka. buḍa, buḍu etc. (DED 3490)

(3) phála 'fruit' : Ta. paṟu 'ripen', paṟam 'ripe fruit' ... Malt. páne 'ripen' etc. (DED 3299)

(4) káṭuka 'pungent, bitter' : Ta. kaṭu 'throb, pain; be pungent ...', ... Br. kharēn 'bitter' (DED 952)

(5) kāṇá 'one-eyed' : Drav. *kāṇ- 'see' (DED 1209) + neg. affix -a- = 'not seeing, blind'

(6) khála 'threshing floor' : Ta. kaḷam 'place, ... , threshing floor' ... Malt. qalu 'field on the hills' (DED 1160)

(7) ulūkhala 'mortar' : Ta. ulakkai 'pestle', Ma. ulakka ... Koḍ. oḷaka 'wooden pestle' (DED 580)

Of these, Emeneau considered (1) and (2) most persuasive; (1) because it is least likely to be inherited from Proto-Indo-European, is 'not further analyzable in Skt. terms', and has a closer phonetic resemblance to Dravidian than to Munda; (2) because it has no reduplicated antecedents or even parallels in Indo-European etymological dictionaries, because as a type it is characteristically South Asian, and because it has its closest phonetic parallels in Dravidian (cf. also Emeneau 1969, s.v.). For the others, Emeneau finds that Dravidian origin is at least not any less attractive than competing etymologies.

How cogent, now are these etymologies?

Clearly, those which are no better (or worse) than competing non-Dravidian explanations must be considered without probative value. How easy it is to come up with such etymologies is shown by (8), where Sanskrit roots of impeccable Indo-European ancestry can be furnished also with Dravidian "cognates". (The first correspondence set is listed as 'shared lexical items of undertain origin (Dravidian, Indo-Aryan, or other)' in Southworth 1979.) The suspicion must therefore arise that chance plays a considerable role in many of the vocabulary correspondences.

(8) (a) Skt. car-a-ti 'moves' : Av. car-a-iti (id.), Gk. pelomai etc; cf. also (redupl.) Skt. ca-kr-a, Av. ca-xr-a = OE hweol/hweogol, NE wheel -- Ta. cel- 'go, flow, pass, be suitable' ... (DED 2286)

(b) Skt. mr-pā-ti 'crushes, grinds' : Lat. molere, Go. malan, OCS moleti etc. (id.) -- Ta. muri 'break (tr./itr.)' etc., Ta. muri 'break' ... Malt. murkre 'cut into bits' ... (DED 4078)

I therefore do not see much point in a detailed discussion of the various possible interpretations of (3) - (7).

On the other hand, it is quite likely that (1) is a borrowing, made at a time when the Indo-Aryans came into areas with peacocks. But is the evidence sufficient to establish Dravidian as the donor? To my mind, it is not: All the Dravidian languages with relevant attestations point to an i-vowel, not the ū of Sanskrit, in the second syllable. Moreover, forms like Ta. mañnai, Pa. mañjil/mañil suggest an original medial cluster, not simple -y-. (Perhaps this was -ynk-? The set of correspondences seems to be unique in the DED.) It is therefore difficult to see how the Sanskrit word can be said to be more similar to Dravidian than to, say, Munda, or to Eastern Iranian Saka mur-āsa (cf. Bailey 1957, whose historical interpretation of the form may however be a little far-fetched).

As for (2), it is true that reduplicated onomatopoeia of this sort seems to be especially productive in South Asia. However, as Emeneau himself realized later (1980:6-9), similar structures are found over a much larger territory, extending from China to Iranian (cf. also Heston 1980:142-6) and to Altaic (cf. e.g. OETurk. čat čat urdī 'er schlug klatschend', Brockelmann 1954: 346, 352-3). Even the older Indo-European languages offer some examples of reduplicated onomatopoiea, as in (9), although structures of the type (10), with "root-final" obstruent, comparable to Skt. budbuda seem to be attested only relatively recently. It is also interesting to note that the Dravidian formations with "root-final" obstruent listed in Emeneau 1969 all have the structure (11) in the more conservative languages (such as Tamil, Kannada, and Telugu), with a vowel following the obstruent. This pattern eventually is found also in Sanskrit, but at a much later period (cf. 11)).[2] Further, budbuda has dental stops, while the Dravidian words have retroflex. The similarities with the Dravidian words--which moreover, for this item, are limited to the Southern languages--therefore are not particularly overwhelming, especially considering that onomatopoeia is frequently created independently, once

given formational patterns have been established.

(9) Gk. mor-mūr-ō from *mur-mur-yō 'murmur'
Lat. mur-mur-ō (id.)
Hom. Gk. bam-bain-ō from *bam-bam-yō 'stammer'

(10) C V [+ obstr] - C V [+ obstr] -

(11) C V [+ obstr] V - C V [+ obstr] V -
cf. (2) above; cf. also Class. Skt. caṭa-caṭā-yati 'crackles (of fire)'

Still in the general area of vocabulary are certain similarities in the use of Skt. api and Dravidian um, noted by Emeneau (1974:93-111). Only two of these, namely those in the meaning 'also' or 'and' are attested in the Rig-Veda. These meanings are found also in ancient Iranian; and Armenian offers the related ew 'and'. (Cf. Hock 1975:103 for further discussion and references.) I see no compelling reasons for attributing these Rig-Vedic uses to Dravidian influence.

Emeneau (1980:294-319) has added another lexical feature, namely the use of bāhu 'arm' in the meaning 'hand' in certain Rig-Vedic passages, a characteristic phenomenon of the South Asian sprachbund. Also this feature is not cogent: While some of the other early Indo-European languages (especially Latin) do not seem to thus have "confused" 'arm' and 'hand', or 'leg' and 'foot', ancient Greek did (cf. e.g. (12)), and so did Old Norse and the Baltic and Slavic languages (cf. e.g. (13)).

(12) tôi d'hetérōi min pêkhun epigrábdēn bále kheirôs (Il.21.166)
'fore-arm' "hand"
'with the other (spear) he threw, grazing the forearm of the hand = of the arm'

(13) ON var eigi djúpara en þeim tók under hendr
'the water reached just under their hands = arms (i.e. to their armpits)'

Ru. nogu na nogu 'with crossed legs'
nastupit' na nogu 'step on (s.o.'s) foot'

The absence of any cogent lexical evidence for the convergence creates difficulties in so far as without the support of such lexical data it will be even more difficult to establish that Dravidian and Indo-Aryan did in fact come in contact in pre-Rig-Vedic times and that therefore Dravidian could linguistically influence Sanskrit. However, the absence of such evidence does not necessarily preclude contact and convergence: As we know from studies like Gumperz and Wilson 1971, languages in extended bilingual contact can undergo far-reaching convergence in structure, without much vocabulary borrowing. In fact, in such contact situations, it is mainly in terms of their distinct, different vocabularies that the languages in contact manage to retain their separate identies.

Let us therefore look at the evidence for structural convergence commonly proffered in the literature. (I will ignore āmreḍita-compounds and the use of participles as finite verbs, which are no longer cited in this context. Both of these have parallels in ancient Iranian, as well as elsewhere in Indo-European; cf. Hock 1975:93-4 with references. For āmreḍita-compounds note especially the striking similarities between RV dā́me-dame and Avest. nmāne-nmāne 'in every home'.)

The first feature which I will discuss actually is not now normally mentioned by scholars concerned with South Asian convergence, but by Indo-Europeanists concerned with the reconstruction of PIE word order; cf. e.g. Miller 1975 and Friedrich 1975, 1976, 1977. However, it is, I believe, of interest for our subsequent discussion. This feature concerns the normal, unmarked word order of Sanskrit. While this order is SOV at all stages of the language, there is a greater freedom of ordering in the Rig-Veda than in the later Vedic-Prose texts; cf. (14) vs. (15). The later "rigidification" of SOV, and even the SOV of Rig-Vedic are then said to reflect Dravidian influence.

(14) Rig-Veda:

	Number	Percentage	
OV#	32	45	≈ 63%
V(X)#	13	18	
OVX#	15	21	= 25% "extraposed"
(S)VO	3	4	
#(X)V	8	11	

(Based on RV 1.1, 1.152, 6.54, 7.61)

(15) Vedic Prose:

	Number	Percentage	
OV#	83	63	= 97%
V#	44	34	
OVX#	1	1	= 1% "extraposed"
#V	3	2	

(Based on ŚB 1.1.1.1-22; mantras and passives omitted)

As it turns out, however, the difference between the Rig-Veda and Vedic Prose is one mainly of style, not of chronology. For if we look at even later texts, which come from different genres, we find orderings quite similar in their general outlines to those of the Rig-Veda; cf. (16), as well as Middle Indo-Aryan (17). (Other literary genres, however, continue to prefer more rigid SOV order.) This stylistic difference has parallels elsewhere in Indo-European. Moreover, it turns out that the increasing SVO (or VSO) of the European languages is the result of an innovation. Cf. Hock 1982a and Watkins 1963, 1964. The relatively non-rigid SOV of Sanskrit, thus, is most likely to be inherited. Moreover, it remains remarkably unaffected by any convergent developments even into Middle Indo-Aryan times.

(16) Kālidāsa:

	Number	Percentage		
OV	21	45	} = 68%	
V#	11	23		
OVOS	1	2	= 2% "extraposed"	
#(X)V	14	30		

(Based on Śakuntalā, prastāvanā and Act I; verse and Prakrit portions, as well as passives omitted)

(17) Aśoka:

	Number	Percentage	
OV	7	21	} = 60%
V#	13	39	
OVX	1	3	} = 27% "extraposed"
S(O)VO/X	8	24	
#(X)V	4	12	

(Based on Rock Edicts 1-4)

The case for Dravidian influence may appear better for the Sanskrit absolutive in -tvā (RV also -tvī/tvāya) or -ya, as in (18) and (19). In addition there is also a type in -am, as in (20).[3]

(18) strīyam dṛṣṭvā́ya kitavám tatāpa (RV 10.34.11)
'seeing (his) wife, it pains the gambler'

(19) pūṣā́ tvā itáḥ nayatu hastagṛ́hya (RV 10.85.26)
'may Pūṣan lead you from here, taking you by the hand'

(20) ī́yarti reṇúm maghávā samóham (RV 4.17.13)
'the lord raises dust, sweeping it up'
(rare; one other example in RV, 3 in AV)

As early as 1903, Konow proposed to see Dravidian influence in the absolutives of the type (18) and (19). And as especially Kuiper (1967) pointed out, since forms of this sort are found as early as the Rig-Veda and because their morphology suggests that they were 'created long before the oldest hymns of the Rig-Veda were composed', it seems to follow that Dravidian influence on Indo-Aryan began as early as pre-Rig-Vedic. Kuiper specifically argues that only Dravidian, and not Munda, can be the origin of the construction; for in Dravidian, absolutive constructions are de rigueur, while they are not in Sanskrit or in Munda. Moreover, while the Munda languages have absolutives, they do not agree on the morphological marking of these constructions; and outside members of the Austro-Asiatic family lack constructions of this sort. Finally, implicit in these arguments is the notion that the Sanskrit absolutive must be an innovation, structures of this sort not being reconstructable for its Proto-Indo-European ancestor.

In my 1975 paper I expressed considerable scepticism about these claims. Evidence which I have been able to accumulate since then further weakens the case for Dravidian origin of the Rig-Vedic absolutive.

First of all, absolutives are found in other Indo-European languages, ancient and modern. I will here limit myself to the earliest stages; cf. (21) - (26).

(21) Hom. Gk. -da/don/dēn (cf. also example (12) above)

lûsai d'ouk edúnanto parastadón (Il.15.22)
'they could not come near and get (you) loose'

(22) Hom. Gk. -ti (*instr. of verbal noun in -ti; cf. also Bader 1970)

... epeì ou ken anidrōtí ge telésthe (Il.15.228)
'... for not without sweating would it have succeeded'

(23) Hom. Gk. -on (acc. of verbal noun in -o-; only one example. Cf. Wackernagel 1944)

agkhímolon de hoi êlthe (Il.4.529)
'and he ran to him, coming near'

(24) Lat. -ndō (abl. of "gerund" in -ndo-; OLat. most commonly causal in value)

ita miser cubando in lecto hic expectando obdurui (Plaut.Truc.916)
'thus, miserable from/by lying in bed here, waiting, I have endured'

(25) Lat. -tū (abl. of "supine" in -tu-; mainly Old Latin, and frequently with non-identical subject; cf. Wackernagel 1944)

et gravidam fecit is eam compressu suo (Plaut.Amph.109)
'and he made her pregnant (with/by/upon) his having lain with her'

(26) Arm. i + infinitive (Jensen 1959:184)

OCS -ǫšte, -ęšte (built on pres. participle);-ъše (built on past participle); similarly also in Baltic; cf. Vaillant 1958:547

OIr. oc (etc.) + verbal noun (Pedersen 1913:417)

Excepting the formations under (26), which may be recent innovations, the forms employed give the impression of being archaisms, being derived with suffixes which are synchronically opaque or even moribund. In a number of cases they tend to be lexicalized, especially in Greek, but also in the Latin type (25); cf. Class. Lat. iussu 'on the order of' (originally absolutive of iubēre 'to order'). (On the other hand, the Latin type (24) becomes very productive, tending to replace the present participle in the Romance languages.) What is especially interesting is that the Greek -on of (23) is an etymologically perfect match for Skt. -am and that Lat. -tū (abl.) is a near-perfect counterpart of Skt. -tvā, differing only in the fine details of the phonetic shape of the suffix. Haas (1956) tried to link up also the Greek suffixes of (21) with the Sanskrit absolutive ending -ya. However, phonologically and morphologically, this equation is open to doubt.

At the same time, however, it must be noted that in Hittite, as well as in Avestan, comparable constructions are more difficult to find. Hittite does offer some verbal-noun constructions like (27); but they are not common.

(Through the very wide-spread and increasing use of sentence-connecting particles, Hittite found a very different strategy of dealing with subordination, turning subordinate clauses into quasi-coordinate structures.)

(27) Hittite (loc. sg. of verbal noun)
ŠUŠI LUGAL.MEŠ šiwanzi tar(a)hta (KUB XXXVI.67.II.23)
'he defeated 60 kings in/by shooting'

As for Avestan, Bartholomae (1901) believed to have found evidence for absolutives being used throughout the history of the language. But after Benveniste's critique (1930), the evidence for the early language has become doubtful. All that can be cited for this stage are occasional structures like (28).

(28) Avestan (prep. + verbal noun)
pasca jainti daēvanam ... fravazaite miθrō ... (Yt.10.133)
'after (the) smiting of the evil gods, ... Mithra comes ...'

However, as Benveniste admitted, very late Avestan does offer absolutives, built on the present participle or on the verbal noun in -ti-; cf. e.g. example (29).

(29) yat aēte yōi mazdayasna pāθa ayantəm vā tacintəm vā barəmnəm vā vazəmnəm vā taci.apaya nasāum frajasən (V 6.26)
'if these Mazda-worshipers (while) walking, running, riding, or driving, come upon a corpse in running water ...'

The fact that absolutives thus can arise independently, again and again, in the various Indo-European languages (cf. also (26) above, as well as the English gerund in -ing), is another element which has to be considered in deliberating the question whether the Sanskrit absolutives must be attributed to Dravidian influence.

Yet another element to be considered is that, as Emeneau (1956:9) acknowledged, absolutives are found in a much larger area, including Chinese, Japanese, Korean, and Altaic. Many of the Uralic languages likewise have absolutives, as does Classical Tibetan. (Cf. Collinder 1957, 1965; Jacobi 1897; Masica 1976.) Burmese and the other Tibeto-Burman languages have an elaborate system of specially marked verb forms and/or of case forms of verbal nouns to encode subordination. (My own notes on Burmese, and personal communication by F. K. Lehman, 1982.)

As it turns out, at least one Austro-Asiatic language outside of India, namely Nicobarese, likewise has absolutives, marked by hɛ' (cf. Braine 1970: 194, who refers to this type of form as a 'sequential verb'). And in the essentially monosyllabic Mon-Khmer languages, where affical formations have by and large been eliminated, we find here and there structures as in (30) (from Chrau, a language spoken in Vietnam), which would be about the closest that such languages can come to absolutive formations.

(30) Chrau:

nĕh sĭq . sĭq (ncai) (nĕh) panh ...
'He returned. Having returned (then he) said ...'

nĕh sa . (sa) chhŏng en nŏq nĕh saq .
'He ate. Having finished (eating), then he went.'

(Data according to Thomas 1971:169, 171-7)

Given these outside Austro-Asiatic structures, Kuiper's claim that the Munda absolutives must be an innovation needs to be reconsidered.

Even more interesting, because of its chronological and geographical attestation, is the fact that the ancient Near Eastern languages had absolutives (called 'subjunctives' in the handbooks); cf. e.g. Jestin 1946 for Sumerian, Riemschneider 1969 for Accadian, and the data in Friedrich 1943 for Elamite.

Finally, on the Dravidian side there is a great deal of formal fluctuation in the marking of absolutives. Thus, Natarajan (1977:169-82) cites more than twenty different formations of the absolutive in Old Tamil. In addition, he notes that also finite verbs may be used as absolutives (ib.182-3). The occurrence of similar structures elsewhere in Dravidian (as in Kurukh; cf. Hahn 1911) may suggest that this is an archaism. At any rate, however, the evidence of Dravidian does not seem to be as fundamentally different from that of Munda as Kuiper makes it to appear.

The number of possible sources for the Sanskrit absolutive, even disregarding the possibility of inheritance from PIE, thus is too large, the area in which absolutives are found, too vast, to permit the conclusion that only one language family, namely Dravidian, can be its source.

The case is remarkably similar for the quotative construction, which since Kuiper 1967 has become a standard argument for pre-Rig-Vedic Dravidian influence on Sanskrit. I have just completed a separate study (Hock 1982b), in which I examine the question of the quotative in detail. To avoid duplication, let me summarize my findings here, with the addition of a few references which I have come across only after completion of that paper.

In Sanskrit, quotatives are marked by iti, a particle which is also found in non-quotative function, meaning 'thus'; cf. (31) and (32). (The latter example is taken from Vedic Prose, where unambiguous attestations of non-quotative iti are found more readily.)

(31) (a) 'iti-initial': íti bravīti vaktárī rárāṇaḥ QUOTE (RV10.61.12)
Q SPEAK
'thus says the giving speaker QUOTE'

(b) 'SPEAK-final': yáḥ índrāya sunávāma íti āha (RV 5.37.1)
QUOTE Q SPEAK
'who says to Indra "we shall press"'

(c) 'Inserted' : idám udakám pibata íti abravītaná idám vā
QUOTE Q SPEAK QUOTE
... muñjanéjanam (RV 1.161.8)
QUOTE
'"drink this water," you said, "or this ... rinse-water'

(d) 'Embracing' : nákiḥ vaktā́ ná dāt íti (RV 8.32.15)
SPEAK QUOTE Q
'no one is about to say "May he not give"'

(32) íti ágre kṛṣati átha íti átha íti átha íti átha íti (ŚB 7.2.2.12)
'he first ploughs thus, then thus, then thus, then thus'

Kuiper contended that structures such as those in (31), especially variant (d), with iti separated from its 'governing' verb SPEAK, and following the QUOTE, are innovations, without parallels in the other Indo-European languages, and must be explained as the result of Dravidian influence. For in Dravidian, marking of direct discourse by an absolutive of en- 'speak', following QUOTE, is de rigueur. On the other hand, not all Munda languages have the construction and those which do, do not agree with each other on the selection of the marker which they employ. This, in his view, is due to the fact that, like Sanskrit, they have independently calqued a pre-existing Dravidian construction. Because in his view, construction (31d), the variant of the quotative most unprecedented from the Indo-European point of view, is attested at all stages of the Rig-Veda, that calquing process must have predated the Rig-Veda.

As I point out in my recent paper, the Rig-Vedic quotative structures must be considered in the wider context of all reported-speech constructions. The most important alternative is the unmarked-quote structure, as in (33).

(33) (a) utá enam āhuḥ ... QUOTE (RV 4.38.9)
SPEAK
'and they say of him QUOTE'

(b) QUOTE prá me devā́nām vratapā́ uvāca (RV 5.2.8)
SPEAK
'QUOTE, the protector of the gods' laws has told me'

(c) apsú me sómaḥ abravīd antár víśvāni bheṣajā́ (RV 1.23.20)
QUOTE SPEAK QUOTE
'"In the waters", Soma said to me, "are all the remedies"'

As can be seen, quotative and iti-less constructions are to a large extent similar to each other, as far as the relative order of SPEAK and QUOTE is concerned. However, structure (31d) naturally has no clear match in (33). Moreover, and this may provide an explanation for (31d), there is an asymmetry in usage between (31a-b) and (33a-b): For the quotative, the variant (b) is by far more common, while for the iti-less construction, (a) is the far more common variant. (31d) can then be explained as a kind of compromise between these two most common, polarized structures, with SPEAK before extraposed QUOTE, but with iti following that QUOTE; cf. (34).

(34) SPEAK + QUOTE
QUOTE + iti + SPEAK } → SPEAK + QUOTE + iti

That the resulting 'Embracing' construction is in fact a relatively recent innovation is suggested by the fact that it is attested only twice each in the earliest and in the middle portions of the Rig-Veda, but shows a 200% increase (to six attestations) in the late Rig-Veda. Moreover, in the Atharva-Veda and in the subsequent Vedic Prose, the construction further increases in popularity, soon becoming the most common quotative construction and almost ousting the more archaic, competing structures. (For other, structural arguments that the Embracing construction is an innovation, cf. Hock 1982b:47-9.) It is thus fairly easy to account for (31d) as an internally motivated innovation. Moreover, its chronology in the Rig-Veda suggests that it is a quite recent development. Further, by operating with extraposed QUOTES, the Embracing construction follows an eminently Indo-European pattern, whereas for the Dravidian languages, the common wisdom is that extraposition of this sort is exceedingly rare. That is, the innovated, alleged converging Embracing quotative actually diverges from what Dravidian seems to prefer. (Note however that the more common occurrence of extraposed structures in the 'tribal' Dravidian languages, as compared to the literary languages of the South, might require some rethinking on the question of the prehistory of the Dravidian quotatives and/or extraposition. Here as elsewhere, a good deal of additional research in the history and prehistory of the Dravidian languages is urgently required.)

The other variants of (31), however, do have Indo-European antecedents: Quotatives are found also in Avestan, Hittite, Homeric Greek, and Latin, i.e. in all the other early-attested Indo-European languages (except Old Persian which however is attested only in royal proclamations with little opportunity for the contrastive use of quotatives). Of these, Hittite and Latin have generalized an inserted structure (marked by -wa(r)- in Hittite, by inquit/inquam in Latin). Homeric Greek exhibits two competing structures, both with the marker following QUOTE. Avestan, however, offers structures entirely parallel to those in (31a-c); cf. (35).

(35) (a) uityaojana miθrāi ... QUOTE (Yt.10.1)
Q SPEAK
'speaking thus to Mithra ... QUOTE'

(b) yat dīm dāmabyō cinasti mazda iθa təm (Y 19.14)
SPEAK QUOTE Q
'"Mazda" means/teaches that he (exists) for the creatures'

(c) ušta ahmāi ... uiti mraot ahurō mazda ai aš̆āum ... (Yt.10.137)
QUOTE Q SPEAK QUOTE
'"hail to him ..." (thus) said A. M. "O truthful ..."'

What is especially interesting is that, like Sanskrit, Avestan employs particles meaning 'thus' as quotative markers. (However, the actual choice of marker has been made along different lines.)

In addition to these Indo-European antecedents, there are parallels also from many non-Indo-European languages outside Dravidian. Thus we find quotat-

ives in a vast territory extending from Tibeto-Burman to the Far East. Also the Altaic languages show such constructions (cf. Hauer 1952:s.vv. sehe, sehebi, sembi, seme for Manchu, Poppe 1951:113 for Mongol, Deny et al. 1959: 38,43,513,597 and Brockelmann 1954:415-16, Jansky 1943-167-8 for various Turkic languages). There is evidence for quotative markers also in various non-Indian Austro-Asiatic languages, including Nicobarese, Mon, Cambodian, as well as (Vietnamese) Chrau (cf. Thomas 1976:73-5 et passim, for the latter). Finally, here as in the case of the absolutive, we find quotatival structures also in the ancient Near Eastern languages, Sumerian, Accadian, and Elamite. In the overwhelming majority of these languages, the quotative marker follows QUOTE, just as it is said to do in Dravidian.

On the other hand, the absence of quotative markers in some Munda languages and the disagreements concerning the selection of quotative markers are matched by similar difficulties in Dravidian. These include historical and geographical variation in the form of the quotative marker; the optional absence of the marker; the use of finite, non-absolutive structures in lieu of the quotative marker and/or pre-QUOTE markers in the more northern languages, including Kolami (cf. the texts in Emeneau 1955), as well as Kuvi and Pengo; the choice of a different verb of saying as quotative marker in Kurukh (bāc-); etc. Given Kuiper's reasoning for Munda, one might have to conclude that the quotative construction therefore cannot be inherited in Dravidian. However, I suspect a more accurate interpretation of many of these difficulties in some of Dravidian, as well as in some of Munda and Indo-Aryan is that they result from more recent developments connected with the spread of the ki-construction from the Northwest, via Hindi/Urdu. On the other hand, however, given what has been noted in respect to the Dravidian absolutive, some of these difficulties may be of considerable antiquity in Dravidian. Here as elsewhere, a great deal of additional research is required before we can come to a reliable understanding of the prehistory of the various relevant languages and language families.

At any rate, however, here as in the case of the absolutive constructions, the variety of languages and the vastness of the area in which relevant structures are found would in my view make it extremely difficult to single out just one language group as the source of the Sanskrit quotative.

The parallelism between the case of the absolutives and that of the quotatives probably is not simply an accident: The areas in which the two structures are found are nearly coterminous; only the Uralic languages have just one of these constructions, namely the absolutive. Moreover, with the exception of the originally SVO Austro-Asiatic (which lies on the periphery) and of Accadian (whose Afro-Asiatic relatives generally are VSO), all the languages of this area have SOV as their (original) unmarked order. Masica (1974) referred to this as the Indo-Altaic area, and in my 1975 paper I argued that PIE may at one time have been on the periphery of this area. The coexistence of SOV, absolutives, and quotatives in Latin, and also in Homeric Greek (where Fischer 1923 showed OV to predominate markedly over VO), lends additional support to this contention. Moreover, quotatives and SOV are found also in early Avestan and in Hittite; and later Avestan adds a new set of absolutives.

Further, there is evidence which suggests that, while the presence of one of these three syntactic features does not necessarily entail the others (cf. absolutives in SVO English and quotatives in SVO Ewe, for which cf. Lord 1976), the correlation is a common tendency in SOV languages. Thus many of the Australian SOV languages have absolutives and similar non-finite subordinating devices (cf. Yallop 1982:134-40). The situation is similar for Quechua (cf. e.g. Cerrón-Palomino 1976:251-73, Coombs et al. 1976:171-2, Stark et al. 1973:24) and other Amerindian languages (cf. Davis 1973:139, 180, etc. for Luiseño). Moreover, at least some varieties of Quechua (cf. Coombs et al. 1976:176-9, Stark et al. 1973:247), as well as North American Luiseño (Davis 1973:257-8) additionally have quotatival constructions. (I suspect that this correlation is connected with a tendency in SOV (and VSO) languages to make the generalization that sentences, rather than clauses, have just one finite verb, at the end (or, in VSO languages, at the beginning) of the sentence. Non-finite absolutive-like structures would help to implement this generalization, by eliminating possible violations in non-final (or non-initial) subordinate clauses. (For VSO languages, cf. Jeffers 1976.) Quotative markers seem to solve the problem for the finite verbs of QUOTES, by indicating that, in a sense, these quotations--and their finite verbs--are outside the scope of the (matrix) sentence.)

At the risk of being accused of overkill, I would therefore submit that not only is there no cogent evidence that these three features in Sanskrit reflect Dravidian influence; even if they did, they should be treated more like a single feature than as cumulative evidence for convergence.

We are left, then, with retroflexion which is, in fact, a much more specifically South Asian feature. Moreover, among the South Asian language families, Munda and Tibeto-Burman seem to originally not have had a dental/retroflex contrast. Nor does the contrast seem to be found in the ancient Near Eastern languages, or in Altaic. (For Uralic, the situation seems to be less certain; but Raun 1971 has presented fairly strong arguments against such a contrast.)

Unless we want to invoke Burushaski, or some ancient relatives of that language, or some unknown, pre-Sanskrit and pre-Dravidian substratum, we are therefore confronted with a clear choice: Either we attribute the occurrence of a dental/retroflex contrast in both Dravidian and Indo-Aryan to chance, or we explain it as the result of convergence. If, in fact, a cogent case for Dravidian influence on Sanskrit could be made, then we would here have the one valuable piece of evidence for such a substratal influence.

Deshpande (1979), to be sure, has argued that the Sanskrit dental/retroflex contrast developed in the post-Rig-Vedic period. I could make things easy for myself by accepting this argument and concluding that there is thus no evidence for (pre-)Rig-Vedic influence of Dravidian on Sanskrit.

However, as I have argued elsewhere (Hock 1979), the highly patterned, rule-governed degeneralization of retroflex sandhi across word boundary, which can be observed in the Rig-Veda and constitutes an early phase of a change that gets virtually completed in the Classical period, presupposes that the retroflex/dental contrast has already come about, i.e. that the origination of this contrast predates the attested Rig-Vedic texts.

At the same time, however, as I observed in my 1975 paper (with references to earlier literature), there are a number of important differences between Sanskrit and Dravidian:

(a) Sanskrit has a retroflex sibilant; and this sibilant, in fact, is the major starting point for the origination of retroflexes in native words. While the Dravidian sonorant r̲ has occasionally been written as z̲, Krishnamurti (1969:318, n.18) points out that there is no strong empirical evidence for this interpretation. Moreover, typologically, a system with a voiced obstruent which is not matched by a corresponding voiceless obstruent or otherwise supported in the system (such as by the existence of a whole series of voiced obstruents) is rare enough to require more than just cursory justification. It is also noteworthy that while Sanskrit retained its voiceless s̲, it seems to have lost the allophonic voiced counterpart z̲ in prehistoric times. This is hardly a development by which Sanskrit can be said to "converge" with a Dravidian which is said to have such a voiced z̲ (but no s̲).

(b) Dravidian in fact has a triple contrast, between retroflex, alveolar, and dental. Such a contrast is absent in Sanskrit. This argument, however, is perhaps of reduced cogency. For it is true only on the phonological level, where Skt. r̲ functions as (or like) a retroflex, in inducing a following n̲ to become retroflex under certain conditions. (This development, incidentally, also seems to have begun in prehistoric times. However, we can observe it still being generalized in Rig-Vedic internal sandhi; cf. Hock 1979.) But phonetically, r̲ seems to always have been the alveolar which it is in the descriptions of the prātiśākhyas and which it still is in modern Indo-Aryan (and in modern Sanskrit). When the Pāṇinīya Sikṣā and other later texts refer to r̲ as retroflex, they must be aiming at its phonological, rather than purely phonetic characteristics. At the same time, however, Sanskrit does not proceed to build a whole series of alveolar segments, comparable to its dental and retroflex series and matching the alveolar series of Dravidian.

(c) Also distributionally, the two systems differ considerably: Dravidian originally does not permit initial retroflexion; Sanskrit shows such segments as early as the Rig-Veda (cf. the numeral ṣaṭ '6'). Conversely, Dravidian permits final retroflex sonorants, Sanskrit does not. Here, too, the divergences do not bode well for a convergence hypothesis.

(d) To these arguments I would now add the evidence of (pre-)Rig-Vedic retroflex sandhi across word boundary, affecting not only clitics or (quasi-) univerbated structures, but also full, independent nouns or verbs; cf. (36).

(36) rājati ṣṭúp (from rājati stúp) (RV 9.96.18) 'the singer rules'(?)
vámsu ṣīdati (from vámsu sīdati) (RV 57.3)'sits down on the wood'

As far as I know, nothing of this sort can be postulated for early Dravidian. And again, we are confronted with divergence in an alleged convergence situation.

Now, as I showed in my 1975 paper, the origination of the Sanskrit retroflex/dental contrast can be explained by phonetically probable, entirely indigenous developments. It is true, this leaves a certain residue, especially

the forms with "spontaneous" retroflexion. Some of these can be accounted for as forerunners of later, Middle Indo-Aryan changes. (Cf. Hock and Pandharipande 1976 for n going to ṇ.) Others, mainly post-Rig-Vedic, might be attributable to language contact. However, I find it difficult to see how these could be attributed to the mistakes made by Dravidians trying to speak a Sanskrit with undifferentiated dentals (cf. Emeneau 1974). Rather, just as in the case of modern-day contacts between Westerners and South Asians, I would expect speakers lacking the contrast to make mistakes in trying to speak a language which has it. (Perhaps speakers of early forms of Munda, or of Tibeto-Burman, might be involved?)

At any rate, however, an internally motivated development seems to provide a more satisfactory--and simpler--explanation of Rig-Vedic/Sanskrit retroflexion--and its differences vis-à-vis Dravidian--than does the convergence hypothesis.

Even so, an argument for Dravidian influence might still carry some conviction, if it could be shown that the internal development of retroflexion is such a rare phenomenon that its origination in Sanskrit would be highly unusual and that--in spite of the noted divergences--its occurrence in both Dravidian and Sanskrit is excessively unlikely to be due to chance. It is in order to deal with this argument that in my 1975 paper I went to considerable lengths in order to document that retroflexion, or retroflex/dental contrasts have come about in quite a number of Indo-European dialects, through entirely indigenous developments. I found more than ten such cases. While it is difficult to be certain as to how many such cases are needed to establish that a particular development is not unnatural, I believe that the evidence accumulated in that paper is sufficient.

Under these circumstances, I believe, we must conclude that Dravidian origin of Rig-Vedic retroflexion is not established beyond a reasonable doubt. And since none of the other arguments for early convergence turned out to be cogent, the claim that Dravidian influence on Sanskrit began in pre-Rig-Vedic times must be considered not supported by sufficient evidence.

However, one final argument for early convergence might be the following: Although taken by themselves, none of the links in the argument for early Dravidian influence may be strong, the cumulativity of the evidence must be considered: Is it likely that the various similarities between Dravidian and Sanskrit are due to chance?

Even this argument, however, is weak. For as noted, SOV, absolutives, and quotatives should probably be regarded more as a single feature, than as three separate, cumulative pieces of evidence. At best, then, there is this feature and the evidence of retroflexion which would argue for convergence. It is doubtful, however, whether the combination of two weak arguments makes for strong support in favor of a circumstantial case. Finally, note for all that it is worth, that there are Australian languages with SOV, absolutives, and retroflexion. (Cf. Dixon 1972 on Dyirbal.) Closer to 'home', there is a good chance that at some time in its development, Chinese had SOV, absolutives, quotatives, and retroflexion. That is, the possibility for chance similarities is perhaps not as remote as it might have appeared.

* * *

In the conclusion of my 1975 paper I suggested that the elimination of the idiosyncratic differences between Indo-Aryan and Dravidian retroflexion in the large central area of South Asia may constitute genuine South Asian convergence. On the Indo-Aryan side, this process began with the Middle Indo-Aryan elimination of contrast between dental, retroflex, and palatal sibilants in favor of the dental (or palatal) sibilant in all but the (extreme) Northwest. The post-Rig-Vedic expansion of the uses of the absolutive and quotative may likewise constitute convergent developments, which make Sanskrit more Indian, and more different from the other early Indo-European and non-Indo-European languages. It is, I believe, at this point that the chances for making a more cogent case for Indo-Aryan/Dravidian convergence become fairly good. However, as noted in Hock 1982b, at least in the area of the quotative, a considerable amount of additional research, especially on the history and prehistory of the non-Indo-European languages of South Asia is needed before such a task could be meaningfully undertaken.

NOTES

[1]This paper has benefited greatly from comments which I have received on my earlier (1975) paper, especially from Murray B. Emeneau, F. B. J. Kuiper, Colin ("Nick") Masica, and Norman Zide. An earlier, shorter version of this paper was delivered at the 1983 Meeting of the Association for Asian Studies in San Francisco, as part of a panel on South Asia as a Linguistic Area, organized by Peter Hook. I am grateful for comments received on that occasion and also for written comments by Wilma Heston. Needless to state, none of the persons named above would necessarily agree with all the points made in this paper.

[2]The earliest attestation which I have been able to find for this latter type is simasimāyat (pple.) 'rustling, crackling' (JB 3.104-9). An earlier, intermediate type seems to be represented by the type kikkiṭā-kr- 'make the sound "kikkiṭā" (said of animals)' (TS 3.4.3.5), with a vowel appearing at the end of the reduplicated structure, but not yet after its first syllable. (Note that in budbuda, the morphological structure seems to be budbud-a-, i.e. the final -a- is a suffix.) Similar structures are bharbharā-bhavat (MS 2.2.1 = 4.4.2), bababā-kurvann (AB 3.4.8), bibibā-bhávann (MS 1.6.5), perhaps also masmasā kuru (ŚB 6.6.3.10 = VS 11.80), but this seems to be a transitive verb meaning something like 'burn to ashes, crush to pieces'.

[3]For ease of exposition the effects of external sandhi are undone in the Sanskrit examples and forms are given in their prepausal shape.

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SOME PHONOLOGICAL RULES OF BANI-HASSAN ARABIC: A BEDOUIN DIALECT*

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In this descriptively oriented study we exemplify and discuss some of the major lexical rules to be found in the phonology of Bani-Hassan Arabic, a Bedouin dialect of northern Jordan. These include rules of syncope, elision, vowel raising, and accent. We freely draw on some of the concepts and descriptive apparatus recently developed within the model of Three-Dimensional phonology. Particular attention is paid to metrical accent and its role in defining the domain of operation for some of the other rules. Where pertinent, brief comparisons are made with other Bedouin dialects.

In this paper we examine the major morphophonemic rules to be found in Bani-Hassan Arabic, a dialect of some 130,000 speakers located in northern Jordan in the triangle formed by the towns of Zaqra, Mafrag, and Jarash. This Bedouin tribe is said to have originated in the Arabian Peninsula. In their present location they work as farmers, drivers, and government employees. Data for the study derive from the speech of the first author. In order to put our discussion in a wider context we shall briefly compare the morphophonemics of Bani-Hassan Arabic (BHA) with some of the other Bedouin dialects that have been reported in the literature, in particular the Negev dialect studied by Blanc (1971) and the Saudi dialects of the Najdi (Abboud 1979) and the Hijazi (Almozainy 1981). We also compare the BHA rules with those found in a dialect we shall refer to as Riyadh Arabic for lack of a better term.[1] Our study should be viewed primarily as a contribution to Arabic dialectology. The phonological processes we discuss are, however, interesting in their own right and appear to bear on a number of issues in theoretical phonology.

Verbal Measures

For readers unfamiliar with Arabic grammar we shall briefy describe the verbal morphology since many of the rules we discuss later are most easily illustrated in the verb. BHA verbs fall into a closed set of 11 so-called measures, each characterized by a fixed stem shape and vowel pattern. Any word-formation rule creating a verb must select from among these 11 measures. BHA distinguishes perfect from imperfect; subject agreement is marked by suffixes in the perfect and a combination of suffixes and prefixes in the imperfect, the prefixes inducing certain alterations of the basic root shape. There is also a series of clitic suffixes marking nominal complements on verbs as well as nouns.

Most underived verbs fall into measure-I. It is characterized by a CVCVC root shape; but the addition of a CV prefix in the imperfect alters the root shape to CCVC by deletion of a vowel in the context V[C__CV.

Unlike all other measures, verbs in measure I show an opposition in vowel quality between i and a (with a tendency for CaCaC to mark transitives and CiCiC intransitives). The CiCiC shape is the one stipulated by a word-formation rule deriving verbs from adjectives. There is also an ablaut relationship between the vowels of the perfect and imperfect with a of the perfect corresponding to i (sometimes u) in the imperfect and i of the perfect corresponding to a in the imperfect. This ablaut relation runs through the entire set of verbal measures. Examples in 3 sg. m. appear in (1).

(1)	perfect	imperfect	
	dáras	yí-dris	'study'
	hámal	yí-hmil	'carry'
	šírib	yí-šrab	'drink'
	síġir	yí-sġar	'be small' (cf. sġayyir 'small'

Measures II and III are formed by amplifying the initial syllable of the CVCVC root with an extra mora--a consonantal mora in measure II and a vocalic one in measure III. Measure II is assigned by a variety of word-formation rules, most notably causatives and intensives; measure III is used for so-called "applied" objects and includes many basic underived verbs as well. Vowel melodies are a in the perfect and a-i in the imperfect.

(2)			
	dárras	y-dárris	'teach'
	hámmal	y-hámmil	'make carry'
	šárrab	y-šárrib	'make drink'
	kássar	y-kássir	'smash' (cf. kísar 'break'
	káatab	y-káatib	'correspond with' (cf. kítab 'write'
	láa9ab	y-láa9ib	'play with' lí9ib 'play'
	sáa9ad	y-sáa9id	'help'

Measure IV is not in great use in BHA. It involves a prefix i and root of the shape CCVC (e.g. i-rsal, y-irsal 'send'). Measures V and VI are generally formed from measures II and III respectively by the prefixation of /ta-/. They are usually the passive of the active II and III verb. In these measures the ablaut relation between the perfect and imperfect stems is suppressed.

(3)			
	ta-hámmal	y-ta-hámmal	'be made to carry'
	ta-9állam	y-ta-9állam	'be taught' (cf. 9állam 'teach'
	ta-láa9ab	y-ta-láa9ab	'be played with'
	ti-sáa9ad	y-ti-sáa9ad	'be helped'

Measure VII is the passive of measure I and is formed by the prefixation of /in-/. Measure VIII is characterized by the infixation of t after the first radical consonant and the prefixation of i. It is also used in BHA as the passive of measure I but not as frequently as measure VII, except that it is the regular form when the root begins with n, presumably to avoid two successive n's.

(4)	ín-saḥab	yín-sihib	'be pulled'	(cf. sáḥab 'pull'
	ín-xaḍam	yín-xiḍim	'be served'	xáḍam 'serve'
	íḥtigar	yíḥtigir	'be abused'	ḥágar 'abuse'
	íntisaf	yíntisif	'be spilled'	nísaf 'spill'

Measure X is stipulated by a variety of word-formation rules. It is characterized by the prefix sta-. Measure X can serve as the disiderative of measure I, the so-called estimative of an adjectival base and the meaning of 'to act like an X' with a nominal base.

(5)	stá-šrab	yi-stá-šrib	'feel like drinking'	(cf. šírib 'drink'
	stá-jmal	yi-stá-jmil	'consider beautiful'	jimíil 'beautiful'
	stá-ḥmar	yi-stá-ḥmir	'act like a donkey'	ḥmáar 'donkey'

Finally quadriliteral roots are traditionally accorded separate measures called QI and QII. These are in reality instances of the same pattern as measures II and V, respectively: e.g. tárjam, y-tárjim 'translate'; ti-tárjam, y-ti-tárjam 'be translated'.

Syncope

Like virtually all other modern Arabic dialects BHA has a rule syncopating short high vowels in nonfinal open syllables. This rule operates on both the lexical word level as well as the phrasal level. As an example consider the measure I verb širib 'drink' in the perfect, where it is inflected as shown in (6). We find the CiCC stem shape when the inflectional subject suffix begins with a vowel and the basic CiCiC shape elsewhere.

(6)	šírib	'he drank'
	šírb-at	'she drank'
	širíb-t	'you m. drank'
	širíb-ti	'you f. drank'
	širíb-t	'I drank'
	šírb-u	'they m. drank'
	šírb-an	'they f. drank'
	širíb-tu	'you pl. m. drank'
	širíb-tan	'you pl. f. drank'
	širíb-na	'we drank'

This rule is also triggered by vowel-initial object suffixes attached to a verbal base such as fihim 'he understood'.

(7)	fíhim	'he understood'
	fíhm-uḥ	'he understood him'
	fihím-ha	'he understood her'
	fíhm-ak	'he understood you m. sg.'
	fíhm-ič	'he understood you p sg.'
	fihím-ni	'he understood me'
	fihímhum	'he understood them m.'
	fihímhin	'he understood them f.'
	fihímkum	'he understood you m.pl.'
	fihímčan	'he understood you f.pl.'
	fihímna	'he understood us'

On dialect-internal synchronic grounds (as well as historically) it is clear that the i-Ø alternation must be treated as syncope and not epenthesis with CiCC as a base. There are two arguments for this contention. First, CVCC is needed as an underlying representation for a large class of nominal stems consisting of deverbal nominalizations as well as basic underived nouns. As in Lebanese Arabic (cf. Haddad this volume) in BHA the underlying CVCC shape emerges to the surface when the first postvocalic consonant is more sonorous than the second while an epenthetic i is inserted when the second consonant is more sonorous than the first.

(8)	ḥílm	'a dream'	cf.	ḥílim	'he dreamt'
	dárs	'a lesson'		dáras	'he studied'
	šírb	'a drink'		šírib	'he drank'
	ḥímil	'a load'		ḥámal	'he carried'
	fíhim	'an understanding'		fíhim	'he understood'
	dáfin	'a burial'		dífan	'he buried'

While the i-Ø alternation in the noun is conditioned by the sonority of the adjacent consonants in a fashion that is characteristic of anaptyxis the i-Ø alternation of the verbs in (6) and (7) is not. Consequently, to distinguish the nominal alternation from the verbal we must assume that the verbal alternation involves syncope. A second argument that i underlies the i-Ø alternation of the verbs is simply that with this assumption we can maintain that CVCVC is the canonical shape for measure I verbs; if CVCC were selected, then the set of measures would be needlessly proliferated.

Syncope is a general rule of BHA phonology applying in a variety of grammatical contexts. Basically whenever a stem ending in the sequences iC or uC is followed by a vowel-initial suffix, the high vowel of the stem is deleted.

(9)	9allim	'teach' masc. sg. imperative
	9allm-i	'teach' fem. sg. imperative
	9allm-u	'teach' pl. imperative
	tiktib	'she writes'
	tiktb-uh	'she writes it'
	kutub	'books'
	kutb-ak	'your books'
	m9allim	'teacher'
	m9allm-uḥ	'his teacher'
	m9allm-i	'my teacher'
	m9allm-een	'two teachers'
	m9allm-iin	'teachers'
	m9allm-ah	'teacher' fem.

In addition to radical vowels syncope will also apply to affixal high vowels in an open syllable. Two examples will illustrate this point. Feminine nouns in -ah substitute the suffix /-it/ for /-ah/ when amplified by a possessive suffix. When the latter is vowel-initial, the final syllable of the stem is opened, leading to the deletion of the vowel of the /-it/ suffix.

(10)	maktab-ah	'library'
	maktab-it-na	'our library'
	maktab-it-ha	'her library'
	maktab-t-uh	'his library'
	maktab-t-ak	'your library'

Also, as can be seen from comparison of the data in (1) with that in (2) imperfect prefixes of the shape Ci- lose their vowel when followed by a CV sequence.

We assume that BHA has the core syllable-building rules of (11).[2]

```
(11)  a. V -> V      b. C -> C / __ V      c. V C
             |              |                |⋰
             R              O                R
```

The first rule assigns a vowel to a Rime position; the second assigns a prevocalic consonant to an Onset; and the third assigns a postvocalic consonant that has escaped the effects of the onset rule to a Rime position. These rules will assign the syllable structure of (12) to a representation such as /širib+at/, the underlying form of širbat.

```
(12)     širibat
         |||||✓
         OROROR
```

The rule of syncope can then be expressed as one which eliminates a high vowel from a nonbranching rime (i.e. a light open syllable).

```
(13)     [+high]
            |
            V  -> Ø / ___
                      |
                      R nonbranching
```

Application of this rule to (12) will yield the representation of (14) assuming a resyllabification of the onset of the syncopated syllable to the rime of the preceding syllable.

```
(14)     širbat
         |✓|✓
         OR OR
```

There are a couple of contexts where syncope systematically fails to operate. First the initial syllable of a CiCiC root is immune to this rule: širib, širib-na. Failure of the rule to apply in this context might be viewed as a reflex of the principle that lexical rules do not apply in nonderived contexts (Kiparsky 1982). But just what counts as a nonderived context has proven to be enormously difficult to establish within the model of lexical phonology.

Syncope also fails to delete word-final vowels: šuuf-i 'see' 2sg.f. imperative, šuuf-u 'see' 2 pl. imperative. Here we follow Abu-Salim (1982) and assume that all final vowels are underlyingly long and shorten by a late rule ordered after syncope. The postulated length does show up before object suffixes: šuufii-ha 'see her!', šuufuu-ha. The final shortening rule is expressed as (15) and the assumed derivation of šuufi and šuufii-ha as (16).

(15) V -> Ø / __]

(16)	šuufii	šuufii-haa	
	---	---	syncope (13)
	šuufi	šuufii-ha	final shortening (15)

Elision

One of the most interesting rules of BHA phonology is a rule which we shall refer to as Elision. This rule deletes a short low vowel in an open syllable if it is followed by a nonfinal short open syllable. Elision is a characteristic rule of many Bedouin dialects occurring in, for example, the Najdi (Abboud 1979) and Hijaazi (Almozainy 1981) dialects of Saudi-Arabia; it is also found in the Cyrenaican dialect described in Mitchell (1960) but appears to be absent from the Negev dialect discussed in Blanc (1970). Basically speaking, in BHA a stem of the shape CaCaC will lose its initial vowel when a suffix beginning with a vowel is added. The rule thus applies in the third person forms of a measure-I verb (17); it is also triggered by the addition of vowel-initial object suffixes (18).

(17)	saḥab	'he pulled'
	sḥabat	'she pulled'
	saḥabt	'you m. pulled'
	saḥabti	'you f. pulled'
	saḥabt	'I pulled'
	sḥabu	'they m. pulled'
	sḥaban	'they f. pulled'
	saḥabtu	'you pl. m. pulled'
	saḥabtan	'you pl. f. pulled'
	saḥabna	'we pulled'

(18)	saḥab	'he pulled'
	sḥabuh	'he pulled him'
	saḥabha	'he pulled her'
	sḥabak	'he pulled you m.sg.'
	sḥabič	'he pulled you f.sg.'
	saḥabni	'he pulled me'
	saḥabhum	'he pulled them m.'
	saḥabhin	'he pulled them f.'
	saḥabkum	'he pulled you pl.m.'
	saḥabčan	'he pulled you pl.f.'
	saḥabna	'he pulled us'

Nominal stems of the shape CaCaC also undergo the rule quite regularly.

(19)	baġal	'mule'
	bġaluh	'his mule'
	baġalha	'her mule'
	bġalak	'your m. sg. mule'
	bġalič	'your f. sg. mule'
	bġali	'my mule'
	baġalhum	'their m. mule'
	bġalah	'female mule'
	bġaleen	'two mules'

To account for the data presented so far the rule of Elision may be expressed as in (20).

(20) $V \rightarrow \emptyset \;/\; \underset{R_1}{\underline{\quad}}\; \underset{R_2}{C\,V}$ (where R_1 and R_2 are nonbranching)

We shall now try to show that the rule of Elision must have the features attributed to it in the above statement. First, only short a elides; a long aa never does. This is illustrated by measure-III verbs such as baarak 'bless'

(21)	baarak	'heblessed'
	baarakat	'she blessed'
	baarakak	'he blessed you m.'

Second, short a must be followed by just a single consonant to elide. If it is followed by two consonants and hence in a closed syllable no elsion takes place. This is easily illustrated by CaCCaC stems such as those in (22).

(22)	9allam	'he taught'
	9allamat	'she taught'
	9allamu	'they taught'
	9allamak	'he taught you m. sg.'

tarjam	'he translated'
tarjamat	'she translated'
tarjamatuh	'she translated it'

maktab	'office'
maktabi	'my office'
maktabak	'your office'

Third, the syllable following the elided vowel must contain a short vowel. This can be shown by stems of the shape CaCaaC as well as the common internal plural pattern CaCaaCi(i)C.

(23)	ʔasaah	'cane'			
	ṣanaadiig	'boxes'	(cf.	ṣanduug	'box'
	maraajiʔ	'references'		marjiʔ	'reference'
	maḥaajir	'quarries'		maḥjar	'quarry'

In all of the examples cited so far the elided vowel has been low; yet our rule (20) does not specify the vowel as to quality. This is because there are no reliable examples of CiCaC or CuCaC stems in BHA. Etymological stems of this shape have all been eliminated by sound change (presumably syncope, with compensatory lengthening).

(23)	Classical Arabic	Bani-Hassan	
	ʔinab	ʔnabb	'grapes'
	rukab	rkabb	'knees'
	tuhaf	thaff	'presents'
	qubab	qbaab	'domes'
	qitaʔ	qtaʔʔ	'pieces'
	lumam	lmamm	'locks of hair'
	θilal	θlall	'flock of sheep'

We assume that synchronically the words in (23) simply have the prosodic shape CCVCC. The generalization of the elision rule to all short vowels will have consequences when we consider the cyclic application of the rules later.

A final question that can be raised with respect to the elision rule concerns the nature of the short vowel in the syllable following the elided vowel. In all of the examples cited so far this vowel has been a. What will happen when this vowel is high? In BHA stems of the shape CaCiC appear to be limited to the imperfect of measures VII and VIII.

(24) insaḥab	'he was pulled'
yinsiḥib	'he is pulled'
yinsaḥbu	'they are pulled'

insarag	'it was stolen'
yinsirig	'it is stolen'
yinsargu	'they are stolen'

iḥtaram	'he respected'
yiḥtirim	'he respects'
yiḥtarmu	'they respect'

As we shall see later, the underlying form for the imperfect stem is CaCiC. The CiCiC shape arises from a rule of umlaut raising a to i in the context __Ci. The underlying a shows up when the i has been deleted by the syncope rule. We thus assume the following derivations for yinsirig and yinsargu.

(25)

/yinsarig/	/yinsarig+uu/	
inappl	yinsarguu	syncope
yinsirig	inappl	umlaut
inappl	yinsargu	final shortening

Given this analysis, there are two possible ways to explain why the first vowel of CaCiC stems does not undergo elision. First, we may restrict the application of elision to strings of the form aCaCV, requiring the vowel that follows the elided vowel to be low. Alternatively the post elided vowel can be unspecified for height and the syncope rule ordered before elision. Under this interpretation CaCiC stems will not exhibit the effects of elision because the prior rule of syncope will have removed the i vowel of the CaCiC stem preventing the open syllable requirement of elision from being satisfied. Since, as we shall see later, there are independent reasons for ordering syncope prior to elision, we shall adopt the more general statement of elision given in (20).

In BHA the elision rule affects only the first vowel of a root. Second radical vowels fail to elide even when they are followed by two light syllables. Examples illustrating this restriction are provided by the 3 sg. f. perfects of measures-II, III, and X when amplified by a vowel-initial object suffix.

(26)

9ǎllam	'he taught'
9ǎllamat	'she taught'
9àllamátuh	'she taught him'
sǎa9ad	'he helped'
sǎa9adat	'she helped'
sàa9adátuh	'she helped him'
stǎgbal	'he greeted'
stǎgbalat	'she greeted'
stàgbalátuh	'she greeted him'

Interestingly, this restriction does not hold for the Riyadh dialect, which has the following paradigms corresponding to those in (26).

(27)

9ál̄lam	'he taught'
9ál̄limat	'she taught'
9allmítah	'she taught him'
sáa9ad	'he helped'
sáa9adat	'she helped'
saa9dítah	'she helped him'
stágbal	'he greeted'
stágbalat	'she greeted'
stagblítah	'she greeted him'

(These data also exhibit another rule raising a to i that we shall discuss momentarily.) Thus the second vowel of a CaCC̄aC and CaaCaC stem is missing from (27) when the following syllable is open. We shall return later in the paper to attempt an explanation for this difference between the BHA data of (26) and the RA data of (27).

Raising

As in all other Bedouin dialects BHA has the rule raising the low vowel a to high in nonfinal short open syllables. Stems of the shape CaCaC regularly show a raising of the second vowel when followed by a vowel-initial suffix. This rule is triggered by subject suffixes on verbs as well as nominal complement suffixes on verbs and nouns.

(28)

xadam	'he served'
xdimat	'she served'
xdimu	'they served'
xdimak	'he served you m. sg.'
sarag	'he stole'
srigat	'she stole'
sriguh	'he stole it'
balas	'he denounced'
blisat	'she denounced'
blisič	'he denounced you f. sg.'
9azam	'he invited'
9zimat	'she invited'
9ziman	'he invited them f.'
walad	'boy'
waladha	'he boy'
wlidak	'your m. sg. boy'

faras	'mare'
farasna	'our mare'
fris-uh	'his mare'

Interestingly, the rule is blocked by the presence of an adjacent guttural (ḥ,9,x,ġ, h) or a following dental sonorant (l, r, n).

(29)

saḥab	'he pulled'
sḥabat	'she pulled'
sḥabu	'they m. pulled'
da9am	'he supported'
d9amat	'she supported'
d9amak	'he supported you m. sg.'
bala9	'he swallowed'
bla9at	'she swallowed'
bla9u	'they swallowed'
dibaġ	'he dyed'
dbaġat	'she dyed'
dbaġuh	'he dyed it'
ḥamal	'he carried'
ḥmalat	'she carried'
ḥmalu	'they carried'
ġadar	'he deceived'
ġdarat	'she deceived'
ġdarič	'he deceived you f. sg.'
liban	'milk'
lbanak	'your m. sg. milk'
lbanuh	'his milk'

The raising rule also applies to the first radical vowel of CaCaC stems.

(30)

kitab	'he wrote'
ktibat	'she wrote'
kitabna	'we wrote'
difan	'he buried'
dfanat	'she buried'
difanna	'we buried'
ligam	'he punched'
lgumat	'she punced'
ligamna	'we punched'

kisar	'he broke'
ksarat	'she broke'
kisarna	'we broke'
balas	'he denounced'
blisat	'she denounced'
šanag	'he beheaded
šnigat	'she beheaded'
faras	'mare'

Although the first radical vowel a never surfaces as such in the stems of (30)--either raising to i or eliding--there are several reasons why the underlying form of the root must be taken to be CaCaC rather than CiCaC. If CiCaC were the underlying form then it would be an accident that this shape is only found when the first or second consonant is not a guttural or the second consonant is not a dental sonorant while the CaCaC shape is found just in case these two conditions are not satisfied. Moreover there is already present in the grammar a rule of raising justified by alternation that defines exactly this complementary distribution between a and i. Finally, in all other cases (except measure-I CiCiC verbs) the perfect has a as the radical vowels. Postulating CiCaC for the stems of (30) would violate this generalization.

The simplest formulation of the raising rule would be expressed as in (31).

(31) [+low] -> [+high] / ___
|
V
|
$R_{nonbranching}$

This rule raises a vowel linked to a nonbranching rime, i.e. to a syllable containing a single short vowel followed by no consonant. However, the formulation in (31) does not mention adjacent consonants. Yet we have seen that the rule is inhibited by an adjacent guttural or a following dental sonorant. Since gutturals can be argued to be [+low] the fact that they hold down an adjacent vowel is phonologically plausible. But how can this be formalized in the grammar? The solution we want to suggest runs as follows. Just as a single tone can be linked to more than one vowel in the autosegmental model so we might imagine representations in which the feature [low] has been linked to several segments. Let us postulate a rule in the grammar of BHA which collapses together the [+low] of a vowel segment with the [+low] of an adjacent consonant.

```
(32)     [+low] [+low]        [+low]
           |      |            /\
           C      V     ->    C V

         [+low] [+low]        [+low]
           |      |            /\
           V      C     ->    V C
```

If we assume that BHA has the rules of (32) then we can block application of (31) to ḥamal and bla9u by appealing to a condition proposed in Steriade (1982) requiring that if a phonological rule changes [aF] (where F is any feature) to [-aF] and if [aF] is linked to multiple segments then each separate link must satisfy the rule in order for the rule to be able to apply. Under this view application of (32) to ḥamal and bla9u will yield the representations of (33).

```
(33)     [+low]                        [+low]
           /\                           /\
           ḥamal                      bla9+u
           |||||                      |||| |
           CVCVC                      CCVC V
           |||/                        ||| |
           OROR                        ORO R
```

The raising rule (31) will now be blocked from applying to the representations in (33) since while the vowel link satisfies the rule the consonant link established by rule (32) does not and so the rule may not be applied.

Postulation of rule (32) along with the requirement that each link of a multiply linked feature must satisfy the structural description of a rule provides a plausible explanation for why gutturals inhibit raising. We cannot think of any reason why dental sonorants should inhibit the raising of a low vowel; evidently this will simply have to be incorporated as an ad hoc condition on the application of the rule in BHA. (The same condition appears to hold in Najdi (Abboud 1979) and Riyadh Arabic.)

There are several other positions in which raising does not apply in BHA. First word-final a systematically fails to raise: ġada 'lunch', misakna 'we seized', ṛuma 'he shot'. But we have already assumed these vowels to be long underlyingly (cf. ġadaa-ha 'her lunch', misaknaa-ha 'we seized her', ṛumaa-ha 'he shot her'). So if final shortening is ordered after raising then the failure of the latter rule to apply to word-final vowels is explained.

Within the verb raising systematically fails to apply to the second radical vowel of measures II, III, V, VI, X, and QI--stems of the shape CaCCaC or CaaCaC. But it does apply in measures I, IV, VII, and VIII.

(34) measure-I

kítab	'he wrote'
ktíbat	'she wrote'

measure-II

9ə́llam	'he taught'
9ə́llamat	'she taught'

measure-III

báarak	'he blessed'
báarakat	'she blessed'

measure-IV

írkaõ	'he ran'
irkíõat	'she ran'

measure V

ta9ə́llam	'he was taught'
ta9ə́llamat	'she was taught'

measure-VI

tibáarak	'he was blessed'
tibáarakat	'she was blessed'

measure-VII

ínkitab	'he was written'
inktíbat	'she was written'

measure-VIII

íxtibaṭ	'he was confused'
ixtbíṭat	'she was confused'

measure-X

stə́šrab	'he felt like drinking'
stə́šrabat	'she felt like drinking'

measure-QI

xə́rmaš	'he scratched'
xə́rmašat	'she scratched'

This restriction against raising applying in measures II, III, V, VI, X, and QI does not hold in the Riyadh dialect, as shown by the following data.

(35) measure-II

9állam	'he taught'
9állimat	'she taught'

measure-III

báarak	'he blessed'
báarikat	'she blessed'

measure-V

ta9állam	'he was taught'
ta9állimat	'she was taught'

measure-VI

tibáarak	'he was blessed'
tibáarikat	'she was blessed'

measure-X

stášrab	'he felt like drinking'
stášribat	'she felt like drinking'

measure-QI

xármaš	'he scratched'
xármišat	'she scratched'

We return later to suggest a possible explanation for this difference between the two dialects.

An additional context where raising blocks in BHA but not in RA is the 3 sg. f. suffix /-at/. Before a vowel-initial object suffix the vowel of /-at/ will raise in RA but refuses to do so in BHA.

(36) BHA

9àllamát-uh	'she taught him'
bàarakát-uh	'she blessed him'

RA

9allmít-ah	'she taught him'
baarkít-ah	'she blessed him'

Evidently the suffix -at must be marked as a lexical exception to raising in BHA.

Two other places where the rule of raising applies regularly in BHA (and in RA) are the passive prefix /ta-/ of measures V and VI and nominals of the shape CaCaaCi(i)C, a common plural pattern.

(37)

ta9allam	'he was taught'
tibaarak	'he was blessed'
talaa9ab	'he was played with'

mikaatib	'offices'
miṭaabix	'kitchens'
misaarid	'sieves'
maraaji9	'references'
maḥaajir	'quarries'
kanaayis	'churches'
difaatir	'notebooks'
xazaayin	'closets'
zibaayin	'customers'
dikaatrah	'doctors'

A final point to be made concerning the raising rule is its ordering with respect to the syncope and elision rules. Raising must clearly be ordered after syncope since a raised vowel does not syncopate even though it is followed by a CV sequence that spans morpheme boundaries, satisfying the derived environment condition on syncope: ktib+u 'they wrote'. If the elision rule is formulated to delete a in the context _Ca, requiring that the post-elided vowel be low, then raising will have to be ordered after elision in order to delete the first vowel of /katab+uu/.

(38) /katab+uu/

inappl	syncope
ktab+uu	elision
ktib+uu	raising
ktib+u	final shortening

On the other hand, if elision is formulated as in (20) without regard to the quality of the second vowel, then raising may precede elision as well as follow it.

Umlaut

A characteristic feature of Saudi Bedouin dialects is an alternation we shall refer to as umlaut. By this alternation an underlying CaCiC stem appears as CiCiC.

(39)	simi9	'he heard'
	sam9at	'she heard'
	simi9t	'you m. sg. heard'
	simi9ti	'you f. sg. heard'
	simi9t	'I heard'
	sam9aw	'they m. heard'
	sam9an	'they f. heard'
	simi9na	'we heard'

An initially attractive analysis of this alternation is to view it as simply being a reflex of the raising rule. Since syncope precedes raising, CaCiC will be converted to CaCC before a vowel bleeding off raising of the first radical vowel. A problem that this interpretation faces, however, is that a medial guttural in a CaGiC (G=guttural) fails to inhibit raising.

(40)	fixir	'he was proud'
	faxrat	
	fixirt	
	fixirti	
	fixirt	
	faxraw	
	faxran	
	fixirna	
	ni9is	'he was sleepy'
	na9sat	
	ni9ist	
	ni9isti	
	ni9ist	
	na9saw	
	na9san	
	ni9isna	

We might attempt to overcome these data by imposing a condition on rule (32) that links a guttural with a low vowel by preventing this linkage when the guttural is followed by an i.[3] In this way no linkage would be established in a CaGiC stem and so the initial vowel can raise. In this way we can also make sense of Abboud's (1979) remark that while raising is not inhibited in CaGiC stems it is blocked in GaCiC ones.

There are still, however, a couple of problems that this analysis faces. First a medial sonorant does not inhibit umlaut while it does block raising. If umlaut were just a manifestation of the raising rule

we would not expect it to apply to the stems in (41).

(41)

širib	'he drank'
šarbat	
širibt	
širibti	
širibt	
šarbaw	
šarban	
širibna	
milis	'he became smooth'
malsat	
milist	
milisti	
milist	
malsaw	
malsan	
milisna	

Secondly, umlaut has operated historically in dialects such as Levantine Arabic that never had the raising rule. Thus, measure-I CiCiC derives from Classical Arabic CaCiC by a leveling of the umlauted stem alternant.

In Bani-Hassan Arabic CiCiC alternant has been leveled throughout the paradigm in measure-I just as in Levantine Arabic. However, the CaCiC stem still operates in measures VII and VIII.

(42)

measure-II

9allam	'he taught'
y9allim	'he teaches'
y9allm-u	'they teach'

measure-III

baarak	'he blessed'
ybaarik	' he blesses'
ybaark-u	'they bless'

measure-VII

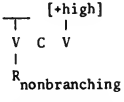
insaḥab	'he was pulled'
yinsiḥib	'he is pulled'
yinsaḥb-u	'they are pulled'
inxadam	'he was served'
yinxidim	'he is served'
yinxadm-u	'they are served'

measure-VIII

iḥtaram	'he respected'
yiḥtirim	'he respects'
yiḥtarm-u	'they respect'
iḥtarag	'he burned' intrans.
yiḥtirig	'he burns'
yiḥtarg-u	'theyburn'

From these data it is quite clear that an adjacent guttural or following sonorant does not inhibit the rule. Evidently we must postulate a separate rule of umlaut converting CaCiC to CiCiC. This rule is stated in (43).

(43) [+low] -> [+high] / ___ [+high]



The umlaut rule will be ordered after syncope and before rule (32) establishing the linkage between a guttural and a low vowel. Since (32) precedes raising it follows by transitivity that umlaut precedes raising. This ordering also follows from Kiparsky's (1982) elsewhere condition since the environment of (43) is a proper subset of raising. The derivations in (44) illustrate our proposed analysis.[4]

(44)	/yinsaḥib/	/yinsaḥib+uu/	
	inappl	yinsaḥb+uu	syncope
	inappl.	inappl	elision
	yinsiḥib	inappl	umlaut
	inappl	inappl	(32)
	inappl	inappl	raising
	inappl	yinsaḥb+u	final shortening

Bani-Hassan Arabic is thus intermediate between Saudi Arabic on the one hand and Levantine Arabic on the other in so far as the retention of the CaCiC stem pattern is concerned. As we have seen, it is retained as an underlying form in Saudi dialects. In BHA CaCiC has been leveled to CiCiC by umlaut in the perfect of measure-I, while CaCiC is retained in the imperfect of measures VII and VIII. In Levantine Arabic CiCiC has been leveled in these measures as well, as shown by the following table.

(45)

RA	BHA	PA	LA
šírib	šírib	šírib	šírib
šárbat	šírbat	šírbit	šírbit
yínsiḥib	yínsiḥib	yínsḥib	yinsíḥib
yinsáḥbun	yinsáḥbu	yinsíḥbu	yinsíḥbu
yíḥtirim	yíḥtirim	yíḥtrim	yiḥtírim
yiḥtármun	yiḥtármu	yiḥtírmu	yiḥtírmu

Accent

As in Levantine Arabic the major word stress in BHA is located on one of the last three syllables of the word--essentially the rightmost heavy syllable, otherwise the third last. Heavy syllables are those containing a long vowel (CVV) or a short vowel plus consonant (CVC), while light syllables contain a single short vowel (CV). At the stage of the derivation where stress is assigned extraheavy CVVC and CVCC are only found in final position, where they naturally also take the major stress. A final CVC syllable counts as light in BHA, as in many other languages. If final consonants are ignored in the calculation of syllable weight for the assignment of accent, then CVC will count as light while CVVC and CVCC will still count as heavy.[5]

(46)

wálad	'boy'	9allamúuk	'they taught you m sg.'
šibáab	'youth'	mikáatib	'offices'
sáahib	'friend'	maktábti	'my library'
9allámt	'I taught'	9államu	'they taught'
sikkáan	'knife'		

From these data it would appear that BHA has a version of the common Latin stress rule accenting the rightmost heavy syllable and otherwise the antepenult. However, as briefly discussed in Kenstowicz (1983), when longer words are considered the accent patterns found in BHA systematically diverge from those of Palestinian Arabic. This difference arises in words of the structure heavy-light-light-light, which are essentially limited to 3 sg. fem. perfects complemented by a vowel-initial object suffix. Here we find the major stress on the penult in BHA while it is located on the antepenult in PA.

(47)

BHA	PA	
9állam	9állam	'he taught'
9államat	9államat	'she taught'
9àllamátuh	9allámatu	'she taught him'
báarak	báarak	'he blessed'
báarakat	báarakat	'she blessed'
bàarakátuh	baarákatu	'she blessed him'

The penultimate accent found in BHA 9àllamátuh and bàarakátuh cannot be treated as a reflex of the morphologically restricted rule found in Lebanese and Egyptian Arabic which accents this suffix whenever it is followed by an object suffix since the latter dialects accent this suffix regardless of the syllable structure of the preceding stem (e.g. LA šaafítu 'she saw him', banítu 'she built it') while BHA does not (e.g. šáafatuh, bánatuh).

Kenstowicz (1983) accounted for this difference between BHA and PA as follows. Both dialects have binary left-dominant stress feet in the sense of Hayes (1981). They differ in that in BHA the feet are assigned from left-to-right while in PA they are assigned from right-to-left. Essentially this means that in both dialects syllable pairs of the form light-light or heavy-light group together into a foot, the first syllable of the foot carrying an accent; the dialects differ in the direction which the feet are assigned. In addition it was assumed that both dialects exercised the option of extrametricality for a final CVC syllable, meaning that such a syllable is ignored in the construction of the stress feet. For words of two and three syllables right-to-left and left-to-right application of binary feet will make no difference with the extrametricality option. But for words of four syllables a difference will emerge as shown in (48).[6]

(48) 9allama(tuh) — left-to-right — BHA

9allama(tu) — right-to-left — PA

To derive the correct surface forms we need then only assume that the final foot is taken to be the location of the major word stress and that the accents in preceding feet are reduced to secondary or suppressed (cf. note 5).

For the BHA dialect there is actually an alternative to the extrametricality option. Instead of marking the final syllable extrametrical stress feet can be constructed along the entire length of the word, yielding the representations of (49).

(49) 9allamatuh

9allamat

A later rule deleting a nonbranching foot from a final CVC syllable must then be invoked for three-syllable words. We shall see some evidence in favor of this alternative analysis momentarily.

Kenstowicz (1983) cited an additional argument for the left-to-right application of stress feet in BHA. Such an assumption permits the accent found in measure-I CaCaC stems to be explained.

(50) sáḥab 'he pulled'

sḥábat 'she pulled'

sḥàbátak 'she pulled you m. sg.'

In sḥàbátak primary stress is located on the -at suffix and a clear secondary accent appears on the initial syllable. The accentuation of this word can be accounted for if it is assumed that the binary metrical feet are assigned before elision rule and that the foot structure is preserved after the head syllable of the binary foot has been elided.

(51) saḥabatak -> saḥabatak -> sḥabatak

Notice that if stress were ordered after the elision rule then we should expect to find a single stress on the initial syllable giving *sḥábatak as in (52).

(52) saḥabatak -> sḥabatak -> sḥabatak -- sḥabatak (by defooting)

This ordering of the rules not only locates the major accent on the wrong syllable but also fails to assign two accents.

Additional work on BHA phonology subsequent to Kenstowicz (1983) has provided another argument for the left-to-right application of the stress rule. As discussed in detail in Irshied (1984) BHA has a phrasal syncope rule deleting a short high vowel from the final syllable of the word in the context _C#V. This rule applies in a variety of syntactic contexts. To illustrate briefy, consider the examples in (53), where the overstrike indicates syncope.

(53) šír~~i~~b almáyya 'he drank the water'

alm9áll~~i~~m attiwíil 'the tall teacher'

kút~~u~~b álwalad 'the books of the boy'

There is, however, one context where phrasal syncope is systematically suspended. This is in the imperfect of verbs from measures VII and VIII. Compare measure-X where the rule does apply.

(54) a. measure-VII

yíngitil álwalad 'the boy was killed'

b. measure-VIII

yíḥtirim álmalak 'he honors the king'

c. measure-X

yistákt~~i~~l álwalad 'he wants to kill the boy'

Note that the verbs of measures VII and VIII have the syllable structure heavy-light-light. If binary stress feet are assigned from left-to-right and the final syllable is not extrametrical then we can explain the lack of phrasal syncope in (54a,b) by imposing the entirely natural condition that only syllables in a weak metrical position can syncope. To illustrate, compare the metrical structures assigned by our proposed analysis for measures VIII and X.

(55) yiṯtirim yistaktil

Since only one accent appears on the surface in yíṯtirim we must postulate a defooting rule to remove the stress from a nonbranching foot located on a final CV(C) syllable.

(56) F -> Ø / ___ #

R

V(C)

If binary feet were to be assigned from right-to-left in BHA then there would be no easy way to assign a final stress to a word of the structure heavy-light-light. If the final syllable were extrametrical then just an initial accent would be derived (57a); if the final syllable is not extrametrical, then penultimate accent is assigned (57b). In neither case are two accents assigned, as in left-to-right foot assignment.

(57) a. yiṯti(rim) b. yiṯtirim

We have seen that stress assignment must precede elision in order to account for the accent on -at in shàbátak. Its ordering with respect to syncope can be determined by inspecting analogous forms of a CiCiC stem. As the partial paradigm in (58) shows, only a single initial accent appears in šírbatuh, indicating that stress must follow syncope as in (59).

(58) šírib 'he drank'
šírbat 'she drank'
šírbatuh 'she drank it'

(59) širibatuh

širbatuh syncope

širbatuh stress

širbatuh defooting

Let us now consider the nature of stress assignment in other Bedouin dialects, in particular the Riyadh dialect mentioned earlier. The following are the relevant paradigms.

(60)	sáḥab	'he pulled'
	sḥábat	'she pulled'
	sḥábitah	'she pulled him'
	9állam	'he taught'
	9állimat	'she taught'
	9allmítah	'she taught him'
	sáa9ad	'he helped'
	sáa9adat	'she helped'
	saa9dítah	'she helped him'

Unlike in BHA we find just a single initial accent in sḥábitah; but just as in BHA we find an accent on the /-at/ suffix (raised to -it) in 9allmítah and saa9dítah. These data can be explained if it is assumed that the Riyadh dialect has the same stress rule as Palestinian (i.e. that binary feet are assigned from right-to-left with the final syllable extrametrical). This analysis locates a stress on the antepenult in /9allamatah/ and /saa9adatah/. Just as in BHA, the metrical foot structure will be preserved when it contracts into a single syllable as a result of the elision of the head, leading to the apparent shift of accent one syllable to the right.

(61)	9allama(tah)	saa9ada(tah)	
	9allama(tah)	saa9ada(tah)	stress
	9allma(tah)	saa9da(tah)	elision
	9allmi(tah)	saa9di(tah)	raising

If syllables were not grouped into binary feet as our analysis claims then no prediction is made as to where the accent should shift upon the elimination of the stressed syllable. Indeed since the representation that results from elision (/9allmatah/ and /saa9datah/) is of the structure heavy-light-light, one might expect an initial accent. This same point shows that in RA stress assignment must precede elision, just as in BHA. With the opposite order of the rules we predict initial accent.

(62) 9allamatah -> 9allmatah -> 9allmatah

An additional point in favor of the right-to-left analysis for RA is that the elision rule can be suppressed in certain cases. Our RA informant can express the QI form 'she scratched him' in two different ways--one with elision the other without. Note that in the latter case antepenultimate accent occurs, just as in PA.

(63)	xármaš	'he scratched'
	xármišat	'she scratched'
	xarmšítah	'she scratched him'
	xarmíšitah	'she scratched him'

A final point is that just as in BHA syncope must precede stress assignment in RA as shown by the form <u>šárbitah</u> in the following paradigm. The opposite order of the rules predicts incorrectly *<u>šarbítah</u> with accent shifted to the suffix.

(64)	šírib	'he drank'
	širíbna	'we drank'
	šárbat	'she drank'
	šárbitah	'she drank it'

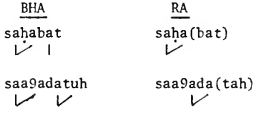
To summarize to this point, we have claimed that the basic difference between BHA and RA with respect to accent assignment is that in BHA binary feet are assigned from left-to-right while in RA they are assigned from right-to-left. An additional assumption is that the final syllable is extrametrical in RA but not in BHA. In the light of this metrical difference between the two dialects let us now reconsider some of the other differences we noted earlier. In particular, recall that with respect to elision we showed that the second vowel of CaCCaC and CaaCaC stems systematically failed to elide in BHA while the same vowel does elide in RA. The table in (65) gives examples drawn from various measures in the two dialects.

		BHA	RA
(65) i)	measure-I		
	/saḥabat/	sḥábat	sḥábat
	measure-VII		
	/inkasarat/	inksárat	inksárat
	measure-VIII		
	/iḥtaramat/	iḥtrímat	iḥtrímat

			BHA	RA
(65)	ii)	measure-II		
		/ʔallamatuh/	ʔàllamátuh	ʔallmítah
		measure-III		
		/saaʔadatuh/	sàaʔadátuh	saaʔdítah
		measure-X		
		/stagbalatuh/	stàgbalátuh	stagblítah

Note that there is a systematic correlation between the metrical accent pattern and the presence or absence of elisionin the two dialects. When the accent assigned by our analysis is the same (65i) the elision rule applies in the same way. But where there is a difference in the way accent is assigned, there is a difference in the application of elision. In particular, elision applies under the antepenultimate accent assigned in RA in (65ii) but it fails to apply for BHA in (65ii) where a different metrical grouping has been assigned. The constant factor underlying the variation in elision in (65) is that the elided vowel is located in the head position of the binary foot. To see this compare the foot structure assigned by our analysis to a pair of words selected from each group in (65).

(66)



We thus propose that the elision rule be reformulated as in (67) to require that the first of two short open syllables elides provided they belong to the same metrical foot.

(67) $V \rightarrow \emptyset \; / \; \underline{\quad}$ (where R_1 and R_2 are nonbranching)

Note that if a "same foot" condition is to be imposed on the elision rule as in (67) then we are also required to impose a cyclic application of the stress rule in order to explain the application of (67) in the measure-VII and VIII forms inksárat, iḥtrímat. If no cycle were imposed and stress feet were assigned along the entire length of the word without regard to internal constituent structure the representations of (68) would result in which the elided vowel would not belong to the same foot as the following syllable.

(68) inkasarat iḥtaramat

The cyclic application implicated by (67) for a measure-VII verb such as inksárat appears in (69).

(69) in[kasarat]

cycle-I

kasarat

stress

ksarat elision (67)

inksarat cycle-II

inksarat stress

inappl elision

postcyclic

inksarat

defooting

The cyclic analysis for measure-VII and VIII verbs is corroborated by transitive measure-VIII forms in which stress appears on the -at suffix, just as in measure-I: iḥtrìmátuh 'she honored him'. If there were no internal cycle and stress feet were assigned directly to the underlying representation, as in (70), the major word stress will be located in the wrong place even if elision applies.

(70) iḥtaramatuh -> iḥtaramatuh -> iḥtramatuh -> iḥtrimatuh

But accent is positioned correctly under the cyclic analysis, as shown by the derivation of iḥtrìmátuh in (71).

(71) [ḥaramat] cycle-I

ḥaramat

stress

ḥramat

elision

ḥrimat raising

iḥtrimat
| | cycle-II

iḥtrimat
| | | stress

inappl elision

iḥtrimatuh cycle-III
| | |

iḥtrimatuh
| | ✓ stress

If stress is assigned cyclically then we require a new rule to account for 3 sg. m. forms of measures VII and VIII ínkisar and íḥtaram, since, in our present analysis two feet are assigned--one on the internal cycle and one on the prefixal cycle, yielding the representations of (72).

(72) inkisar iḥtaram
| ✓ | ✓

We thus must assume the existence of a special rule to delete the second accent in these forms. Alternatively, one might imagine that accent deletion arises in two steps: first a shift of the second accent to the final syllable to remove the clash of two adjacent stresses followed by application of the postlexical rule deleting a stress from a final CVC syllable.[8]

The interpretation of elision as the deletion of the head of a binary foot (67) also forces a cyclic application in the Riyadh dialect for a form such as sḥábitah. If accent were assigned without regard to internal constituent structure, the representation of (73) would result. The initial syllable to be elided is not the head of the following syllable and so elision as (67) would incorectly fail to apply.

(73) saḥaba(tah)
✓

But with a cycle the head-deletion interpretation of elision proceeds smoothly.

(74) saḥabat
first cycle

saḥa(bat)
✓ stress

sḥa(bat) elision
|

[sḥabat]ah	second cycle
sḥaba(tah)	stress
---------	elision[9]
sḥabitah	raising

Let's now look at some additional evidence indicating that in addition to stress assignment the rules of elision and raising must be applied cyclically. This evidence is furnished by feminine nouns in /-ah/ (this suffix is also used to form singulatives from mass nouns.) When such nouns are complemented by an NP or a pronominal suffix the suffix /-it/ replaces the /-ah/, perhaps via truncation.

(75) béeð̣ 'eggs'
béeð̣-ah 'an egg'
béeð̣-it Samíir 'Samir's egg'
beeð̣-ít-na 'our egg'
béeð̣-t-ak 'your m. sg. egg'

The vowel of the construct suffix /-it/ must be considered underlying for BHA since it may bear accent; epenthetic vowels in BHA are inserted at the postlexical level (Irshied 1984).

Consider now the data in (76) where the suffix -ah has been added to a CaCaC base.

(76) sámak 'fish'
smík-ah 'a fish'
smík-it Samíir 'Samir's fish'
smik-ít-na 'our fish'
smík-t-ak 'your fish'

báġal 'mule'
bġál-ah 'female mule'
bġál-it Samíir 'Samir's female mule'
bġal-ít-na 'our female mule'
bġál-t-ak 'your female mule'

The forms smíktak and ḥgáltaḥ are the interesting ones. Recall that in our analysis the syncope rule is ordered first, before stress, elision, and raising. Yet in these forms elision and raising have applied to the underlying CaCaC stems. In order to explain this we must clearly permit the stems to pass through the rules on an earlier cycle. We shall assume the derivation of (77) for smíktak.

(77)	[samak]ah	first cycle
	samak ah	
	✓ |	stress
	smak ah	elision
	| |	
	smik ah	raising
	| |	
	[smikah]it	second cycle
	| |	
	smik it	truncation
	|	
	inappl	syncope
	smik it	
	✓	stress
	inappl	elision
	inappl	raising
	[smikit]ak	third cycle
	✓	
	smikt ak	syncope
	|	
	smikt ak	stress
	✓	
	inappl	elision
	inappl	raising

Note that syncope does not apply on the second cycle to delete the root vowel even though it is in a short open syllable. Perhaps this is best explained by imposing a requirement on the syncope rule that it may not delete an accented vowel. This requirement is necessary in any case on the phrasal level.

If we assume that the possessive suffixes on nouns and the object suffixes on verbs constitute a separate cycle, then we can bolster the defooting analysis for BHA given earlier as an alternative to simply marking the final syllable as extrametrical. To see this, consider again the following abbreviated paradigm of a measure-I CaCaC verb--in particular msìkátuh.

(78) mísak 'he seized'

msíkat 'she seized'

msìkátuh 'she seized him'

If the rules are applied cyclically and the extrametricality option is exercised, the following first cycle ensues for msìkátuh.

(79) [masak]at first cycle

inappl syncope

masa(kat)

stress

msa(kat) elision

msi(kat) raising

We we move to the next cycle the (kat) syllable will no longer be extrametrical since it is no longer at the end of the word; rather (tuh) will be extrametrical. Reapplication of the stress rule on the second cycle will then simply extend the monosyllabic foot to bisyllabic, yielding an incorrect derivation in which a single accent has been assigned to the initial syllable.

(80) [msikat] uh second cycle

inappl syncope

msika(tuh)

stress

inappl elision

inappl raising

*msíkatuh

But if the stress rule lays down two accents on the initial cycle, the final accent will emerge to the surface on a later cycle since it will no longer be word-final. The correct derivation for msìkátuh is thus the one in (81).

(81) [masak]at first cycle

inappl syncope

masak at

stress

msak at elision

msik at raising

[msikat]uh	second cycle
inappl	syncope
msikat uh	stress
inappl	elision
inappl	raising

There is one final implication of the cyclic analysis that should be mentioned. Consider the brief paradigm in (82).

(82)	mísak	'he seized'
	misákna	'he seized us'
	msíkuh	'he seized him'

If object suffixes constitute a separate cyclic domain, then on the initial cycle a CaCaC stem will have been converted to CiCaC as the second cycle is initiated. Consequently, in order to explain why the initial syllable of the CiCaC stem still undergoes elision the structural description of the elision rule cannot be retricted to low vowels but must be permitted to include high vowels as well. The following derivation is assigned by our analysis to the word msíkuh

(83)	[masak]	first cycle
	inappl	syncope
	masak	stress
	inappl	elision
	misak	raising
	[misak]uh	second cycle
	inappl	syncope
	misak uh	stress
	msak uh	elision
	msik uh	raising

Postlexical defooting of the final syllable generates the correct form msíkuh.

In this section we have pursued some of the implications of the idea that there is what may be called a "head" condition on the elision rule (67) requiring that the elided vowel be the head of a metrical foot. We have seen that in order for this hypothesis to be maintained it must be assumed that the phonological rules apply in cyclic fashion. We have also tried to show that cyclic application is necessary in any case in order to explain the location of the major stress in transitive measure-VIII forms such as iḥtrīmatuh. If we are correct that there is a cycle involved in the structure of measure-VII and VIII verbs then an interesting implication is that a conflict arises between the phonological constituent structure required and the traditional dictum that inflection is "outside" of derivational morphology. For the constituent structure our analysis requires is of the form [prefix[root+suffix]] in which the inflectional suffix marking subject agreement appears "inside" of the derivational prefix of measures-VII and VIII. However, conflicts of this form are not unprecedented; see Pesetsky (1979) for discussion of a similar example in Russian.

In addition to failing to undergo elision we also noted that the second vowel of CaCCaC and CaaCaC stems also is immune to the effects of the raising rule in BHA (in contrast to RA). In (84) we repeat some of the examples where raising applies and where it blocks in BHA.

(84) CaCaC kitab, ktibat
inkitab, inktibat
iḥtirag, iḥtrigat 'burn' intrans. (cf. ḥarag, ḥrigat 'burn' trans.

ta- tibaarak
CaCaaCiC mikaatib

CaCCaC 9allamat
CaaCaC baarakat

Our analysis assigns the metrical structures of (85) to these words at the point where the raising rule operates.

(85) katab ktabat iḥtarag tabaarak makaatib 9allamat baarakat

It is clear that the vowels which undergo raising in BHA occupy a head position in (85) while those that do not are in a nonhead position. We might thus reformulate raising in BHA to require that the raised vowel occupy a head position in a metrical foot. However, such a formulation strains one's phonological intuitions somewhat since raising appears to be a neutralization of vowel quality oppositions with the unmarked high vowel appearing in the position of neutralization. (Recall also that i is the epenthetic vowel in Arabic). Yet normally neutralization of vowel

quality takes place in weak metrical position, not a strong position.[10]

Another approach towards an explanation for the lack of raising in CaCCaC and CaaCaC stems might be to see this as a reflex of Steriade's (1982) notion, appealed to earlier in a different connection, that in order for a multiply linked feature to satisfy the structural description of a rule each link must satisfy the rule. Given McCarthy's (1981) interpretation of Arabic nonconcatenative morphology, these stems will have the representations of (86) at a certain stage of the derivation.

(86) CVCCVC, CVVCVC → CVCCVC, CVVCVC
[+low] [+low] → [+low] [+low]

Steriade's condition would block application of raising to these representations since only the second link satisfies the short open syllable requirement of the raising rule. There are, of course, two immediate problems that this proposal faces. First, why does the rule apply to the first syllable of an underlying CaCaC stem where the multiply-linked representation of (86) would also be in effect? Second, raising does apply in RA to the second vowel of CaCCaC and CaaCaC stems. Yet the motivation for the spreading of the a vowel seems to be equally as strong in this dialect as in BHA.

We shall not attempt to pursue these questions any further here. Clearly much more study of other Bedouin dialects will be required in order to see whether the correlation between metrical accent and the rule of elision and raising that we have discerned in the Bani-Hassan and Riyadh dialects is genuine or merely coincidental. We hope that the research reported here will attract the attention of other students of Arabic phonology to pursue these issues further.

NOTES

*This study was supported in part by the University of Illinois Research Board. The following are the phonemes to be found in the Bani-Hassan dialect.

	t	ṭ	(č)	k			i	u	ii		uu
									ee		oo
b	d		j	g				a		aa	
m	n										
f	θ	s	ṣ	š		x	ḥ				
	ð	z	ð̣			ġ	ʕ				
	l										

The dot under a consonantal letter denotes emphasis (mufaxxama). The contrast between the short high vowels /i/ and /u/ has been greatly curtailed in Bani-Hassan in comparison to other Arabic dialects such as Egyptian or Palestinian. Our transcriptions abstract away from the effects of a number of low-level rules such as emphasis spread and a rule of harmony which changes i to u before the u of a suffix. Thus, ktib-u 'they wrote' and ktib-uh 'he wrote it' are normally pronounced as ktubu and ktubuh respectively. See Irshied (1984) for further discussion of these and other aspects of Bani-Hassan phonology.

[1]We wish to thank Saalih Alyaamiy for supplying us with the Riyadh data.

[2]See Kenstowicz (1984) for further discussion of the role of syllable structure in Bani-Hassan Arabic.

[3]In a certain sense this solution appears to reintroduce the very problem that rule (32) was designed to solve. Recall that we introduced (32) so that the raising rule would not have to refer directly to adjacent consonants. As presently formulated (32) refers to strings of the form GV or VG, where G is a guttural. If raising in a CaGiC stem is to be attributed to a failure of rule (32) from applying here, rule (32) will somehow have to make reference to the following i vowel even though this vowel is not mentioned in the structural description of the rule.

[4]From the point of view of lexical phonology (Kiparsky 1982) the umlaut rule (43) is suspecious since it must be restricted to operate solely within a root. An aCi sequence arising across morpheme boundaries does not trigger the rule: e.g. tishab-i 'you f. sg. are pulling'. Yet the umlaut rule cannot be confined to an earlier cycle since it must follow syncope which bleeds its operation; but syncope is triggered by the very suffixes that fail to condition umlaut; cf. tiktib 'you m. sg. write', tiktb-i 'you f. sg. write'. Also recall that in the Saudi dialects

a CaCiC stem is converted to CiCiC so long as the first consonant is not a guttural (regardless of the quality of the second radical consonant). In BHA this pattern obtains in all cases with the exception of measure-VII where we find CiCiC even if the first consonant is a guttural (yinxidim, yinxadmu). For example, many adjectives are build on the CaCiiC pattern. This pattern emerges to the surface in BHA just in case the first radical is a guttural; in all other cases CiCiiC appears.

BHA	Cl. Ar.	
xabiir	xabiir	'expert'
rixiiṣ	raxiiṣ	'cheap'
ḥabiib	ḥabiib	'beloved'
siḥiiḥ	saḥiiḥ	'truthful'
9aziiz	9aziiz	'dear'
si9iid	sa9iid	'happy'
ġariib	ġariib	'strange'
ṣiġiir	ṣaġiir	'small'
giliil	qaliil	'few'
jimiil	jamiil	'beautiful'

Dispositional adjectives based on the pattern CaCuuC show a similar distribution.

ðiḥuuk	ðaḥuuk	'jolly'	(cf. ðiḥik 'laugh'
9ajuuz	9ajuuz	'old'	9ijiz 'to be old'
sikuut	sakuut	'taciturn'	sikat 'to be silent'
ġafuur	ġafuur	'forgiving'	ġafar 'to forgive'

CaCaaC stems, a common abstract nominalization pattern, show inhibition of raising of the initial vowel by a medial guttural or dental sonorant as well as an initial guttural.

sa9aadah	'happiness'
kalaam	'speech'
ṣalaaḥ	'piety'
manaal	'hope'
jimaal	'beauty'
jiwaaz	'passport'
fisaad	'corruption'

[5]As in some other Arabic dialects, reliable judgements on secondary stresses are difficult to make (with one clear exception to be discussed in the text). To illustrate, consider the brief paradigm below of dual nouns. The dual suffix always takes the main word stress. We have varied the syllable structure of the preceding stem.

maktabéen	'two offices'	H L H
fallaaḥéen	'two peasants'	H H H
gimiiséen	'two shirts'	L H H

In maktabéen the first syllable is judged more prominent than the second while in gimiiséen the second is more prominent than the first. It is unclear whether these judgements are responding to accent or are simply based on syllable weight. To factor out syllable weight one needs to consider strings of equally weighted syllables preceding the main stress. In a word like fallaaḥéen where two heavy syllables precede the syllable with the main stress the first syllable was judged to be stronger than the second, but not remarkably so. Due to the elision rule one cannot construct reliable examples of L L H. When the elision rule is suppressed and a more "classical" pronunciation of waladéen 'two boys' is given the first author does not discern any notable difference in prominence between the first two syllables.

[6]We follow the more recent treatment of metrical accent developed in Halle & Vergnaud (1984) in which metrical feet represent a kind of head-complement relation. A binary left-dominant foot in the sense of Hayes is represented as V V in this later development of the metrical theory.
/

The syllable marked with the verticle is the head of the metrical foot and hence accented while the syllable marked by the diagonal is a satellite to the head and hence is unaccented. This system considerably restricts the number of possible metrical patterns generated by the core system and hence is to be considered an improvement over the theory developed in Hayes (1981).

[7]Almozainy & McCarthy (1984) make a similar point for the Hijaazi dialect which appears to have essentially the same accent system and elision rule as our Riyadh informant.

[8]The prefixal i vowel of measures VII, VIII, and IV has a tendency to delete when it does not carry the major word stress. Thus we have ínkisar, but inksárat or nksárat; íḥtaram, but iḥtrímat or ḥtrímat.

[9]It is unclear to us why the elision rule does not apply here.

[10] BHA has a few stems of the shape CuCaC and CiCaC, again plurals, which have evidently escaped the effects of the historical syncope that applied to the data cited in (23). These stems may very well be borrowings and so it's not clear how much bearing (if any) they have on the overall analysis. We mention them here for sake of completeness and hope that further research will be able to determine whether or not they are data that the analysis will have to take into account. Their potential bearing on the analysis resides in the fact that neither the rules of raising nor elision apply to these stems.

sg.	pl.		
ġúrfah	ġúraf	ġúrafak	'room'
ḥíilah	ḥíyal	ḥíyalak	'trick'
líifah	líyaf	líyafak	'saddle blanket'
ḥírfah	ḥíraf	ḥírafak	'job'

Failure to undergo raising could be explained by the fact that the second radical a vowel occupies a nonhead position. Failure to undergo elision might be attributed to the fact that the initial radical vowel is underlyingly high. (This vowel cannot be the product of raising since there are examples such as ġuraf with initial radical guttural and hiraf with medial dental sonorant, consonants that inhibit the raising rule.) All clear examples of elision have involved the low vowel a and so we might be forced to reformulate the elision rule---restricting its application to the low vowel. Such a reformulation would then have consequences for the derivation in (83). Clearly, the bearing of this class of stems requires further investigation.

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VARIATION IN CASE MARKING WITH INFINITIVAL AND CLAUSAL COMPLEMENTS IN OLD FRENCH

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A striking characteristic of data from Old French is that infinitival complements whose subjects are non-coreferential to the subject of the governing verb tend to pattern rather like the Modern French causative constructions with faire. That is, the tendency is for the subject of the intransitive infinitive to be marked as an accusative, and for the subject of the transitive infinitive to be marked as a dative. Whereas, in Modern French, the causative type construction is limited to the 'causative' verbs faire and laisser, and to the Perception verbs, in Old French the construction is not restricted to these verbs, but is found also with a range of Impersonal verbs and Order verbs.

It is therefore of particular interest to examine case marking in these constructions in earlier stages of French for the sort of variation that can indicate in what manner the subsequent changes could have come about. In this paper I examine evidence of case marking variation in Old French to show that the causative type pattern is eroded by two other influences in the language: conflicting verb subcategorization specifications and a tendency favouring dative marked pronouns as against accusative marked nouns. The verb subcategorization influence is an early indication of the outcome of subsequent developments in Modern French, but present-day French shows only marginal evidence of distinctions between nouns and pronouns with respect to the possibilities for dative case assignment.*

0. Preliminaries

In this paper I will claim that frequency counts of accusative and dative case assignment on complement NPs in Old French show that case assignment in Old French is conditioned by a number of interacting factors. These factors include: (i) the transitivity features of infinitival complements, (ii) the class specifications of the governing verb, and (iii) whether the NP complement is a noun or a pronoun. Of these factors, (i) and (ii) can be defined as structurally induced and will be shown to have precedence over the noun/pronoun category membership distinction.

Various of the phenomena which are to be discussed in this paper have been observed and described in earlier studies, especially in Stimming (1915), Norberg (1945), Morin and St-Amour (1977), Rickard (1970), Herslund (1980) and St-Amour (1983). However, except for Rickard (1970), who limits his study to three Impersonal verbs (estevoir, convenir, and falloir), none of these earlier studies purport to provide a statistical base for the data which they discuss. In this paper, on the other hand, in order to build up a more complete picture of the phenomena under consideration, I examine the

evidence provided by a corpus made up of material collected from texts written in Old French.

The data on which this study is based has been collected from sets of texts in Old French covering 3 periods: all of the earliest available material up to the year 1125, a second set covering 1150-1175, and a third set for 1200-1225. Each data set is based on material from at least 5 texts, making up a total of approximately 10,000 lines for each set.[1] Of necessity, the material base of the corpus is derived essentially from the literary production of this early stage of Old French.[2] For the material of the present corpus, the texts from the two earliest periods are almost entirely verse texts, and the texts of the third are all in prose. For the most part, the data displayed in this paper comes from all 3 sets combined.

The constructions that form the subject of the analysis are of two basic types, which I represent schematically as having the base forms shown in (1):[3]

(1)a. NP_a [$_{VP}$ Verb [$_{VP}$ NP_b [$_{VP}$ Inf]]]

b. [NP_a [$_{VP}$ Verb NP_b [$_S$ Finite clause]]

In both (1a) and (1b) the referents of NP_a and NP_b are distinct. NP_b is lexically manifested and is understood as having the same referent as the semantic subject of the subordinate verb, of the infinitive in (1a) and of the finite verb in (1b). One example of each type is given in (2), where the NP having the role of NP_b is underlined:

(2)a. Li arcevesques quant vit pasmer Rollant, (Roland 2222)
'the archbishop, when he saw Roland faint'

b. Erec a la dame comande
qu'ele dorme, ... (Erec 3084-5)
'Erec orders the lady that she sleep, . . .'

In (2a) Rollant is the semantic subject of the infinitive pasmer ('to faint'), and the governing verb of the construction is voir ('to see'). In (2b) a la dame is the indirect object of the main verb comander ('to order') and it has the same referent as the subject of the embedded clause 'that she sleep'.

In analyzing these constructions, we will focus on the case which is assigned to the NPs, which correspond to the underlined expressions in (2a) and (2b).

In Old French, much the same as in Modern French, dative case is marked by the presence of the preposition a before nouns and by the morphologically third person dative pronoun forms li and lor, and variants thereof. These are shown with the contrasting accusative forms in (3).

(3) Acc./Dat. case marking

	Acc.	Dat.
NP:	NP (e.g. la dame)	a + NP (e.g. a la dame)
Pro:	le (lo), la, les	li (lui), lor (leur)

Where the preposition is lacking with a noun, the case of the noun is described as accusative, as it is also for the pronouns: le, la and les.[4] Nominative (or subject) case does not enter into this discussion.

1. Variation in case marking

Analysis of the data shows that the case marking on the NP_b of the constructions represented in (1) is subject to variation. The examples in (4) to (6) below illustrate instances of variation for a given construction type within a single text for the same governing verb. Both the examples in (4) are from Joesph d'Arimathie, those in (5) are from the Vie de S Thomas Becket and those in (6) are from Lancelot. The construction types indicated show two types of infinitival complements corresponding to (1a): the Intransitive and the Transitive Infinitival types; along with the Finite Clause complement type (=(1b)), for which the transitivity characteristics of the lower clause verb are irrelevant.

Intrans. Inf

(4)a. et commanda ses gens a monter, (Joseph 416)
'and ordered his men (acc.) to go up'

b. et lor commanda a laborer. (Joseph 776)
'and ordered them (dat.) to work'

Trans. Inf

(5)a. Dunc fist li reis Henris Randulf del Broc crïer
Par tute Norhantune que l'um laissast aler
Les hummes l'arcevesque quitement de jur cler; (Becket 2051-3)
'thus King Henry had Randulf (acc.) proclaim throughout the whole of Northampton that one allow the archbishop's men to go freely in broad daylight'

b. A duze hummes fereit la verité prover, (Becket 2428)
'he would have 12 men (dat.) prove the truth'

Finite Clause

(6)a. si prie le roi k'il la face conduire a salveté (Lancelot 291,608)
'and begs the king (acc.) that he have her led to safety'

b. mes ancois prie a Galehout que son non li die (Lancelot 301,602)
'but before begs Galahad (dat.) that he tell him his name'

In (4) the governing verb commander has intrans. infinitival complements: monter ('to go up') in (a), and laborer ('to work') in (b). In (4a) the NP subject of the infinitival, ses gens, is accusative, and in (4b) the pronoun lor is dative. In (5) the NP, Randulf del Broc, is accusative, and in (5b)

the NP, a duze hummes, is dative. In (6) the governing verb prier takes clausal complements and, of the NP complements, le roi in (6a) is accusative and a Galehout in (6b) is dative. TABLE A shows the percentages of dative marked NPs with each of the three major complement types represented in (4) to (6): Intrans. Infinitivals, Trans. Infinitivals, and Finite Clauses.[5]

TABLE A : Percentage dative according to complement type

	Complement type					
	Intrans. Inf		Trans. Inf		Finite Clause	
	tot	%dat	tot	%dat	tot	%dat
Causative						
faire('make')	154	2	58	88	-	-
laisser('let')	89	0	6	83	-	-
Perception						
voir('see')	119	0	15	60	-	-
oir('hear')	21	0	8	75	-	-
Impersonal						
loisir('be permitted')	2	100	4	100	-	-
estevoir('be necessary')	11	18	6	83	-	-
convenir('be necessary')	18	17	17	82	2	100
plaire('be pleasing')	-	-	4	100	3	100
prendre('take')	2	100	-	-	1	100
Order						
rover('ask')	4	25	3	67	3	67
mander('send (word)')	1	0	-	-	30	83
commander('command')	6	33	6	83	31	100
prier('pray')	-	-	-	-	75	43
requerre('request')	1	0	-	-	16	50
dire('say')	-	-	-	-	20	100
semondre('summon')	1	0	1	0	2	0
enorter('exhort')	-	-	-	-	4	50
Others						
baillier('give over')	-	-	4	75	-	-
envoyer('send')	-	-	4	25	-	-
aider('help')	1	100	3	67	1	100
donner('give')	1	100	2	100	-	-

Two general observations can be made about the data summarized in TABLE A. Firstly, we note a specialization of complement types, with some verbs taking only infinitival complements and others taking only clausal complements. Secondly, we note a general pattern occurring with the infinitival complements which distinguishes intransitive infinitivals from transitive infinitivals, namely: all verbs, except for loisir, semondre, aider and donner, which are represented under both infinitival types in the TABLE, have less than 34% dative with intransitives and at least 60% dative with transitives. That is, there is a general tendency for the verbs taking infinitival complements to have characteristics like those of faire in Modern French.

2. Analysis of case distribution

The tendency described for the data of TABLE A is seen more clearly when we consider the results in terms of verb classes, as shown in TABLE B.[6]

TABLE B: Percentage dative according to verb class and complement type

	Intrans. Inf		Trans. Inf		Finite Clause	
	tot	%dat	tot	%dat	tot	%dat
faire	154	2	58	88	-	-
laisser	89	0	6	83	-	-
Perception	140	0	23	65	-	-
Impersonal	33	27	31	87	6	100
Order	13	23	10	70	106	83

In TABLE B the intransitive/transitive dichotomy for infinitival complements is more strongly marked, as the highest proportion for dative with intransitive infinitives is 27% (Impersonal verbs) and the lowest proportion for dative with transitive infinitives is 65% (Perception verbs). These results support the view expressed in Morin and St-Amour (1977) that all verbs taking such infinitival complement types in Old French distinguish between intransitive and transitive infinitival complements. However, as I have argued elsewhere,[7] I believe that results such as those shown in TABLES A and B indicate that we may refine this general principle when we consider the behaviour of individual verbs and individual classes of verbs.

Firstly, I consider that the dative possibility with intransitive infinitivals is really available only with verbs in the Impersonal and Order classes. The 3/154 instances of dative for this type with faire are shown in (7):

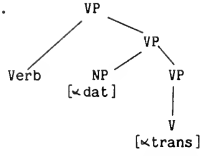
(7)a. si li fe(rai) souffrir, m(e)ngier amer et sur." (Rou 2301)
'I will make him suffer, eat bitter and sour'

b. Encor faisait il plus al cor mal endurer: (Becket 3941)
'he still made his body endure bad(ly) more'

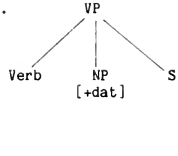
c. qu'il li feront comparer molt chier; (Perlesvaus 4790)
'that they will make him pay very dear'

and could well be interpreted as transitive.[8] The much more evident possibility of the dative with the Impersonal and Order verbs would seem to be related to the fact that these verbs also subcategorize for the clausal complement type. Thus, although it is not my purpose here to argue the details of the construction types for the infinitival complements,[9] we will assume that they can be represented by structures like those in (8a) and (8b).

(8)a.



b.



In the (8b) Finite Clause complement type the preference is for marking the NP as dative, but in (8a) the case marking on the NP is determined in the majority of instances by the transitivity value of the embedded verb, as is indicated by the differing proportions of dative for the 2 infinitival types in TABLE B. The fact that verbs in the Impersonal and Order classes allow both types of infinitival complements as well as Finite Clause complements, would seem to indicate that the higher values for dative in the intransitive type with these verbs is an analogical influence of the dative marking preference with clausal complements.[10]

When we consider the proportion of dative with the transitive infinitivals in TABLE B, we note that the Perception verbs have a somewhat lower percentage than do faire, laisser, and the Impersonal and Order classes. I will suggest that the Perception verbs are subject to another influence working in the opposite direction from that described for the behaviour of the Impersonal and Order verbs with Intransitive Infinitivals. The data on which I base this hypothesis comes from consideration of the representation of faire, laisser and the Perception verbs over the full range of infinitival complement possibilities: the Intransitive and Transitive types, and an additional third type which lacks a specified NP subject for the infinitive.

Examples of infinitival complements having an unspecified subject are given below in (9) for each of the governing verbs included in TABLE C below:

(9)a. et fist ses tentes drecier (Fet des R 205,23)
'and had his tents put up'
b. que ne lessast nul feu fere de nuiz (Fet des R 229,23)
'that he did not let any fire be made at night'
c. et vit ses chevaliers ocire, (Perlesvaus 5817)
'and saw his knights killed'
d. L'empereres Morchufles oï dire les novelles (Villehardouin 227,05)
'the emperor Morchufle heard tell the news'

Column 1 in TABLE C below shows the percentages for dative from TABLE A with Transitive Infinitival complements for the four verbs listed. The remaining figures give the number of tokens of each infinitival complement type for each verb. The percentages indicate the proportion of each infinitival type for each verb out of the total number of tokens for each verb.

TABLE C: Distribution of infinitival complement type according to verb[11]

	%dat with Trans. Inf (from TABLE A)	Complement types: Unspec. Subj. tot	%	Intrans. Inf tot	%	Trans. Inf. tot	%	Tot
Causative								
faire	88	397	61	169	26	80	12	646
laisser	83	42	23	129	71	10	6	181
Perception								
voir	60	21	13	122	76	18	11	161
oir	75	67	66	26	25	9	9	102

We notice that, for the proportions of datives with transitive infinitivals, the verbs are aligned according to class, taking both faire and laisser as Causatives and voir and oïr as Perception verbs. Within each class, the verb with the lowest percentage of dative with transitive infinitivals (laisser for the Causatives, and voir for the Perception verbs) has a considerably higher proportion of its total number of occurrences falling in the intransitive infinitival type, the type for which the NP is marked as accusative. That is, laisser and voir have respectively 71% and 76% Intransitive Infinitival complements out of their total number of complements, and faire and oïr have respectively only 26% and 25%. This could mean, therefore, that smaller percentages of dative with Transitive Infinitivals for laisser and voir are affected by an influence of the preponderance of the intransitive type construction for those verbs -- although, given the small number of tokens of unambiguously case-marked forms with Transitive Infinitivals for laisser and oïr, any conclusions here must be regarded as highly tentative.

In another approach to this question, Morin and St-Amour (1977) have suggested that the reason why, in subsequent developments to Modern French, the verb laisser and the Perception verbs in general, unlike faire, permit an alternative transitive infinitival construction with an accusative marked NP is that these verbs can also freely take direct object NPs in simple clauses; 'J'ai vu Jean partir'/'J'ai vu Jean', much as in English: 'I saw John leave'/'I saw John'. However, I am not sure how to interpret such an argument for the developments with laisser, because 'Je laisse Jean', as a complete statement, means 'I leave John', rather than the incomplete: 'I let/allow John'. It is possible, therefore, that the Perception verbs are subject to such a subcategorization effect, but that such an effect does not apply to laisser. If this analysis is correct, we remain with two possible influences subverting the 'regular' dative case marking with Trans. Infinitivals: effects of the frequency of the Trans. Infinitival type and effects of the availability for a verb of the subcategorization frame, V: [__ NP]. the former effect would apply to laisser and to voir, and the latter effect would apply to voir and oïr. Under these conditions, the lowest percentage for dative with Trans. Infinitivals at 60% for voir is accounted for as the combination of the two subversive influences.

Among the verbs in TABLE C, faire must be regarded as distinctive. Numerically, faire has by far the strongest representation and, with faire, the dative resolution for Trans. Infinitival complements is not affected by

the two influences which seem have bearing on case assignment with the other verbs of the TABLE. In fact, when we consider the Trans. Infinitivals over the time span of the data, faire shows a steady increase in the proportion of dative marked NP subjects of the infinitivals. This is shown in TABLE D.

TABLE D: Percentage dative for transitive infinitivals within periods

	up to 1125		1150-1175		1200-1225		up to 1175	
	tot	%dat	tot	%dat	tot	%dat	tot	%dat
faire	5	80	26	85	27	93	31	84
laisser	-	-	3	67	3	100	3	67
voir	3	67	2	0	10	70	5	40
oir	-	-	3	67	5	80	3	67

Such an increase occurs also with laisser, voir and oïr, albeit with non-substantial representations for these verbs.

TABLE D indicates that the syntacticization of the Acc./Dat. alternation according to the Intrans./Trans. criterion is observable with faire, with the % dat. progressing: 80:85:93 over the three periods; and that the other verbs give the appearance simply of lagging behind the numerically superior faire.

Up to this point, I hope to have shown that the proportions in TABLE B reflect patterns which are to be associated with the influence of the characteristic behaviour of verb classes. The particular influences that we have seen can be summarized as follows:

(i) Higher percentages for dative with Intrans. Infinitival complements with the Impersonal and Order verbs are accounted for as due to the availability of the Finite Clause complement type with these verbs.
(ii) Among the verbs which do not take Finite Clause complements of type (1b): faire, laisser, voir and oïr, the use of dative marked NPs with Trans. Infinitival complements is undermined by:
  (a) high frequencies of occurrence of Intrans. Infinitival complements (laisser and voir), and
  (b) the availability of the subcategorization frame V: [__ NP] (voir and oïr).

In essence, these influences show the effect of the subcategorization characteristics of particular classes of verbs acting against a prevailing systematic characteristic of the language: the case marking distinction defined on the basis of whether the infinitival complements are intransitive or transitive -- that is, like the Modern French causative construction.

In the section to follow we will examine a further effect which emerges from the analysis of another aspect of the constructions under consideration: whether the NP in the complement is a noun or a pronoun.

3. The Noun/Pronoun effect

When we examine the behaviour of Order verbs which provide the greatest

number of tokens of clausal complements and which are also represented with infinitival complements, we find that the manifestation of accusative versus dative is affected by whether the NP complement is a noun or an unstressed pronoun.[12] This effect can be observed in the results in TABLE E:

TABLE E: Acc./dat. and Noun(=N)/Pronoun in Order class

	Inf				Finite Clause			
	acc.		dat.		acc.		dat.	
	N	Pro	N	Pro	N	Pro	N	Pro
rover	1	3	1	2	1	-	1	1
mander	-	1	-	-	3	2	11	14
commander	4	1	1	6	-	-	17	14
requerre	-	1	-	-	5	3	3	5
dire	-	-	-	-	-	-	4	16
semondre	-	2	-	-	2	-	-	-
enorter	-	-	-	-	2	-	-	2
	5	8	2	8	13	5	36	52
% N:	38%		20%		72%		41%	

Totals

	N	Pro	%N
acc.:	18	13	58%
dat.:	38	60	39%
	56	73	43%

weighted %N = 43%[13]

As shown in TABLE E, the alternation: accusative noun versus dative pronoun, is evidenced as a general tendency in the Order class. Thus, for the Infinitival complements, 38% of the accusative NPs are Nouns, but only 20% of the dative NPs are Nouns. With the Finite Clause complements, 72% of the acusative NPs are Nouns and 41% of the dative NPs are Nouns. the overall proportion of Nouns, the weighted value of 43%, is closest to the values associated with the accusative Nouns in Infinitival complements and with the dative Pronouns in the Finite Clause complements. Now, the dative marking type represents what I will call the regular construction for the Finite clause complement type (thus, TABLE E gives a total of 88 datives against 18 accusatives for the Order verbs). Therefore, I claim that the Noun/Pronoun factor shows little, if any, effect on the regular construction with the dative, and that its domain of operation is restricted to the irregular accusative marking variant for the finite clause complement types, for which the %N at 72% is considerably higher than the weighted overall value of 43%.

Now, in order to test the Noun/Pronoun effects on regular versus irregular constructions with the Infinitival complements, we need to examine the data for Infinitival complements in terms of the Intransitive/Transitive parameter. The breakdown is shown in TABLE F.

TABLE F: Noun(=N)/Pronoun with infinitival types in Order class

	Intrans. Inf.				Trans. Inf.			
	acc.		dat.		acc.		dat.	
	N	Pro	N	Pro	N	Pro	N	Pro
	4	6	-	3	1	2	2	5
%N:	40%		0%		33%		29%	

We know that, for the Infinitival complements, the regular constructions show accusative with Intransitives and dative with Transitives. This is reflected in TABLE F in the higher numbers of tokens represented in each of the two types: 10 acc. marked NPs with the Intransitives, and 7 dat. marked NPs with the Transitives, versus 3 and 3 with the respective alternative forms. Considering firstly the Intransitives, we find that the %N with the Acc. Intransitives is 40%, approximating to the weighted overall %N value at 43% and, therefore, conforming to the hypothesis that the %N with this type should not deviate from the overall value for %N. By the same token, we expect to find a lower %N value for Datives with Intransitives. The value for this type is indeed lower at 0%, but the number of tokens at 3 cannot be taken as representative for this group. Turning to the Trans. Infinitivals, we find that the 4% difference does not show distinctive characteristics for the two complement types. However, again, the totals, especially for the Accusatives, are not as large as we would wish and, although they do not disconfirm the general hypothesis, we need to have larger totals for a stronger support for our claims.

In order to further test the effects of Noun versus Pronoun on regular versus non-regular construction types, we will now go beyond the Order verbs and consider the verbs of other classes in our count of such tokens. TABLE G below gives the figures for the Order verbs from TABLE F, accompanied by the corresponding figures for verbs from the other classes. TABLE G does not include the figures for faire, laisser and the Perception verbs with Intransitive Infinitivals because, since these constructions freely include NPs which refer to inanimates, they are likely to have somewhat higher proportions of Nouns over Pronouns and their inclusion would thus have the effect of skewing the results.[14]

TABLE G : Noun(=N)/Pronoun with Infinitival complements

	Intrans. Inf.				Trans. Inf.			
	acc.		dat.		acc.		dat.	
	N	Pro	N	Pro	N	Pro	N	Pro
faire					5	2	20	31
laisser					-	1	1	4
Perception					8	-	6	9
Impersonal	7	17	-	9	1	3	3	24
Order	4	6	-	3	1	2	2	5
	11	23	-	12	15	8	32	73
%N:	32%		0%		65%		30%	

Totals

	N	Pro	%N
acc.:	26	31	46%
dat.:	32	85	27%
	58	116	33%

weighted %N = 32%

In TABLE G the overall percentages for N (both the mean of 33% and the weighted value of 32%) are lower than those obtained from TABLE E. This is largely the result of the inclusion of the Impersonal verbs which have a lower proportion of Nouns overall (a mean of 17%). Nevertheless, the results in TABLE G show that the regular constructions: accusative with Intransitives (N = 32%) and dative with Transitives (N = 30%), are the closest to the weighted proportion of N = 32%. The deviant proportions of 0% dative Ns with Intransitives and of 65% accusative Ns with Transitives go in the predicted directions. TABLE G, therefore, provides confirmation with a wider range of verbs for the patterns indicated in TABLES E and F.

From this evidence, I conclude that Old French has a tendency towards the use of accusative Nouns as against dative Pronouns, but that this tendency is clearly manifested only in instances of case marking that deviate from the norm for a particular construction type.

4. Conclusions

The data that I have examined in this paper leads to the conclusion that three main factors can be seen to influence the structural and case assignment conditions associated with the verbs that have been considered.

Firstly, the importance of class membership was seen in the patterns for verb groups in TABLE B from the percentages of dative marking on NPs of their complements.

The second factor, which is related also to the first, is that the behaviour of a verb, or of the case marking associated with that verb in a

given structure, can be influenced by other structures in which the verb participates. This influence was seen in the higher proportion of dative marking for the Impersonal and Order verbs with Intransitive Infinitival complements, and in the influences contributing to lower percentages of dative marking for laisser and the Perception verbs with Trans. Infinitival complements.

The third factor which has been seen to have an influence on assignment of accusative or dative case is the category of the complement NP: whether it is a noun or a pronoun. This category membership effect is observed especially in case manifestations which deviate from the norm for a particular construction type.[15] Interestingly, except for the peculiar behaviour of the verb prier, the Noun/Pronoun effect does not appear to operate independently, but surfaces only in interaction with the structural effect.

In the subsequent developments in French, except for a very limited number of governing verbs, an S complementation pattern has come to replace the VP complementation pattern illustrated above in (8a). Thus, among the governing verb types that we have considered here, the Impersonal verbs and the Order verbs no longer exhibit the VP complementation patterning with the characteristic Acc. + Intransitive and Dat. + Transitive markings. Where such verbs in present-day French permit an NP complement with an Infinitival complement, they have a structure comparable to the (8b) type, with the NP marked as a dative. That is, as:

(10) V: $[_{VP}$ __ $NP_{[+dat]}$ $[_{S}$ Finite]]

It would seem that the development of the pattern in (10) for infinitival complements with the Impersonal and Order verbs indicates that the early influence of the Finite Clause complement type on the Infinitival complement type (observed especially in TABLE B) came to be consolidated in later stages of French. This development, although not predictable from the data shown here, needs to be analyzed in association with another subsequent development in the language: the general loss of the VP complementation possibility. That is, once VP Infinitival complements came to be replaced by S complements, it is evident that the case markings associated with Finite Clause could be subsumed by the emerging S Infinitival complements.

The fact that, in Modern French, the VP complementation pattern is retained with faire is not surprising, given the unique position of this verb in terms of its early consolidation of Infinitival complements to the exclusion of Finite Clause complements, and in terms of its evident numerical superiority. Just as morphological irregularities and suppletive forms are most commonly associated with verbs of high frequency in languages, so also, we conclude, syntactic 'irregularities' in terms of strict subcategorization characteristics are to be found with lexical elements which can be seen to have a unique role in a given language.

In view of the evolution of faire and of the Impersonal and Order verbs towards a single complement type (VP versus S, respectively), the subsequent evolution of laisser and the Perception verbs voir and ouïr seems somewhat aberrant. Laisser and the Perception verbs now permit two types of Infinitival complements, characterized in (11) and (12) with voir:

(11)a. Je lui ai vu [$_{VP}$ enfoncer la porte]
b. Je la lui ai vu enfoncer.
(12)a. Je l'ai vu [$_{S}$ enfoncer la porte]
b. Je l'ai vu l'enfoncer.
'I saw him break down the door/break it down'

It would seem that the tendency towards the use of Acc. with Trans. Infinitival complements seen in TABLE B comes to be manifested as a distinct structural type (c.f. (12) versus (11)). These verbs, therefore, continue with a surface case variation, but that surface variation is now located in two distinct structural configurations.

In Modern French, very little effect of the Noun/Pronoun factor can be observed. Two cases, however, come to mind, and they are shown in (13) and (14):

(13)a. Paul lui a bu trois pastis sans dire merci.
b. ? Paul a bu trois pastis à Marie sans dire merci.
'Paul drank 3 pastis on her/Marie without saying thank you'
(egs: Leclère (1976))

(14)a. Je lui ai fait écrire une lettre à Paul.
b. ?*J'ai fait ecrire à Jean une lettre à Paul.
'I had him/Jean write a letter to Paul'

In both (13) and (14), the acceptable variants (13a) and (14a) have dative pronouns, whilst the unacceptable ones have dative nouns. I do not know of other sorts of instances where it can be shown that an accusative noun is acceptable in an environment in which an accusative pronoun is unacceptable.

Finally, another aspect of acc./dat. alternations in Old French which I have not commented on here is the presence of such alternations in simple clause constructions. This question has been raised in Foulet (1928), explored in some depth in Herslund (1980) and further discussed in St-Amour (1983). Whereas in this paper, the discussion has focused on evidence of distinctions in accusative and dative marking which could indicate the operation of differing mechanisms in the assignment of morphological case, an alternative approach to this question, as in Herslund (1980) analyzes the lack of dative marking in constructions where datives are to be expected, as indicating that the constructions contain indirect objects which fail to be marked as such through the surface assignment of morphological dative marking. For the evidence presented here, the question that has been raised is: Why are some construction types more prone than others to lack evidence of dative marking (the lower values for Perception verbs with transitive infinitives) and why, on the other hand, some verbs show more evidence of dative marking where accusative forms are to be expected (Impersonal and Order verbs with intransitive infinitivals). Thus, the case marking issue

that has been considered here concerns both the absence of dative marking where dative is to be expected, and the presence of dative marking where it is not to be expected -- according to the analysis of what are the regular case marking characteristics for particular constructions.

The analysis of patterns of variation in Old French which has been undertaken here has provided us with an interesting diagnostic tool for a better understanding of the subsequent patterns of evolution in the language.

NOTES

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[1]Bibliographical indications are given in the References. The texts, in terms of their periods, are:

up to 1125: Serments, Eulalie, Léger, Passion, Jonas. Alexis, Sponsus, Roland, Cumpoz, Brendan, Lois, Grégoire
1150-1175: Orange, Aïol, Erec, Rou, Becket
1200-1225: F Pontieu, Villehardouin, C et P Sens, Perlesvaus, Lancelot, Clari, Fet des R, Joseph

[2]The non-literary texts are: Serments, Jonas, Lois, Gregoire (all before 1125) and C et P Sens (c. 1210).

[3]Arguments in support of the VP analysis are given in Pearce (in preparation). The 'initial VP' assumption is not immediately relevant to the discussion of the present paper, as nothing hinges on it. However, given that it will be argued here that the infinitival complements represented in (1a) are comparable to Modern Romance causative constructions, the analysis by which these infinitival complements are represented as surface VPs can be viewed as roughly parallel to analyses of Modern Romance causatives given in Aissen and Perlmutter (1976), Rizzi (1978) and Burzio (1981). See also Morin and St-Amour (1977), Strozer (1981) and Zagona (1982) for approaches which argue for base-generation of infinitival complements as VPs.

[4]Unstressed 1st and 2nd person pronouns (me, te, nos/nous, vos/vous) do not have distinct accusative and dative forms. They are therefore ambiguous as to case and, for the most part, cannot be included in the material base of the present analysis. However, where these pronouns appear in conjunction with 3rd person accusative forms, I have followed the traditional interpretation (see, for example, Foulet (1928)) by which they are analyzed as datives -- according to assumptions under which a clitic sequence in French may not include 2 accusative pronouns. The present corpus contains a total of 12 such instances for which I have counted 1st and 2nd person forms as datives, e.g.:

(i)a. Respont le quens: "Deus lo me doinst venger." (Roland 1548)
'replies the count: "May God give me (dat.) to revenge him"

b. Ensiwre les t'estuet, . . . (Becket 2920)
'It is necessary for you (dat.) to follow them . . . '
c. Il le vos mande, nel te devrom celer
Que tu t'en fuies en Aufrique outre mer (Orange 582-3)
'he orders it to you (dat.), we must not hide it from you,'
that you flee overseas to Africa'

[5]The verbs included are those which provide a total of at least 3 tokens for the complement types (with unambiguous case marking on the NPs) shown in the TABLE.

[6]The governing verbs included under the Impersonal and Order classifications are as indicated in TABLE A, except that the verb prier is not included with the Order verbs for reasons discussed in Note 12.

[7]Pearce (1982). The present paper corrects earlier errors in counts for laisser and voir, and it also includes the count for laier with that for laisser.

[8]That is, in (7a), m(e)ngier amer et sur (trans. 'to eat bitter and sour') could well be interpreted as 'to eat bitter and sour things'; and similar interpretations are available for the adjectival readings of mal and molt chier in (7b) and (7c).

[9]See Note 3.

[10]I use the term 'analogical' at this point, on the assumption that the higher values for dative with intransitives with these verbs is an 'irregular' interference having the effect of reducing the number of 'more regular' accusative manifestations. Such an interpretation is, of course, open to question. We might well consider that the dative variant is simply an alternative form and that the notion 'regular'/'irregular' should be replaced by: 'more frequent'/'less frequent'. If we want to explain, however, why one system eventually came to have precedence over another in the historical development, we can view the choices made by the speaker as involving on-line production processes, which, in effect, include access to two competing systems; one syntactic and the other lexical. The syntactic system requires the case of the NP to depend on the transitivity value of the subordinate infinitive (c.f. (8a)). The lexical system refers to verbal subcategorization characteristics, which can be defined for verbs taking Finite Clause complements as, V: [__ $NP_{[+dat]}$, S]. The 'regular' accusative case with Intrans. Infinitives is thus syntactically derived, whereas the 'irregular' dative case is conditioned by the lexical subcategorization features of the governing verb.

[11]The totals shown in TABLE C for Intrans. Inf. and Trans. Inf. are higher than those shown in the earlier TABLE A, because the totals include tokens which are ambiguous for case as well as the unambiguous tokens for which the totals are given in TABLE A; e.g.:
Intrans. Inf
(i) E! reis celeste, tu nus i fai venir! (Alexis 335)
'And! celestial king, you make us (ambig.) come here!'
Trans. Inf
(ii) Anuit me fai repos aveir. (Brendan 1440)

'at night you make me (ambig.) have rest'

[12]The effect is most obvious with the verb prier, for which a large proportion of acc. marked complements occur in the expression prier Dieu ('to pray God') and similar such invocations. The datives, on the other hand, tend to be pronouns, e.g.:

(i)a. Ainz priet Deu quet il le lur parduinst (Alexis 269)
'thus he prayed God (acc.) that he pardon them it'
b. Si li preiuns que de tuz mals nos tolget." (Alexis 505)
'and we pray him (dat.) that he take away all evils from us'

The number of tokens for each type are as follows (all are with Finite Clause complements):

	acc.			dat.		
	N	Pro	%N	N	Pro	%N
prier:	40	3	93%	3	29	9%

Since the behaviour of prier is therefore idiosyncratic -- it is reasonable to assume that an expression like prier Dieu should be treated as a fixed form -- prier has not been included in the tables giving the counts for the Order verbs.

[13]Since the four groups in TABLE E are unevenly represented, the weighted percentage assigns the value for %N in terms of an equal weight to each of the 4 groups, i.e.: the sum of the percentages for each group (38 + 20 + 72 + 41 = 171) divided by 4 (the number of groups) = 42.75, that is: 43%. The weighted % value is therefore just slightly lower than the mean value at 43.4%.

[14]A more complete picture of the data will be obtained when the Noun/Pronoun classification for these constructions is made on the basis of the Animate NPs to the exclusion of the Inanimates.

[15]See footnote 12.

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THE INTERACTION OF WORD ORDER AND PRAGMATICS IN A SANSKRIT TEXT*

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The word orders of gerundive, passive, and ta-participle clauses in a Classical Sanskrit text are sensitive to context: the unmarked AOV order predominates in narrative passages, while OAV order occurs with equal frequency as AOV in passages representing the direct speech of characters. Examining the convergent syntactic behavior of these three constructions--all of which have demoted agents and promoted transitive patients--in Jambhaladatta's Vetālapañcaviṁśati (Emeneau 1934) reveals major differences in word orders. These differences disappear when the three constructions are compared in similar contexts. The high frequency of OAV order in direct speech among gerundive and ta-participle clauses appears to be linked to the use of this order as a means of signalling "politeness". Similarly, the frequency of agent-deletion in passive imperative clauses reinforces the pragmatic effect of agent-demotion. Thus, word order differences are instances of variation in the language of the text, dependent upon pragmatic principles, rather than syntactic distinctions among the three members of this syntactic class.

Clauses with gerundive participles, finite passive verbs, and ta-participles as main verbs form a syntactic class in Sanskrit; in all three constructions, the initial structure object of a transitive verb is the surface structure subject. Other syntactic characteristics of these clauses have been shown to converge in the history of Sanskrit (Hock 1982, In press).

In the Vetālapañcaviṁśati of Jambhaladatta (Emeneau 1934), a Classical Sanskrit text, this convergent behavior is evident--with one glaring exception in the word order characteristics of these constructions. Gerundives tend to use a marked word order frequently, while constituents of ta-participle clauses usually occur in the unmarked Classical Sanskrit word order. The study of word order in passive clauses is limited because of the frequency of agent-deletion.

Examination of the meanings and functions of the three constructions suggests that the differences in word orders and frequency of agent phrase deletion are conditioned by pragmatic principles independent of the syntax of gerundives, passives, and ta-participles. Therefore, the word order differences are instances of superficial variation rather than

syntactic distinctions. The pragmatic principle to which word order is sensitive is in force only in the contexts of direct speech, and I argue that this principle is concerned with the use of "politeness" in conversation.

First, I shall present the three Sanskrit constructions with which this study is concerned, and show how very similar their syntactic characteristics are in the Vetālapañcaviṁśati. Then, differences among the three in word order will be presented and possible explanations for these differences discussed. I shall then show how these differences can be accounted for when the pragmatic distinctions among the three constructions are considered. I suggest these distinctions reflect certain politeness conventions in the language and discuss how these pragmatic conventions interact with the syntax of Classical Sanskrit in this text.

1. P-Oriented Constructions in Sanskrit.

The three Sanskrit constructions under scrutiny here are:

(a) gerundive/future passive participle/tavya-participle

(b) passive verb conjugation/yá-class

(c) past passive participle/ta-participle

These three constructions are illustrated with the transitive verb kṛ 'do' in (1), (2), and (3) respectively:[1]

(1) devadattena karma kartavyam / karmāṇi kartavyāni
'D'-MS-ins deed-NS-nom do-gp-NS-nom deed-NP-nom do-gp-NP-nom

'by Devadatta the deed must be done / the deeds must be done'

(2) devadattena karma kriyate / karmāṇi kriyante
'D'-MS-ins deed-NS-nom do-ps-prs-3S deed-NP-nom do-ps-prs-3P

'by Devadatta the deed is done / the deeds are done'

(3) devadattena karma kṛtam / karmāṇi kṛtāni
'D'-MS-ins deed-NS-nom do-tp-NS-nom deed-NP-nom do-tp-NP-nom

'by Devadatta the deed has been done / the deeds have been done'

As shown in (1-3), all three main verb constructions are "patient-oriented" (P-oriented),[2] that is, the patient of a transitive verb (initial structure object) appears as the nominative case surface structure subject, while the agent of the action (initial structure subject) appears as a nonsubject/nonobject instrumental NP in surface structure.[3] The surface subject controls verb agreement--gender and number agreement for the two participles, and person and number for the passive finite verb. Although all these constructions share characteristics of passive clauses, they cannot as a class be considered "passive", because the

gerundive has no corresponding more basic active; nor can all three constructions be considered "ergative" because intransitive subjects and transitive patients do not appear in the same surface case in clauses with finite passive verbs.

Contrast the syntactic properties of the three constructions in (1-3) with those in (4) and (5), which illustrate the Sanskrit active verb conjugation and the past active participle used as a main verb, respectively:

(4) devadattaḥ karma karoti / karmāṇi karoti
'D'-MS-nom deed-NS-acc do-prs-3S deed-NP-acc do-prs-3S

'Devadatta does the deed / does the deeds'

(5) devadattaḥ karma kṛtavān / karmāṇi kṛtavān
'D'-MS-nom deed-NS-acc do-pap-MS-nom deed-NP-acc do-pap-MS-nom

'Devadatta has done the deed / has done the deeds'

In (4-5), the agent is in the surface subject case nominative, and controls verb agreement, while the patient is in the surface object case accusative. Thus, there are clear distinctions between the structures in which the patient of a transitive verb is the grammatical subject and those in which the agent is the grammatical subject. As a general characteristic, "P-orientation" clearly applies to sentences with transitive verbs in all three structures illustrated in (1-3), and so, throughout this study, those three constructions shall be referred to as the class of "P-oriented constructions". The individual constructions shall be referred to as the gerundive, passive, and ta-participle.[4]

2. Syntactic Similarities among P-Oriented Constructions.

2.1. Hock (1982, In press) points out five major characteristics in which the syntax of the three P-oriented constructions has become similar in Classical Sanskrit:

(a) subject demotion for intransitive verbs

(b) instrumental case for agent phrases

(c) agent control of absolutive phrases

(d) agent control of reflexivization[5]

(e) agent-first word order

2.2. In the Vetālapañcaviṁśati, the gerundive and passive of intransitive verbs are impersonal with demoted subjects, as illustrated in (6) and (7):[6]

(6) bhavatā tatra śmaśānāyatane matsamīpam āgantavyam (8.29)
your honor-ins there burning ground-loc me-near go-gp-NS-nom

'you must come to me in the cemetary'

(7) tadā dvābhyāṁ kathāprahelikayā pathi gamyate (12.25)
then we-two-ins story-riddle-ins road-loc go-ps-prs-3S

'then the two of us will go along the road with riddles based on stories'

The ta-participle of intransitive bases used as main verbs occurs in two forms, nondemotional as in (8a) and demotional as in (8b):

(8) a. kanyāvacanād rājā anyatra gataḥ (100.9)
girl-speaking-abl king-MS-nom elsewhere go-tp-MS-nom

'at the girl's bidding, the king left'

b. kutra gatvā sthitaṁ bhavatā (44.26)
where go-abs stay-tp-NS-nom your honor-ins

'where did you go and stay so long?'

However, only a few intransitive ta-participle forms occur in the demotional type in this text.

In all the demotional intransitive forms, the initial structure subject appears in surface structure in the instrumental case, the same as the agent phrases of transitive clauses. All three constructions are used with demoted subjects with intransitive verbs in the text--the gerundive and passive require subject demotion, while the ta-participle permits it in such forms.

2.3. In (9-11) are given examples from the text of transitive verbs in the gerundive, passive, and ta-participle constructions. In all three constructions, the agent NP appears in surface structure in the instrumental case.

(9) a. mayā tasya uttaraṁ dātavyam (22.20)
me-ins his answer-NS-nom give-gp-NS-nom

'I must give him an answer'

b. tvaṁ mayā adya khāditavyaḥ (100.15)
you-MS-nom me-ins today eat-gp-MS-nom

'I must eat you today'

(10) a. yadi bhavatyā sa mantro na dīyate (128.3)
if your honor-ins that charm-MS-nom neg give-ps-prs-3S

'if you do not give that charm'

b. yā kanyā tava putreṇa iṣyate (86.1)
which girl-FS-nom your son-ins desire-ps-prs-3S

'whichever girl your son desires'

(11) a. etāvati bhagavatyā hiraṇyavatyai svapno dattaḥ (98.1)
then Devi-ins 'H'-dat dream-MS-nom give-tp-MS-nom

'at that time, Devi sent a dream to Hiranyavati'

b. mama sarvālaṁkāraś caureṇa adya apahṛtaḥ (22.11)
my all-jewel-MS-nom thief-ins today take-tp-MS-nom

'today a thief took all my jewels'

In earlier forms of Sanskrit, other cases were frequently used for the agent in some of these constructions; but, in this text, the only other case used is the genitive, and it occurs in only about a half dozen instances total for the gerundive or ta-participle agent. The instrumental agent is, for the most part, the only surface representation of the initial transitive subject in all three constructions.

2.4. Generally, in Sanskrit, the surface subject of an active main verb controls absolutive formation.7 In Classical Sanskrit, it is the agent of P-oriented constructions with which the subject of the absolutive clause is identified. As illustrated in (12), the agents of gerundives, passives, and ta-participles control absolutive formation in this text.

(12) a. vipakṣanṛpatir ayaṁ saṁgrāme jitvā
hostile-king-MS-nom this battle-loc defeat-abs

mayā ānetavyaḥ (114.11)
me-ins bring-gp-MS-nom

'having conquered him in battle, I shall bring this hostile king to you'

b. tac chrutvā rākṣasena satyam akāri (138.6)
that-acc hear-abs ogre-ins truth-NS-nom do-ps-aor-3S

'having heard that, the ogre promised'

c. tac chrutvā paridhānavastraṁ dattvā
that-acc hear-abs outer-clothing-acc give-abs

tābhyām uktam (16.21)
they-two-ins say-tp-NS-nom

'having heard that, having given her an outer garment, they said'

2.5. In terms of the syntactic characteristics discussed thus far, the three P-oriented constructions behave very similarly. There is, however, one other syntactic property in which we expect the three constructions to be similar, and that is word order. The predominant Sanskrit word order pattern in active transitive clauses is subject-object-verb, with the grammatical subject first. However, P-oriented constructions generally appear in the order agent phrase-surface subject-verb, with the grammatical subject in medial position. This indicates a more general principle of Classical Sanskrit word order that the agent of the action occurs in initial position and the object of the verb occurs in medial position, no matter which one is the surface subject. Adopting this perspective, we expect agent-object-verb (AOV) order to predominate among P-oriented constructions. The principle variant word order is object-agent-verb (OAV), and this should be less freqent than AOV, among P-oriented constructions, as well as other clause types.

The word order behavior of transitive gerundive, passive, and ta-participle constructions in the Vetālapañcaviṃśati is given in Table 1.[8]

	AOV (OVA)[9]	OAV (AVO)[9]
Gerund.	18	16
Pass.	11 (2)	2
ta-pple.	72 (4)	35 (4)

Transitive Clause Word Order

Table 1

As we can see, agent-first AOV order is the usual order for passives and ta-participles, but among gerundives, OAV order, with the grammatical subject first, is just as popular as AOV order with the agent first.

The data in Table 1 is surprising given what we have found thus far. The three P-oriented constructions have very similar syntactic properties in this text; but with respect to word order, (1) ta-participles follow the general word order principles for Sanskrit, (2) gerundives have the feature of using OAV order as frequently as AOV order, and (3) passive verbs appear in very few examples with both major constituents present, too few to really decide what order is expected of this construction.

The data on word orders of P-oriented constructions weakens the hypothesis that the syntax of the three structures has converged in Classical Sanskrit--unless (a) we are willing to accept a weaker form of the hypothesis for this stage of the language, or for just this text, or (b) we can find a text-specific explanation for these word order characteristics. A text-specific explanation is preferable because it would preserve the stronger, general hypothesis about the syntax of Classical Sanskrit. Also, as this study is concerned with only one text, a text-specific explanation would provide a better understanding of the kind of variation that is permitted in word orders in Classical Sanskrit.

2.6. At first we might try to explain the distinctions among P-oriented constructions by examining various syntactic features of these constructions that could influence the order of the major constituents. For example, whether the agent phrase retains initial position may depend upon how salient the subjecthood of the patient is. Masculine and feminine gender NPs have distinct case forms for the nominative and accusative, while neuter NPs use the same form for both cases. Thus, masculine and feminine patient NPs would be more noticeably "subjects" than neuter NPs in P-oriented constructions. As is shown in Table 2, masculine/feminine patients do tend to be more frequently fronted in the gerundive, but this is not true of those in the ta-participle construction. This difference, then, does not appear to be significant in explaining word order distinctions, for it establishes no relation between OAV order in gerundives and ta-participles other than in the former this order is more frequent.

	AOV (OVA)	OAV (AVO)
G-M/F	4	7
G-Nt	14	9
P-M/F	6 (2)	2
P-Nt	5	Ø
Ta-M/F	58 (2)	29 (3)
Ta-Nt	14 (2)	6 (1)

Word Order by Object Gender

Table 2

Similarly, word order might be determined by the relative animacy of the two NPs--since agent NPs are almost always animate, whether the object gets fronted might depend on whether it is animate as well. However, as we can see in Table 3, this, too, may be true of gerundives, but it does not seem to affect word order among ta-participles.

	AOV (OVA)	OAV (AVO)
G-An	2	5
G-In	16	11
P-An	1 (1)	2
P-In	10 (1)	Ø
Ta-An	46 (2)	27 (3)
Ta-In	26 (2)	8 (1)

Word Order by Object Animacy

Table 3

Finally, we might consider differences in word order between the types of NPs--nominal vs. pronominal. It does appear to be true, as illustrated in Table 4, that pronoun objects which appear as surface subjects in P-oriented constructions do get fronted frequently in sentences with both gerundives and ta-participles as main verbs. While this may be a factor in the frequency of OAV order, it does not explain why about half the nominal objects in gerundives get fronted while only about a quarter of those in ta-participle clauses get fronted. Thus, there is still a major unexplained difference in the word order characteristics of gerundives and ta-participles.

2.7. At this point it appears that no syntactic feature of P-oriented constructions differentiates the word order characteristics illustrated in Table 1. In the next section, I shall explore the semantic and pragmatic characteristics of P-oriented constructions in the Vetālapañcaviṁśati

	AOV (OVA)	OAV (AVO)
G-Pro	8	9
G-NP	10	7
P-Pro	3	1
P-NP	8 (2)	1
Ta-Pro	11 (2)	13 (4)
Ta-NP	61 (2)	22

Word Order by Object Type

Table 4

to determine whether a text-specific explanation for the data in Table 1 can be found in these areas of the language.

3. Semantics and Pragmatics of P-Oriented Constructions.[10]

3.1. In the previous section, we examined the syntactic characteristics of the three P-oriented constructions, finding them to behave similarly with respect to demotion of intransitive subjects, use of the instrumental case for agent phrases, and agent control of absolutives. However, in their word order characteristics, we found several differences. No syntactic explanation was found for these distinctions, and so, in this section, I would like to examine the meaning and use of gerundives, passives, and ta-participles in this text to determine whether there is a semantic or pragmatic factor which could explain the observed word order differences. If there is no such explanation, then it would appear that in the Vetālapañcaviṁśati the convergence of syntactic features--including word order--is incomplete, or weaker than suggested by Hock (1982, In press). If there is an explanation, then we can show that convergence is represented in the language of the Vetālapañcaviṁśati, although superficial differences may occur among the three constructions.

3.2. The three P-oriented constructions differ greatly in their meanings and functions. Gerundives generally indicate that some kind of obligation is ascribed to the agent of the clause. When the agent is the speaker, as in (13a), the use of the gerundive shows personal obligation.[11]

(13) a. tan mayā rahasi vaktavyam (116.16)
this-NS-nom me-ins privacy-loc say-gp-NS-nom

'this I must tell you in private'

b. arimaulimaṇinṛpater nagare tvayā balaṁ
'A'-king-gen city-loc you-ins force-NS-nom

na kartavyam (138.6)
neg do-gp-NS-nom

'you must not do violence in King Arimaulimani's city'

c. siddhir mayā sādhayitavyā bhavatām
power-FS-nom me-ins attain-gp-FS-nom your honor-gen

abhimataṁ ca bhaviṣyati (10.27)
desire-NS-nom and be-fut-3S

'I shall attain magic power and your desire will be attained'

When the agent is the addressee (13b), the gerundive is used with the force of a command, although using the gerundive is more deferential and polite than using an imperative. And rarely, the gerundive may be used to indicate the expected fulfillment of some future action, as in (13c).

Passive verbs in the text most frequently appear in the imperative conjugation (14a); this form is also used with the force of a command, although, again, the use of this form shows more deference is given to the addressee than the use of an active imperative verb.

(14) a. tato bhavatā pratītya aranyaṁ nirvāsyatām (24.20)
thus your honor-ins convince-abs forest-acc banish-ps-imp-3S

'thus let your majesty be convinced and exile her to the forest'

b. snātakabrāhmaṇena sarvam idam anuṣṭhīyate (154.11)
'S'-ins all that-NS-nom perform-ps-prs-3S

'all that is performed by a Brahman who has completed his studies'

Passive verbs also appear in the present and other tenses, illustrated in (14b), but no specific pragmatic force is obviously associated with such verbs.

The ta-participle is used in the Vetālapañcaviṁśati as a general past tense in main clauses, as in (15), which example also shows that the past active participle in tavant is used similarly.

(15) hasan harisvāmī tadvacanam aṅgīkṛtavān /
smiling 'H'-FS-nom that-speech-acc agree-pap-FS-nom

tatas tayā mātābhrātror api tadvacanam aṅgīkāritam (50.6-7)
thus her-ins mother-brother-gen that-speech-NS-nom agree-tp-NS-nom

'Smiling, Harisvamin agreed with what she said. Then she made her mother and brother also agree to her resolution.'

No marked function, as with gerundives and passive verbs, appears to be associated with the past participles.

3.3. Among these meanings and functions of the P-oriented constructions, some major distinctions can be seen between the gerundives and passives, on the one hand, and the ta-participles on the other. First, the gerundive and passive both are found in situations in which the use of these constructions provides some pragmatic information--the speaker

may be commenting on his or her duty to perform some action, or may show deference or respect to the addressee or a third party by "suggesting" what a person should do. No such obvious comment is implied by using the ta-participle.

Of course, in order for deference to be implied, the gerundive and passive must be used in a discourse situation; therefore, we might ask whether there is a distinction made between the function of ta-participles in discourse and that of ta-participles in narrative contexts. For example, the latter might indicate simple past actions, and the former obligatory past actions. But, as we can see by comparing (16) and (17), the function of ta-participles in discourse (17) is just as "narrative" as those used in narration (16).

(16) a. eva kāle karṇotpalasya rājñaḥ śiśuḥ sundaro
that time-loc 'K'-gen king-gen son-MS-nom beautiful

ḍākinyā khāditaḥ (20.25)
'D'-ins eat-tp-MS-nom

'at that very time, King Karṇotpala's beautiful son was eaten by a Dakini'

b. gatvā taiḥ kūrmo api prāptaḥ (46.17)
go-abs them-ins turtle-MS-nom obtain-tp-MS-nom

'they went and obtained a turtle'

(17) a. mama aṣṭa putrā garuḍena khāditaḥ (140.6)
my eight son-MP-nom 'G'-ins eat-tp-MP-nom

'eight of my sons have been eaten by Garuda'

b. tadāmalakīphaladvayadānena lāvaṇyavatī
that-amalaka-fruit-two-gift-ins 'L'-FS-nom

prāptā bhavatā (58.5)
obtain-tp-FS-nom your honor-ins

'because of the gift of those two amalaka fruits, you have obtained Lavaṇyavatī'

Thus, functionally, there is a distinction between the gerundive and passive versus the ta-participle.

Second, as mentioned above, there should be a context distinction between gerundives and passives versus the ta-participles. The former two constructions are used by speakers to indicate duty or deference; we then expect them to be put into the direct speech of characters in the stories. The ta-participle has primarily a narrative function; therefore, we expect it to be found in all contexts--the narrator should use it, and the characters in the stories should use it. As can be seen in Table 5, there is a definite context distinction made between gerundives and passives as opposed to the ta-participles.

	Direct Speech	Narration
Gerund.	83	Ø
Pass.[12]	49	4
ta-pple.*	65	145

Context Restrictions on P-Oriented Constructions
(*Frame, 1-12 Stories Only)

Table 5

The gerundive and passive are used overwhelmingly in direct speech alone, while the ta-participle appears in both contexts.

Third, in conjunction with the distinctions in function and context, there is also a distinction among the three constructions in the distribution of first, second, and third persons as agents of gerundives, passives, and ta-participles.

	"1st"	(1st)	"2nd"	(2nd)	"bhavan"	"3rd"	(3rd)
Ger.	30	24	7	8	8	4	2
Pass.	3	10	Ø	22	7	3	4
Ta*	14	9	3	4	10	20	5

Person of Agent in Direct Speech: "Present" and (Deleted)
(*Frame, 1-12 Stories Only)

Table 6

As is illustrated in Table 6, most of the gerundives are spoken by speakers about themselves, indicating their own personal obligation. Most passives are spoken to a second party; this use is generally a deferential command in which, as an expressed agent, the second person pronoun may not appear, but the honorific bhavan 'your honor' may. The ta-participle is not preferred for any one person in particular--it is used to report the actions of speakers, addressees, and third parties in roughly equal proportions.

Summarizing, the gerundive and passive tend to be used in contexts in which a speaker can imply specific pragmatic information, and so, these two constructions primarily appear in direct speech. No similar independent pragmatic convention is associated with the ta-participle; it is simply used as a past tense by both the narrator and the characters. And, we can distinguish the three even more finely on the basis of their agents--gerundives are most often used by speakers to indicate personal obligation; passives are primarily used to express a polite command; and ta-participles are used to report the actions of all types of persons.

3.4. Before discussing whether these facts about P-oriented constructions have bearing on word orders, let us discuss why the gerundive and passive constructions may be used with the pragmatic forces described above.

The gerundive and passive are used to show personal duty and deferential commands, respectively. One reason why they would be used in these ways, as opposed to some other constructions being used in these functions, e.g. a future tense to indicate what will be done, or an imperative to indicate what must be done, is that their forms require demotion (and possibly deletion) of the agent NP. Indirect expression or suppression of the agent of an action also makes a pragmatic comment. By using such a form a speaker suggests that a certain action takes place through the efforts of an agent rather than through direct action, as might be associated with a nominative agent/accusative object clause type. The gerundive and passive thus are structurally iconic. The gerundive can be used to indicate personal duty, an action in which the agent is an "instrument" rather than the instigator. The passive is used to show deference for the addressee; the speaker may suggest that a certain action take place through the auspices of the addressee, or simply that the action take place, implying the addressee perform the action without specifying agency.

Structurally the ta-participle is very similar to the gerundive and passive; and yet, no structural iconicity seems to be associated with its use. Thus, while the gerundive and passive appear to encode modesty and deference in their structures and so are used in situations requiring such pragmatic implications be made, the ta-participle is used in pragmatically unmarked functions, even though it has a superficially similar structure.

3.5. Now we should ask whether these semantic and pragmatic features of P-oriented constructions have an influence on word order in this text and on the differences we observed among gerundives, passives, and ta-participles in section 2.5.

A major distinction between gerundives/passives and ta-participles was pointed out in this section, i.e., the former appear almost exclusively in direct speech of characters, whereas the ta-participles occur in both direct speech and narration. Other differences were found; but while the differences in function and person of agents provides useful information about gerundives, passives, and ta-participles, they do not provide a basis for comparing word orders: the three have quite different functions, and the differences in person of agents seems to depend upon function. The difference in context provides common ground on which to compare the three constructions.

As seen in Table 7, when the constructions are split up according to context, no distinction in word orders is found between gerundives and ta-participles that occur in direct speech--both occur in sentences with AOV and OAV orders in approximately equal proportions. And most of the ta-participle clauses with OAV order occur in direct speech.

	AOV (OVA)	OAV (AVO)
G-Speech	18	16
G-Narration	Ø	Ø
P-Speech	9 (2)	2
P-Narration	2	Ø
Ta-Speech	29 (4)	26 (4)
Ta-Narration	43	9

Word Order by Context

Table 7

Thus, there does seem to be a text-specific explanation for the word order differences. Those P-oriented constructions for which we have a large sample do exhibit similar word order characteristics in similar contexts. Of course, in this text, the only context in which we can compare the word orders of gerundives and ta-participles is direct speech, and here they behave alike. And so, syntactic convergence among P-oriented constructions for Classical Sanskrit is evident in the language of the Vetālapañcaviṁśati in word order as well as the other syntactic features discussed in section 2.

4. The Pragmatic Force of Agent-Object Inversion and Agent-Deletion.

4.1. Although the information in the previous section clarifies the question of syntactic convergence with which we began this study, it raises some new questions: (1) why is the marked OAV order in P-oriented constructions found so frequently in direct speech? and (2) why are agent phrases so frequently deleted in passive sentences, unlike the other P-oriented constructions? In this section, I would like to develop some answers to these questions before in section 5 discussing the implications of these findings for a grammar of the Classical Sanskrit of the Vetālapañcaviṁśati.

4.2. In section 2.5, it was shown that gerundive clauses tend to exhibit a relatively high frequency of OAV order, as opposed to the overall word order behavior of ta-participle clauses in the Vetālapañcaviṁśati. Clauses with passive main verbs appear with deleted agents so frequently that it is difficult to make word order comparisons between the passive and the other constructions with confidence.

Having examined the meaning and use of these constructions, we can see that the two constructions with marked pragmatic functions are those that deviate from the "expected" AOV order of the unmarked Sanskrit clause. Gerundive clauses show a high incidence of agent-object inversion, producing OAV order, while passive clauses show a high incidence of agent-deletion, producing clauses with no surface agent. Clauses with ta-participles used as main verbs primarily appear with the unmarked AOV word order, and these clauses, we have found, have no pragmatically marked function.

The only strong correlation we have found for deviations from the unmarked AOV word order is with "politeness". The gerundive is used to express personal obligation, and its use seems to involve a degree of modesty. In this construction, we find a high frequency of agent-object inversion. The passive is used to express deferential commands, and its use involves showing respect for the addressee; here, we find a high frequency of agent-deletion. The ta-participle when used in the direct speech of characters also exhibits a high frequency of agent-object inversion. Although the ta-participle itself does not have a marked pragmatic function, we might surmise from this information that agent-object inversion does--to show modesty or respect when a speaker discusses his or her own past actions or those of another. As we can see in Table 8, when speakers report their own actions or those of an addressee using the ta-participle, they use OAV order in about 50% of the instances.

Agent	AOV (OVA)	OAV (AVO)
1st	10 (1)	9 (2)
2nd	3	2
bhavan	2 (2)	5 (1)
3rd	14 (1)	10 (1)

Word Orders in Direct Speech for ta-Participles

Table 8

Speakers favor OAV order when reporting the actions of "worthies"; and there is a much higher incidence of OAV order for third person agents in direct speech than for third person agents in narration (cf. Table 7).

The transitive ta-participle is P-oriented, like the gerundive and passive; and the syntax of P-orientation requires agent-demotion, which earlier I suggested contributes to the use of the gerundive and passive in direct speech. In the gerundive and passive, agent-demotion seems to signal that the speaker is speaking more modestly, or more respectfully--more politely. Either inherently in speech, or by association with similar syntactic structures, the same interpretation may be given to the structure of the ta-participles in similar contexts. The author of the Vetālapañcaviṁśatī had the option of having the characters use the active tavant-participle when reporting past actions, but the evidence presented here suggests that the ta-participle with its demoted agents matches more closely the pragmatic conventions of direct speech.[13]

I suggest that agent-object inversion is another device which signals politeness. When a P-oriented construction--gerundive, passive, or ta-participle--is used in direct speech, the speaker can deemphasize the involvement of the agent in the action with agent-demotion, and he/she can further deemphasize agency by inverting the unmarked order, AOV, and using instead OAV order, which is a marked order in this text.

This marked order, OAV, would be most likely to occur in direct speech because that context represents conversations. Green 1980 points out that marked word order in English may convey a pragmatic effect by calling attention to the order of constituents and forcing the hearer to determine why the marked order was used. In the Vetālapañcaviṁśati, speakers appear to use agent-object inversion in a similar way, in particular to indicate some degree of modesty, deference, or respect in accordance with the degree of "politeness". Thus, OAV order is found more frequently in direct speech because it is more polite, and in direct speech such pragmatic implications are important.

4.3. This brings up the frequency of agent-deletion in passive clauses. Of the 49 passive main verbs formed from transitive bases, only 16 appear with surface agent phrases in the Vetālapañcaviṁśati; and of these, only 13 clauses appear with both agent and object present in surface structure so they could be used in this study to count word orders. These 13, most of which do occur in direct speech, do not really conform to the word order characteristics suggested here for that context, i.e., the use of AOV and OAV orders in equal frequency. Yet, I would like to claim that all three constructions belong to the same class with similar syntactic characteristics.

I have suggested here that OAV order in direct speech is a reflection of certain politeness conventions, and that P-oriented constructions are commonly found with OAV order because they also have the property of demoting the agent. Thus, demotion of the agent and agent-object inversion reinforce each other's pragmatic effect.

Deletion of the agent--as occurs so frequently in passive clauses--is also a syntactic feature which can reflect the politeness conventions in direct speech. As seen in Table 6 above, most of the deleted agents of passive clauses are understood to refer to the addressee. Examining the passive sentences that occur in the text reveals that most of them are deferential commands, and the use of the agentive second person here is prohibited. Thus, if agents were to appear in passive sentences in the same proportions as those with gerundives and ta-participles, most of the agents that would occur naturally would be second person agents. However, these second person pronouns must be deleted, so we cannot really find out what their typical order with relation to the object would be. In other words, the analog in passive sentences of agent-object inversion in gerundive and ta-participle clauses is agent-deletion, again in accordance with the conventions of politeness.

What we have left among passive clauses with agents is a residue of sentences which are not being used in the primary discourse function of the passive construction, that is, sentences that are not deferential commands. If there were more of these sentences, we might be able to determine whether they too conformed to politeness conventions, but there are really too few to decide.

Therefore, agent-object inversion is not really a factor in this text in the syntax of passive sentences; its pragmatic function--deemphasizing agency--is replaced by agent-deletion.

5. Implications for a Grammar of Classical Sanskrit.

5.1. Let us now consider some of the implications for aspects of Classical Sanskrit grammar, given the dependencies found among P-orientation, agent-object inversion, agent-deletion, and politeness conventions.

First, we should note that the pragmatic force associated with OAV order in discourse need not be a property of P-orientation itself; that is, agent-object inversion should not be considered a property of either a "passive" rule or an "ergative" rule, if there are such rules in the language. Rather, P-orientation seems to fit well the pragmatic force associated with OAV order, and therefore, the two often appear in conjunction.

As Morgan and Green 1980 point out, there are two ways in which pragmatic considerations and syntax can interact: (1) a rule, or set of rules, can be exploited for pragmatic purposes which are not necessarily properties of the rule itself; and (2) a particular rule can be associated with a particular pragmatic function fairly consistently.

P-orientation seems to be a structure of the first type, that is, a structure that is exploited for a particular pragmatic effect, in this case, the conventions of politeness.[14] There are several pieces of evidence for this assumption. One is that P-orientation has a specific syntactic function which we must consider independent of the pragmatic function discussed here. Syntactically, P-orientation allows an initial structure object NP to be accessible to other syntactic processes in the derivation of a sentence (cf. Hock 1982). In this respect, it contrasts with agent-orientation (A-orientation) which allows the initial structure subject to be accessible. This syntactic difference between P-orientation and A-orientation is important, for example, in the form of adnominal participles used in certain situations. The P-oriented participles khādyamānasya 'being eaten (gen)' and visarjitas 'having been dismissed (nom)' appear in (18a) and (18b) because their head nouns in the main clauses are coreferential with their initial structure objects (which are not present in surface structure).

(18) a. śyenena ānīya khādyamānasya sarpasya garalaṁ
hawk-ins take-abs eat-psp-MS-gen snake-MS-gen venom-NS-nom

taddravye nipatitam (76.12-13)
that-food-loc fall-tp-NS-nom

'the venom of a snake being carried off and eaten by a hawk fell into his food'

b. rājñā visarjitas tadā kāpālikaḥ
king-ins dismiss-tp-MS-nom then ascetic-MS-nom

svasthānaṁ gataḥ (10. 2)
own-place-acc go-tp-MS-nom

'then the ascetic dismissed by the king went to his own abode'

But, in (19a) and (19b), the A-oriented participles dhyāyatā 'thinking (ins)' and darśitavān 'having shown (nom)' occur because their head nouns and initial structure subjects are coreferential.

(19) a. mayā tadupadeśaṁ dhyāyatā asukhena
me-ins that-instruction-acc think-prsp-MS-ins sorrow-ins

gṛhavāsaḥ kriyate (146.24ff.)
house-dwelling-MS-nom do-ps-prs-3S

'meditating on those instructions, I dwelt in my house sorrowfully'

b. mūladevo anaṅgasenām ādāya śaśidevasahitas
'M'-MS-nom 'A'-acc take-abs 'S'-accompanied-MS-nom

tām rājñaṁ darśitavān uvāca (132.10)
her-acc king-acc show-pap-MS-nom say-perf-3S

'with Sasideva, Muladeva took Anangasena and, having shown her to the king, said ... '

In (18), P-orientation is not exploited for any pragmatic effect; rather, the P-oriented participles are used because of the syntactic structure of the sentence. Thus, P-orientation has a grammatical function independent of any pragmatic force it may carry in certain contexts. Therefore, P-orientation is exploited for a pragmatic effect rather than being identified with it.

Similarly, if we were to assume that P-orientation had a constant pragmatic function, then we would be unable to explain the not uncommon use of ta-participles as main verbs or the appearance of passive verbs in narrative contexts, where again no pragmatic force similar to their conversational function is evident.

Finally, as has been shown in the work of Pandharipande (1979, 1981), passive main verbs in South Asian languages must be placed on a scale of politeness along with imperatives, optatives, present tense verbs, etc. But not all P-oriented constructions have the same degree of politeness as have specifically passive main verbs. Pandharipande shows that individual syntactic constructions are associated with certain degrees of politeness; and I have shown here that specific syntactic devices--such as agent-object inversion, agent-deletion--also reinforce such pragmatic implications when applied to specific constructions. However, because not all P-oriented constructions are associated with the same degree of politeness as a class, P-orientation itself cannot be considered a unified pragmatic function. Rather, the pragmatic force of a particular example, e.g. in the Vetālapañcaviṁśati, derives from the position of the construction on the hierarchy of politeness, its context, and the application of further syntactic rules which signal politeness.

5.2. Agent-object inversion and agent-deletion in P-oriented constructions appear to be examples of the second type of rule noted by Morgan and Green--those rules which may have a constant pragmatic effect.[15]

For example, if we assume that agent-object inversion as an optional rule does carry the implication that the speaker is attempting to be "more polite", then we can account for word order phenomena associated with constructions other than P-oriented ones in this text. The perfect active participle in tavant is frequently used as a main verb, like the perfect passive participle in ta; but the tavant-participle almost always appears in narrative sections. And not surprisingly, it almost always appears in clauses with AOV order, even those in direct speech, as illustrated in (20).

(20) a. sa rājā mahyaṁ śaśiprabhāṁ dattavān (86.9)
that king-MS-nom me-dat 'S'-acc give-pap-MS-nom

'that king gave Sasiprabha to me'

b. tadā ahaṁ pratijñātas tasya rakṣārtham
then I-nom promise-tp-MS-nom his protection-for

ātmaśarīram upanītavān (142.3)
self-body-acc offer-pap-MS-nom

'I gave a promise and offered my own body to save him'

On the other hand, the s-future appears almost exclusively in direct speech, and OAV order is frequently found in sentences with main verbs in this tense, like those in (21).

(21) a. tvāṁ ahaṁ avaśyaṁ neṣyāmi (12.16)
you-acc I-nom certainly take-fut-1S

'I shall certainly carry you off'

b. taṁ bhaṭṭaputram ahaṁ ānīya tava darśayiṣyāmi (82.10)
that lord-son-acc I-nom bring-abs your show-fut-1S

'I shall bring that bard's son and show him to you'

Both the tavant-participle and the s-future are A-oriented constructions, that is, the initial structure subject/agent is the surface structure subject appearing in the nominative case, in contrast with the P-oriented ta-participle, passive, and gerundive. Yet, agent-object inversion, which we have discussed as an NP-ordering rule reinforcing agent-demotion, also is found with one of these constructions in which there is no agent-demotion. What then is the constant in both types of sentences? Obviously, agent-object inversion recurs in clauses in direct speech whether the verb is P-oriented or A-oriented.

In the absence of some syntactic or semantic explanation for why these constructions should exhibit these particular word order features, the conclusion again arises that agent-object inversion represents some pragmatic effect, i.e. modesty, politeness, deference, that would show up in direct speech but not in narration, and that this is a recurring pragmatic function in direct speech, applicable to A-oriented and P-oriented constructions.

5.3. Since agent-object inversion is not restricted to P-oriented constructions and is associated with pragmatic rather than syntactic or semantic constraints, it also appears that this reordering rule is independent of the passive rule per se. Passivization in Classical Sanskrit, and other South Asian languages with similar syntax and pragmatic constraints, need not necessitate any reordering of constituents. Koutsoudas 1981 suggests that passivization and reordering of agent and patient are interrelated, and, therefore, languages in which agent NPs and patient NPs occur in the same basic order in active and passive sentences should not occur. But, as we have seen in the language of this text, the unmarked order of NPs for active and passive constructions may be considered AOV, with OAV order being determined by other independent principles that mark active and passive clauses of the language for certain pragmatic implications.

While, as Koutsoudas points out, the use of a passive clause may signal pragmatic functions, and word order may also signal pragmatic functions, based on the data presented here, the pragmatic effect of agent-object inversion is independent of passivization. (They may, of course, reinforce each other.) Thus, the language of this text does represent a language with the same basic order of agent and patient in active and passive clauses.

6. Conclusions.

In this analysis of word order in P-oriented clauses, we have seen that gerundive and ta-participle clauses exhibit similar word orders in similar contexts. Passive clauses are difficult to categorize because of the frequency of the pragmatically-favored agent-deletion. This evidence in the Vetālapañcaviṁśati supports the claim in Hock (1982, In press) that the syntactic characteristics of P-oriented constructions converge in Classical Sanskrit.

We have also seen that a pragmatic principle interacts with word order in direct speech. The word order of constituents in P-oriented constructions (and perhaps others) is sensitive to context: AOV order is dominant in narration, while AOV and OAV orders vary in direct speech. Agent-deletion in passive imperatival clauses is the analog of agent-object inversion in gerundive and ta-participle clauses in the context of conversations. The popularity of OAV order and agent-deletion among P-oriented clauses seems to be due to their iconic functions as ways of reinforcing the effect of agent-demotion in these clauses. Agent-demotion indicates modesty by a speaker and deference to an addressee or third party. Agent-object inversion through inverting the expected AOV order and agent-deletion through removing any mention of agency call attention to the fact that the "agency" of the agent of the action is deemphasized. (Cf. Morgan and Green 1980 for a review and discussion of other examples in the literature of interactions between syntax and pragmatics.)

Thus, P-orientation may be exploited for pragmatic effects in direct speech. The demoted agents of these constructions match well the

"politeness" principle that modesty and deference be shown in conversation. Agent-object inversion and agent-deletion, therefore, often apply to P-oriented constructions, because these devices further signal that politeness is being used by the speaker.

NOTES

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[1]The following abbreviations are used in the glosses:

M	masculine	gp	gerundive participle
F	feminine	ps	passive verb
N	neuter	tp	ta-participle
S	singular	prs	present
P	plural	fut	future
nom	nominative	imp	imperative
acc	accusative	aor	aorist
ins	instrumental	perf	perfect
dat	dative	pap	perfect active participle
abl	ablative	prsp	present participle
loc	locative	abs	absolutive
gen	genitive	psp	passive participle
'N'	Name	neg	negative particle

[2]Technically, the ta-participle is P-oriented only for transitive verbs; intransitive ta-participle clauses are usually nondemotional for the subject, and the subject appears in the nominative case and controls verb agreement. A demotional form for the intransitive ta-participle is permitted.

[3]The descriptions for various syntactic processes are given in terms of Relational Grammar (cf. Johnson 1977; Perlmutter 1980). But, whatever the form of a speaker's/hearer's grammar, the pragmatic interactions with syntax to be presented here would have to be incorporated.

[4]As mentioned in the text, the three constructions share various properties usually ascribed to passive and/or ergative verb types, and there are several recent discussions of these three Sanskrit structures in relation to their passive or ergative identity (Anderson 1977; Klaiman 1978; Pray 1976; Hock (In press); cf. the latter for a summary of this literature and further discussion of the issues).

[5]There is not enough data concerning reflexivization for these structures to discuss the process with the same assurance as the other four characteristics, and so, I shall ignore reflexivization in the rest of this study.

[6]All the data is from Emeneau's 1934 edition of the Vetālapañcaviṁśati. Numbers in parentheses refer to the page and line in that text; e.g. (12.24) indicates page 12, line 24. The Sanskrit data have been given in prepausal form, thus making clear word boundaries otherwise affected by sandhi. The English translations generally follow Emeneau's translation provided in the edition.

[7]An absolutive phrase is a nonagreeing participial clause, the subject of which is usually coreferential to the subject of the main clause. In the examples of (12), the absolutive participle is formed with the verb stems plus the suffix tvā.

[8]In all the tables, A represents the transitive agent, initial structure subject; O represents the transitive patient, initial structure object; V represents the main verb. Only those transitive clauses in which the agent and patient are both present in surface structure have been used for the word order count data. Note that the (a)-sentences of (9-11) have AOV order, and the (b)-sentences have OAV order.

[9]OVA and AVO are forms of AOV and OAV orders, respectively, with the initial constituent extraposed. The numbers in parentheses indicate how many instances of the total number are found in these patterns.

[10]Pragmatics here is used in a broad sense to include those areas of a speaker's knowledge which govern how various sentence structures are used in various contexts, and how speakers' intentions are expressed in various contexts and through various sentence structures, and of course, how hearers can interpret these factors.

[11]The Vetālapañcaviṁśati is a collection of 25 stories told by a vetāla 'a goblin' to a king who is trying to carry the vetala to a specified place. The king can accomplish this task only if he does not speak during the journey. And so, the vetala tells various stories that raise moral or social issues, and then asks the king what the solution to the "riddle" is. It takes the king 25 stories before he does not tell a solution. Throughout these stories, various characters are represented as speaking, and so distinctions are made between the narrative portions and those segments which are actually spoken by a character.

[12]All passive finite verb forms have been counted here except those formed from the base vid 'know', because vidyate is usually not passive in function.

[13]Further support for the ta-participle participating in these politeness conventions comes from the syntax of intransitive ta-participles in direct speech. As mentioned above, the subject of an intransitive ta-participle may either be nominative or be demoted to instrumental case. Although they are few in number, all those instances of demoted intransitive subjects occur in direct speech, which would suggest that the syntax of these ta-participles is sensitive to context.

[14]Along similar lines, Davison 1980 suggests that the "extra" meanings often found associated with passive verbs in English and other languages may be considered separate from the syntax of passive structures themselves; such meanings then would be conveyed by conversational implicatures.

[15]I shall ignore the question of whether agent-object inversion and agent-deletion are instances of more general syntactic processes. Other syntactic structures, e.g. relative clauses in which object-pronoun fronting has occurred, may exhibit OAV order; but, we may not want to consider this OAV order to carry the same implications in every instance as the "polite" agent-object inversion. Similarly, agent-deletion in active imperative clauses, as opposed to passive clauses, in South Asian languages does not necessarily signal politeness at all (cf. Pandharipande 1979, 1981). Determining what general processes the two instances of OAV order or the two of agent-deletion mentioned in this note may represent is beyond the scope of this study.

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