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CONTENTS

Three Problems in Bantawa Rai Phonology (and Three Unorthodox Solutions)
- R. K. Sprigg 1

Nouns and Noun Phrases in Newari
- Tej R. Kansakar 34

A More Promising Rule for Nominative Case-Assignment
- Yogendra P. Yadava 55

Translation: Mapping the Territory of Participants' Experience
- Abhi Subedi 69

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THREE PROBLEMS IN BANTAWA RAI PHONOLOGY
(AND THREE UNORTHODOX SOLUTIONS)\(^1\)

R. K. SPRIGG

I. Recapitulation: the t, s, and z prosodic categories, and the phonematic units P, K, T, M, N, Ñ, Õ, and L.

At the 6th International Conference of the Linguistic Society of Nepal, in November, 1985, my topic was a phonological analysis of (monosyllabic) verb lexical items in the Bantawa Rai language, but confined to features of their final, comprising the syllabic vowel and, where present, a following post-syllabic vowel, consonant, or consonant cluster. Consonant clusters occur in only one out of several types of junction of the verb lexical item with a following particle lexical item.

A. Types of junction

For some verb lexical items as many as five different types of junction need to be distinguished, because the final of those lexical items has been observed to take five different phonetic forms. The lexical item meaning 'tell --- to kill', for example, in table (1) column (3), has a consonant cluster ([-tt-]) in one type of junction, while in other types of junction it has a single consonant ([t-?- -d- -t]); this same lexical item has an alveolar place of articulation for its consonant or consonants in four of its types of junction ([tt- -t- d- t]), but glottal ([?-?]) in the fifth; it has voicelessness in four of its types of junction ([tt- -t- -?] - t]), but voice in the fifth ([d-]), a stop articulation in two types of junction ([t- -d-]), plosion in two others ([tt- -?]), and, in the remaining type, in which the lexical item is final in the word ([t-]), either stop or plosive according as this lexical item is followed by a pause, or, if not, by a consonant or by a vowel. These five phonetic variants, then, comprise: [tt- -t- -? -d- -t]; each is appropriate to that lexical item in a different type of junction; and each is complementarily distributed by type of junction.

Not all types of lexical item show a fivefold phonetic difference in final; the M type, for example, in the t prosodic type of piece (Table 1, column 4) shows only two such distinctions, [-mt- -m(\(-\))]; but, even so, for easy comparison, all five types of junction
are distinguished in Tables 1, 2, and 3. The first type (line 1) applies to junction in which the (verb) lexical item in question is immediately followed by a particle lexical item beginning with a syllabic vowel, e.g. [-ttV-] in Table 1, column 3; the second applies to junction in which a particle lexical item beginning with a nasal consonant follows, e.g. [-tm-] in that same table and column; the third to junction in which a following particle begins with a non-syllabic vowel ([−?j−]); the fourth to junction involving a voiced initial plosive in a following negative) particle lexical item ([l]) the last to interverbal junction ([-t C/V−]), in which the relevant (verb) lexical item is final in the word in which it occurs, and may be followed by another word, which may begin with a consonant (C−) or a non-syllabic vowel ([j−w−]), or with a syllabic vowel ([V−]); or it may be followed by a pause between utterances (and, possibly, by a change of speaker).

B. The three prosodic types of final piece, and their symbols t, s, and z

Table 1 shows the five complementarily distributed sets of junction features for a class of verb lexical item that can be distinguished from the other two classes on the prosodic (or syntagmatic) grounds that its final in junction of type 1 (line 1) contains a cluster that associates an alveolar plosive ([t]) with a preceding stop or nasal consonant: [−pt −kt −tt −mt −nt−]; Table 2 shows the contrasting final features of a second prosodic class of verb lexical item that has, in junction of type 1 (line 1), either (i) a consonant that associates a sibilant (voiceless alveolar fricative) with a preceding nasal consonant, or (ii) a single sibilant (voiceless alveolar or alveolo-palatal fricative) associated with a preceding vowel, either syllabic or post-syllabic: (i) [-ms− -Ns(j)−]; (ii) [-V(ː)s− -e:S−u/OaIS−]; and Table 3 contains the remaining class of verb lexical item, those whose finals, in junction type 1 (lines 1−2), have either (i) a single consonant, or (ii) a non-syllabic vowel syntagmatically associated with a preceding syllabic vowel, or (iii) a syllabic vowel, either long, or short and followed by a (post-syllabic) close or closish back rounded vowel, further followed by a non-syllabic close front spread vowel: (i) [-Vm− -VN− -Vl− -VR− -Vn−], (ii) [-Vw− -V(ː)j−], (iii) [-V(ː)− -eUj−/−AUj− aUj− -oUj−].

Choice of symbols

I chose the phonological symbols t and s for the two types of final piece shown in Tables (1) and (2) respectively on phonetic grounds: each of the two prosodic symbols t and a serves as a reminder of a crucial set of phonetic features, [t] and [s] respectively, in their phonetic exponent. In Table 1, line 1, the phonetic symbol [t], for a voiceless alveolar plosive, occurs as the final sound
first type (line item in question item beginning column 3; the 3rd lexical item [-tm-] in that a following []), the fourth in a following to interverbal (u) lexical item may be followed silent ([C-]) or by (v) utterances (and,

their symbols

sets of junction (e) distinguished (9) grammatical grounds a cluster preceding stop ; Table 2 shows class of verb (1), either (i) featureless (ii) a single (a) fricative) post-syllabic ; and Table 3 (m, those whose (b) a single (c) an associated (d) vowel, either close or closish (e) close front [-wv- -V(-)j-],

bit of final phonetic grounds: a reminder of respectively, in phonetic symbol be final sound

[t], for a voiceless alveolar plosive, occurs as the final sound of all seven clusters, [-pt- -kt- -t- -mt- -nt- -nt- -tt-]. Similarly, in Table (2) line (1), the phonetic symbol [s], for a voiceless alveolar fricative, occurs as the final sound of the two clusters [-ms- -Ns-], and the final sound of the sequence [-tV:s-] (the sole remaining type of final, the sequences [-V:/S-], contains a fellow sibilant of [s], namely the voiceless alveo-
palatal fricative [S].

For consistency it would have been preferable to use a symbol with phonetic implications for the remaining term in the final system; but the phonetic exponents of this term, in Table (3) lines (1) to (3), contain a variety of single consonants, [-m- -N- -l- -R- -n], and non-syllabic vowels, [-w- -(): j-], and even a syllabic type of vowel final, [-V():-], with no common phonetic element to serve as a reminder of what sort of phonetic exponents to associate with this third prosodic term. In the absence of a serviceable phonetic symbol I have had to resort to an entirely different naming principle; I have used the letter z, partly because, like x and q, z is a symbol that is not likely to cause confusion through being used in the phonetic transcription, and partly, perhaps, because z is the initial letter of zero, though I do not thereby wish to suggest that the z term is different in status from the term and the s terms; on the contrary, all three are equal members of a single closed system based on differences in syntagmatic relationship.

C. The phonematic units P, K, T, M, N, N, O, and L

Further distinctions need to be made in each of the three prosodic classes, the t, the s, and the z, giving rise to the seven columns in Tables (1) and (2), for the t and the s types of piece, and the eight columns in Table (3), for the z piece. The distinctions that these columns illustrate are phoneme-like; they distinguish a set of seven phonematic units common to the t, the s, and the z type of prosodic piece: P, K, T, M, N, N, and Ø. The principle followed in symbolizing these phonematic units is again phonetic as regards the first six: the P symbolizes a phonological unit for which the phonetic features bilabiality and plosion are common phonetic exponents; the K unit commonly has velarity and plosion as its phonetic exponents; the T, similarly, has alveolarity and plosion; and the M, N, and N have nasality, labial, velar, and alveolar respectively. The phi-like symbol Ø has no such phonetic significance; I have borrowed it from Michailovsky 1979 for the type of final that utilizes vowel features as its phonetic exponents
D. Grammatical relationships

It is convenient, on phonetic grounds, to include in the z piece the type of final that has a lateral consonant, [-l-], in line (1) of table (3); but the [l]-final type of lexical item does not share in the grammatical relationships that associate certain lexical items of the z prosodic class with those of the t prosodic class; e.g. the Tt lexical item, with phonetic exponents [sjEt-t-], etc., 'tell --- to kill', with the Tz lexical item, with phonetic exponents [aeR-], etc., 'kill', and certain of the s prosodic class of lexical item with those of the z prosodic class; e.g. the Ms lexical item [nams-], etc., 'smell' (transitive) with the Mz lexical item [na:m-], etc., 'smell' (intransitive), or the Ms lexical item [khams-], etc., 'make --- cry', with the Pz lexical item [khaP], etc., 'cry' (the phonematic classification of [khams-] as M rather than P is re-considered, and revised, in section (IV) below).

Part of the justification for distinguishing the t, s, and z phonological classes, then, is not purely syntagmatic and, therefore, phonetic but grammatical: it aims to associate lexical items by such functions as transitive, intransitive, causative, and benefactive across the boundaries of the prosodic categories t, s, and z.

E. Classification of lexical items by final prosodic and phonematic terms

In the preceding section (D) I have identified a number of lexical items by the type of final piece that they exemplify. Thus, the lexical item that is glossed as 'tell --- to kill', and has the five phonetically distinct forms [sjEt-t- sjEt- sjE?=- s]Ed- sjEt], can be referred to as Tt, from t, the term of the three-term final system appropriate to it, through which it is distinguished from the s and the z terms, and T, the phonematic unit by which it is distinguished from the P, K, M, N, N, and Ø terms, and similarly with the Ms lexical item glossed as 'smell' (transitive), with its phonetic forms [nams- nam(-)], and the Pz lexical item glossed as 'cry', with phonetic forms [khaU- khaP- khaP(-) khab]. These combinations of two phonological symbols are part of a phonological formula designed to summarize all phonetic variant forms of that lexical item arising out of differences in type of junction or, where necessary, differences in tempo (fast versus slow). In this paper I have concentrated on the phonological analysis of the final part of the lexical item, ignoring phonologically relevant differences in the syllabic vowel and in the initial consonant or consonants.
F. Table 1, 2 and 3

These preliminary remarks introducing the types of junction, the prosodic terms t, s, and z, and the phonematic units P, K, T, M, N, N, φ, and L are intended to give help in understanding the otherwise rather complex Tables 1, 2 and 3, which now differ slightly from the form in which I first presented them in my paper for the 5th International Conference of the Linguistic Society of Nepal (1984), 'The root finals of Bantawa Rai verbs in comparison with Limbu', as regards the φt column (Table 1) and the Tz column (Table 3).
Table 1

t-final prosodic class

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>K</th>
<th>T</th>
<th>M</th>
<th>N</th>
<th>N</th>
<th>Ø</th>
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<td>[-pt-]</td>
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<td>-mt-</td>
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<td>-nt-</td>
<td>-tt-</td>
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<tr>
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<td>-k'-</td>
<td>-t'-</td>
<td>-m-</td>
<td>-N-</td>
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<td>-k-</td>
<td>-?-</td>
<td>-m-</td>
<td>-N-</td>
<td>-l-</td>
<td>-?-</td>
</tr>
<tr>
<td>4</td>
<td>[-b'-]</td>
<td>-g'-</td>
<td>-d'-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
<td>-d'-</td>
</tr>
<tr>
<td>5</td>
<td>[-p]</td>
<td>-k-</td>
<td>-t-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
<td>-t-</td>
</tr>
</tbody>
</table>

e.g.
1. [?Epte] Lekte sjEtte damte DUNte phIntaN Itte]
2. [?EpNa] lekNa sjEtma damma dUNNa phInma itNa]
4. [masjEbde] matShEdge masjEdde mawamde mad/RUNDe mathInde maldde]
5. [?Ep] lek sjEt dam dUN phiN it]

Glosses
1. Winnow it. Lick it. Tell (him) to kill it. Brand it. Drink it for ---. I jumped. Laugh at ---. 2. I winnow. I lick it. To tell (him) to kill it. To brand. I drink it for ---. To jump. I laugh at (him). 3. He is putting --- to sleep. He is jumping over. He is telling --- to kill it. He is sucking it. He is chasing --- away. He is feeding them. He is laughing at him. 4. Do not sharpen (it). Do not lock up. Do not tell (him) to kill it. Do not snatch it. Do not drink it for ---. Do not wake --- up. Do not laugh at ---. 5. He winnows. He licks it. He tells --- to kill it. He brands it. He drinks it for ---. He jumps. He laughs at (you).
He is telling --- to kill it. He is sucking it. He is chasing --- away. He is feeding them. He is laughing at him. 4. Do not sharpen (it). Do not lock up. Do not tell (him) to kill it. Do not snatch it. Do not drink it for ---. Do not wake --- up. Do not laugh at ---. 5. He winnows. He licks it. He tells --- to kill it. He brands it. He drinks it for ---. He jumps. He laughs at (you).

<table>
<thead>
<tr>
<th>P</th>
<th>K</th>
<th>T</th>
<th>M</th>
<th>N</th>
<th>N</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>-m-</td>
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<td>-N-</td>
<td>-n-</td>
<td>-n-</td>
<td>-n-</td>
<td>-N-</td>
</tr>
</tbody>
</table>

Table 2
s-final prosodic class
(revised below, section IV)

e.g.
1. [?imsaN dUNsje pe:Su pe:sa]
2. [?ImNa dUNNa pEnNa le(:)NaNa]
3. [?imjaN dUNjaN pe(j)aN]
4. [malmaNde maJUNde mapEnde maped/Re]
5. [im DUN pEn pe:]

Glosses
1. I slept. Offer a drink to ---. He flew it. He got sick. I refused it. 2. I sleep. I offer a drink to ---. I fly it. I know. 3. He is sleeping. He is offering a drink to ---. He is flying it. He is being sick. He is refusing it. 4. Do not sleep. Do not put it down. Do not make it fly. Do not vomit. 5. He sleeps. He offers a drink to (you). He flies it. He gets sick.
Table 3
z-final prosodic class

<table>
<thead>
<tr>
<th>P</th>
<th>K</th>
<th>T</th>
<th>M</th>
<th>N</th>
<th>N</th>
<th>Ø</th>
<th>L</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[-Uj-]</td>
<td>-Uj-</td>
<td>-(;):j-</td>
<td>-m-</td>
<td>-n-</td>
<td>-(;):j-</td>
<td>-V(;)</td>
<td>-1-</td>
<td>[V-]</td>
</tr>
<tr>
<td>[-w-]</td>
<td>-w-</td>
<td>-(e)-</td>
<td>-R-</td>
<td>-n-</td>
<td>(-e)-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-p']-</td>
<td>-k'-</td>
<td>-t'-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
<td>-V:-</td>
<td>-n-</td>
<td>[C-]</td>
</tr>
<tr>
<td>[-p-]</td>
<td>-k-</td>
<td>-?[-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
<td>-V:-</td>
<td>-V-</td>
<td>[j-]</td>
</tr>
<tr>
<td>[-b'-]</td>
<td>-g'</td>
<td></td>
<td>-d'-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
<td>-V:-</td>
<td>-n-</td>
</tr>
<tr>
<td>[-p]</td>
<td>-k</td>
<td>-t</td>
<td>-m</td>
<td>-N</td>
<td>-n</td>
<td>-V(;)</td>
<td>-n</td>
<td></td>
</tr>
</tbody>
</table>

e.g.
1. [tSEUje] 1jAUje 1Ho(;)ja na:maN duNe po(;)ja i(;)a phY(;)le]
2. [tSewaN] lewaN leu [SeRe] ba:ne]
3. [tSepNa] 1EkNa 1Ho:tNa namNa dUNNa pEnNa banNa] i:Na phYnNa]
5. [matEde] mawagde matshYmde mad/RUNd mapEnde maide maphYnade]
6. [tSe(:)p] le:k 1Ho:t [sEt] na:m dUN pEn,po:n?i: ban]
7. [tSe:] le:k 1Ho:t [sEt] na:m dUN pEn,po:n?i: ban]

Glosses

1. Tell (him). Lick it. He ran. I stank. Drink it. He grew big. He laughed; he came down. Untie it. 2. I spoke. It licked me. He let it loose. It flew. Fly. 3. Kill it. Come here. 4. I speak to him. I lick it. I run. I stink. I drink it. I fly. I laugh. I untie it. I kill it. I come. 5. He is telling him. He is licking it. He is running. He is stinking. He is drinking. He is flying. He is laughing; he is coming down. He is untying it. He is killing it. He is coming. 6. Do not wash it. Do not drive it away. Do not run. Do not get the price raised. Do not drink it. Do not fly. Do not laugh; do not come down. Do not untie it. Do not kill it. Do not come. 7. He speaks to him. He licks it. He runs. He stinks. He drinks it. It flies. It grows big. He laughs; he comes down. He unties it. He kills it. He comes.

II. Problem 1: vocalic phonetic exponents, or no phonetic exponents, for Ns, Nz, Tz, Pz, and Kz

A. Consonantal phonetic exponents

The symbol N at the head of the third column in the s-final Table (Table 2) and the sixth column in the z-final Table (Table 3), and the symbols P, K, and T at the head of the first, second, and third columns in the z-final table suggest that the phonetic exponents of these phonematic units should be consonantal; and a glance at the phonetic features symbolized in those columns shows that, in most types of junction, they are indeed consonantal:

Ns: [n], lines 2, 4-5;
Nz: [n], lines 3-4, 6-7;
Tz: [r t' ʔ d' t], lines 3-7;
Pz: [p' p b'], lines 4-7;
Kz: [k' k g'], lines 4-7;

but in the remaining lines their phonetic exponents appear either as a combination of consonantal with vocalic features, or else as purely vocalic, if, that is, they are allowed to have phonetic exponents at all.

B. Consonantal combined with vocalic phonetic exponents
(Ns in type-1 junction)

The only final phonematic unit for which combined consonantal and vocalic phonetic exponents need to be stated is N in the s-final piece (Table 2). The phonetic exponents shown
there for N in line (1) are: [:S] and [iS]. The difference between the phonetic exponents of the phonematic unit N and those of M, N, and Ø in this, the s, type of final piece is that the place of articulation of its friction feature is alveolo-palatal ([S]) rather than alveolar ([S]); so the place-of-articulation feature, alveolo-palatality, must be considered to be part of the phonetic expenency of N. In combination with this consonantal feature, as a further phonetic exponent of N, there is the vocalic feature shown as either length ([i:]) or as a post-syllabic vowel, a close front spread vowel ([i]) from the syllabic vowel, [u o a], to the alveolo-palatal fricative, [S]; e.g. [bHuïSu poiSu daiSu], he refused it, he saved (money), she showed it. Where, however, the syllabic vowel is half-close, front, and spread, there is no post-syllabic vowel; and the vocalic phonetic exponent of N appears not as [i] but as vowel length; e.g. [pe:Su], not *[peïSu], he flew (it).

C. Vocalic phonetic exponents

1. Ns in type-3 junction

It is reasonable to suspect that Ns in type-1 junction (Table 2, line 1) formerly had nasalization as a phonetic exponent: line (3) shows nasalization as a phonetic exponent of N in type-3 junction in combination with the same vowel glide, or post-syllabic vowel, as has been referred to above for type-1 junction, [i]; e.g. [bHuïjaN poiïjaN daiïjaN peïjaN], he is refusing it; he is saving it; he is showing it; he is flying it.

2. Nz in type-3 junction

The same, or very similar, phonetic exponents as were stated for Ns in the preceding paragraph for type-3 junction also apply to Nz in type-3 junction (Table 3, line 5), in which [y:] deputizes for *[u]'; [y: Oï ai e (1)]; e.g. [khuïjanaN poiïjanaN hainjaN peï(i)jaNaN], he is carrying; it is growing; he is coming; it is flying.

3. Nz and Tz in type-1 junction
3. Nz and Tz in type-1 junction

Like Ns in type-1 junction Nz in type-1 junction also has orality, not nasalization, as an exponent.

a. Back vowels and open vowels ([u o a])

Where the syllabic vowel of the verb lexical item is a back vowel or an open vowel, [u o a], Nz differs from Ns in having as a further phonetic exponent not the single feature alveolo-palatality ([S]) referred to above in section (B) but the combination of features voice, frontness, spreading, and non-syllabicity ([j]); e.g.

[khuju poja]; he earned it; it grew big
(for the problem of Nz lexical items that have not [j] but a consonantal phonetic exponent ([n]) in type-1 junction, e.g. [bana] 'I came', [Enu] '(you) heard it' see section III below).

Tz has the same phonetic exponents in this type of junction as those shown above for Nz for some of its lexical items; but the Tz class, like the Nz, is divided into two sets of lexical items, one of which, like the Nz lexical item [ban-] referred to in the previous paragraph, has consonantal phonetic exponents, e.g.[seRa-], [khaRa-], as in [seRu] '(he) killed it', [khaRa] 'he went' (table 3, line 3). This type, which is easily in the majority, is considered at (III) below. The small minority of lexical items that resembles the Nz examples [khu-] and [poj-] in having [j] for the phonetic exponents of Tz in type-1 junction comprises only two lexical items, [1Hoja laju], 'he ran', 'he took it out' (table 3, line 1).

b. Front vowels ([i e])

Where the vowel in the verb lexical item is a front vowel, both Nz and Tz have no [j] as phonetic exponent. Indeed, it would be possible to say that, in these circumstances, they have no phonetic exponent at all; for the phonetic data in line (2) of the third and sixth columns, the Tz and Nz columns, of table (3) show a sequence of syllabic vowels or simply a single long vowel [e:] (from *[e]) or [E:] (from *[EU]); e.g.

Tz: [Leu]/[1jo:], [E:N]; Nz: [tSiu:], pea, pe;
'he loosed it, I loosed it; he finished it, it flew, fly'.

[...]

The difference phonemic unit N, type of final of its friction a alveolar ([S]); alveolo-palatality, phonetic exponential feature, as is the vocalic a post-syllabic from the syllabic [e], [S]; e.g.

Self-close, front, and the vocalic as vowel length;
4. Vocalic (shared) phonetic exponents or no phonetic exponents?

It would be possible to assign the former of the two vowel sounds of such sequences as [eu ea] in section (3) above to the vowel unit of the verb lexical item and the latter vowel sound to the vowel unit of the following (verbal particle) lexical item, in which case no phonetic features would be left to be assigned, as its phonetic exponents, to the final T or N of the verb lexical item. The T or the N would then have to be said to have no phonetic exponents in the front-vowel ([i e]) sub-type of type-1 junction (3.b above), and would, therefore, be highly unusual phonematic units. Since the initial part of such vowel sequences as [eu -ea] can readily be identified with lexical items that have Tz or Nz finals (and Pz, Kz, or Øz finals too; section (6) below), supported by phonetic exponents of Tz or Nz in junction of types 2, 3, 4 and 5 (table 3, lines 4-7), it would seem illogical to deny phonetic exponency to Tz and Nz in the one remaining, and complementarily distributed, type of junction, type-1 junction, and, even then, only in a sub-type of type-1 junction, the front-vowel sub-type (3.b). If, then, Tz and Nz are to be assigned phonetic exponents in the front-vowel sub-type of type-1 junction too, it can only be by considering the vowel [3] of such examples as [leu], or the [i] or the [e] of [tSiul: pea], as shared by the vowel phonematic unit with the following T or N phonematic unit; and those three words would exemplify [e] as the phonetic exponents of -ETz in [leu], and [i] and [e] as the phonetic exponents of -INz and -ENz respectively in [tSiul:] and [pea]. The same sharing principle would apply to the alternative phonetic form to [leu] '(he) looses it', [1jo:] (3.b), where, moreover, the phonetic melange is such that it is impossible even to specify the phonetic exponents of the vowel phonematic units -E- and -U.

5. Shared phonetic exponents

The practical course, therefore, and the soundest theoretically, seems to me to be that of treating [eu]/[-jo:] as exponents of all three phonematic units, -ETU, while [-iu:], [-ea], and [-e:] should be treated, respectively, as the phonetic exponents of the sequences of phonematic (and therefore phonological) units -INU, -ENA, and -ENZ. Historically, I think it likely that [leu]/[1jo:] might have developed from *[letu], and
that [tSiu:], [pea], and [pe:] might have developed from *[tSiu], *[pena], and *[pene]; this hypothesis is supported by the final consonants [t’? d’ t] that characterize the verb lexical item in types of junction other than that exemplified by [leu]/[ljo:]; and by the final consonant [n], alternating with nasalization, that characterizes the lexical item glossed as 'fly', for example, in table (3) column (6); e.g.

Tz: [leu/ljo: 1EtNa le?jaN ma1Eddle let] 
Nz: [pea pe: pEnNa pEjaN mapEnde pe];

Tz: he loosed it; I loose; he is loosing; do not loose; he loses it.
Nz: it flew; fly; I fly; he is flying; do not fly; he flies.

Another possible analysis, but at the phonological level rather than the phonetic level, would be to treat lexical items such as [le/-1Et’/-le?/-1Ed’/-let] 'lose' or [pe/-pEn/-pe/-pEn/-pEn] 'fly' (e.g. above) as each having two phonological forms, a vowel-final form, LE or PE, with [le-] and [pe-] respectively as phonetic exponents, and a consonant-final form, LET or PEN, with [1Et’/-13?/-1Ed’/-let] or [pEn/-pe/-pEn/-pEn] respectively as its phonetic exponents. I do not see this solution as offering any advantage: in the first place, the vowel-final forms would, unnecessarily, introduce a new type of final into the analysis, neither -P, -K, -T, -N, -N, -O, or -L but -I or -E (vowel-final); in the second place may such additional vowel type of final, -I or -E, would be in complementary distribution, by type of junction, with one or other of the other types, -T or -N, in type-1 junction versus types 2-5; e.g. LE/LET and PE/PEN; in the third place it would give excessive prominence to a sub-type of only one type of junction, the [-VV] or [-V:J] sub-type of type-1 junction (3.b. above), as against the remaining sub-type of type-1 junction, the [-J] sub-type (3.a. above), and the other four types of junction, types 2-5 (I.F., table 3 above); fourthly, it would upset the grammatical relationships t-z and s-z referred to in section (I.D) above, e.g. (-Tt and -Tz) [s]Ett-] 'tell --- to kill' (causative) and [s]ER-] 'kill'; and, fifthly it would unnecessarily complicate Bantawa lexicography, by introducing two forms, e.g. LE and LET, where one, LET, is sufficient.

I therefore see shared phonetic exponent as the answer to the problem posed y vowel sequences such as [ea] and their long-vowel equivalent [e:], not only for
6. Vocalic phonetic exponents, both shared and unshared, for Pz and Kz

a. Consonantal phonetic exponents

A set of voiced and voiceless consonantal phonetic exponents each was stated at (A) above for Pz and Kz:

Pz: [p' p b]; Kz: [k' k g]; examples have been given at (1.F) above (table 3); cf. also: (Pz) [dUp te:p lap rop]; (Kz) [bi:k thYkjaN ?uk re(:)k wak Hok]; Pz: he may earn; he washes it; he catches it; he breaks it; Kz: he cleans; it is tearing; he peels it; it tears; he chases it away; he opens it.

b. Vocalic

i. Non-syllabic vowel [(w)]

For Pz and Kz, vocalic phonetic exponents occur under much the same conditions as for Tz and Nz, though they do not always belong to precisely the same phonetic categories. Thus, where Tz and Nz have a non-syllabic vowel as their phonetic exponent, in type-1 junction (3.1 above), e.g. (Tz) [1Ho(:)ja] 'he ran', (Nz) [po(:)ja] 'it grew big', so also do Pz and Kz, but with the difference that the non-syllabic vowel is not front spread [(j)] but back rounded [(w)], and occurs only preceding a central or an open vowel [(A a)]; e.g.

Pz: [ewa khawaN]; Kz: [(wa:) tsawAi jawaN]; Pz: he was good up; I cried; Kz: have a bath; I stayed.

ii. Post-syllabic vowel [(u)]

The post-syllabic vowels [(i i)] have already been introduced as phonetic exponents of Ns in type-1 junction, e.g. [bHuiSu] (section B above) and type-3 junction, e.g. [bHuijaN] (section 1 above), and as phonetic exponents of Nz in type-3 junction, e.g. [po:iJaN] (section 2 above); post-syllabic vowels also need to be stated as phonetic exponents for Pz and Kz in type-1 junction, but with the
difference that they are not front, spread, and oral or nasalized ([i ɪ]) but back, rounded, and oral only([u]), and are followed by a non-syllabic close front spread vowel ([j]) where a front spread vowel ([e]) follows; e.g.

P: [rouje/ro:je] Lauje tSEuje
K: [jouje wauje ljAuje];
P: break/snap it; catch it; tell him;
K: knead it; chase it (away); lick it.

iii. Vowel sequence or long vowel; shared exponents

Vowel sequences and long vowels have already been drawn on, in (3.b) above, to provide shared phonetic exponents for Tz and Nz, e.g. [-eu -iu: -eq -jo: -E- -e:]; they can also be used to furnish Pz and Kz with phonetic exponents, but with the difference that the long vowels are not front ([e:]) but back, [u: o:j Y:j]; e.g.

Pz: [du: du:a du(:)je teu/tjo: lau rou]
Kz: [bau/bY: thY:a bY:jE u: reu way Hou]
Pz: he made it (in metal); he earned; earn;
he washed it; he caught it; he broke it;
Kz: she swept it; it tore; sweep it; he peeled it;
he tore it; he chased it away; he opened it.

7. Alternation of vocalic with consonantal features in phonetic exponents

Section (A) and (B) and sub-sections (1)-(6) of section (C) above show that the Bantawa final phonematic units N in the s and the z types of piece, and T, P, and K in the z type of piece are remarkable for alternating consonantal with vocalic features, both shared and unshared, for their phonetic exponents; e.g. 

conson. non-syll. vow. post-syll. vow. vow. sequen. (shared)

NS: [bhUn] bHuiSUN
Nz: [pEn poja po:iJaN pea pe:] Leu/1Ja
Tz: [lHo:t lHo(:)ja 1e:1Ja]
Pz: [tSe:p tSewaN tSEuje du:a du:]d
Kz: [byku jawaN byujje/bY:je byu/bY:]
Ns: he refuses it; I refused it; Nz: it flies; he grew big; he is growing big; it flew; it flies;
Tz: he runs; he ran; he let it loose; I let it loose;
Pz: he tells him; I told him; tell him; he earned;
               he made it (in metal);
Kz: he sweeps it; I stayed; sweep it; he swept it.

'Most of the older works on phonetics present the
dichotomy between vowel and consonant as absolutely basic' (Catford 1977, 165); yet my treatment of Ns, Nz, Tz, Pz, and Kz in the phonological analysis of Bantawa requires (i), for Ns, an alveolar nasal consonant sound to be closely associated with the single phonetic feature nasalization, which is usually associated with vowels (though it can combine with oral friction and with lateral and rolled articulations, e.g. [s T r]), and with a vowel sound, either oral or nasalized, that is not the syllabic vowel of the verb lexical item but follows that syllabic vowel, (ii), for Nz, an alveolar nasal consonant sound closely associated not only with nasalization and with a nasalized post-syllabic vowel but also with a non-syllabic front spread vowel, and (iii), for T, P, and K in the z type of final, voiceless plosive and voiced or voiceless stop consonant sounds closely associated with non-syllabic vowel sounds and with oral post-syllabic vowels: (i) [n ñ i ñ],
(ii) [n ñ i ñ],
(iii) [t/d/ ñ j], [p/h ñ u], [k/g ñ u]; and the sets of variants (ii) and (iii) are further associated, by virtue of the lexical items that they characterize, with the first vowel sound of sequences of syllabic vowels such as [æa eu/ju Yu ou u(:)a o] and long vowels such as [e: E: u: Y:]. this means that a final phonematic unit Ns, Nz, Tz, Pz, or Kz of a verb lexical item has an unspecified share in the syllabic vowel features [e jA Y u(:) o] and [e: E: u: Y:] for its phonetic exponency.

I assume, from comparing the different forms of P-final, K-final, T-final, and N-final lexical items in all types of junction that at an earlier stage of the language lexical items containing them had final consonant sounds where they now have a non-syllabic vowel ([w ñ j]), a vocalic sound following the syllabic vowel ([i ñ u]), or merely a share in the syllabic vowel. This would mean that phonetic forms such as [bHuSUŠN ñe:jaN pe:a pe:]; [lHo(:)a la:ju leu]; [e:jawaN du:a thY:a du: ba:u/bɨ:]; would have earlier passed through a stage: *[bHuSUŠN penjaN peña peñe]; *[lHo:ta latu letu]; *[e:jakaN dupa thYke dupu bɨku]. The front spread post-syllabic vowel [i i] that serves as one of the phonetic exponents of N(s/z) in certain types of junction suggests that the correspondingly alveolar phonematic unit Tz might
also have had a post-syllabic-vowel exponent [i] at an earlier stage:

- NS: [lHoisje bHuiSUN bHuijaN]
- Nz: [pOiJaN]
- Tz: *[lHoia] < *[lHoita];

Ns: make (him) run; I refused it; he is refusing it;
Nz: he is growing big; Tz: he ran.

III. Problem 2: alternative exponents for Tz and Nz

A. Re-classification from Øt to Tz

The problem of alternative exponents for Tz arises out of a re-classification that I have since made in my 1984 paper. I had mistakenly assigned to the Ø phonemic unit of the t final piece, Øt, the class of lexical items having the following final features in each of the five types of junction:

[-R- -t- -? -d' -t]; e.g.

[seRe sjEtNa wa?jaN masjEdde set] (table 3);
'kill it', 'I kill', 'he is wearing it', 'do not kill',
'he kills it'.

A consequence of this faulty analysis was that the Øt verb glossed as 'kill', exemplified above, was assigned to the same prosodic class, t-final, as its related causative verb, the Tt verb glossed as 'tell --- to kill', with the following final features:

[-tt- -t' -? -d' -t]; e.g.

[sjEtte sjEtma sjE?jaN masjEdde sjEt] (table 1);
'tell --- to kill', 'to tell --- to kill', 'he is telling ---
to kill', 'do not tell --- to kill', 'he tells --- to kill'.

The difference between them was, consequently, not a difference of prosodic terms but a difference of phonemic units, Ø versus T within the t-final prosodic category. I later realized that this opposition of Ø to T was a phonological misfit: other relationships of causative to transitive and intransitive verbs, and benefactive to non-benefactive verbs, correspond to prosodic differences, to t versus z or to s versus z, not to differences of phonemic unit such as T versus Ø; e.g.

<table>
<thead>
<tr>
<th>drink it for</th>
<th>starve it</th>
<th>open it for</th>
<th>stand it up</th>
</tr>
</thead>
<tbody>
<tr>
<td>t [dUNte]</td>
<td>t [Jo:me]</td>
<td>t [Ho:jE]</td>
<td>t [e:ptE]</td>
</tr>
<tr>
<td>N</td>
<td>M</td>
<td>K</td>
<td>P</td>
</tr>
<tr>
<td>z [duNe]</td>
<td>z [jo:ma]</td>
<td>z [Ho:jE]</td>
<td>z [?ewai]</td>
</tr>
<tr>
<td>drink it</td>
<td>he starved</td>
<td>open</td>
<td>stand up</td>
</tr>
</tbody>
</table>
Offer a drink to smell it fly it
s [dUNsjE] s [nAMse] s [pe:sjE] 
N
z [duNe] z [na:me] z [pe:]
drink it strinKit fly

The final cluster comprising alveolar stop and alveolar plosive (-tt-) in junction of type 1, e.g. [sjiEtE], clearly marks out the causative verb glossed as 'tell' --- to kill' as a member of the t-final category (Tt). The verb glossed as 'kill' must, in that case, be assigned to one of the other two prosodic categories, either to the s or to the z. The final phonetic features shown for this lexical item, 'kill', donot quality it for membership of the s category (Table 2); but that set of features, [-R= -t'= -?= -d'=-t], especially the [-R=] appropriate to junction of type 1, is consistent with the z class. The verb 'kill', and others of the same pattern (all verbs, that is, of the former Qt class, with final features [-R= -t'= -?= -d'=-t]), should, therefore, be re-classified as Tz.

B. Two sets of phonetic exponents for Tz

To this re-classification there is, however, an obstacle: the Tz class in my 1984 paper already had a representative, the class of verbs with the final features:
[-(:)j]- -t' -?= -d' -t]; e.g. [lHO:jE] 1HO:tNa 1HO?jaN ma1HOdE 1HO:(:)t]
[lajE/lalE] 1alNa 1a?jaN ma1lade lat];
run; I run; he is running; donot run; he runs;
take it out; I take out; he is taking out; donot take out; he takes out.

The two sets of phonetic exponents are identical except for those appropriate to junction of type 1, the type in which a vowel follows within the word:
[-RV=] v. [(-:)jV=], e.g. [seRe] 'kill' v. [lho:(:)je];
'run'.

The question then arises which of the two sets is the correct set of phonetic exponents of Tz, or, alternatively, is it possible for Tz to have two sets of phonetic exponents, differing only in type-1 junction, [-(:)j-] v. [-R-]. If it were merely a question of fast-tempo and slow-tempo alternatives for the same lexical item, e.g. [banjaN] v. (fast-tempo) [ba?jaN], 'he is coming', I should have had no hesitation in accepting the two phonetic forms as stylistic alternatives, in complementary distribution by tempo; but, on the contrary, they apply to different lexical items, and are, lexically, in parallel distribution.
1. T in comparison with P and K

At first sight the set of features that I had originally allocated to the T phonemic unit, in 1984, has the advantage of corresponding to the P and the K in type-1 junction (in which a syllabic vowel follows): all three, T, P, and K, have a syllabic vowel, [-V:], or a vocalic sequence comprising a syllabic vowel followed by a post-syllabic vowel ([ou]), further followed by the non-syllabic front spread vowel [j] in imperative forms in [-e]; e.g.

\[
\begin{array}{cccc}
T & P & K \\
[\text{lho(:)je}, \text{laje/la:e}] & \text{rouje/ro:je} & \text{Ho:je} \\
\text{run, take out} & \text{break (it)} & \text{open (it)}; \text{cf.} \\
[\text{lHo:tna}, \text{latNa}] & \text{rOpNa} & \text{HOkNa} \\
\text{I run, I take out} & \text{I break} & \text{I open}; \\
\text{but in type-1 junction other than that of the imperative,} & \text{where the suffix is, for example, the 3rd-person} & \text{intransitive past [-a], or the 3rd-person transitive} & \text{past [-u], the likeness is less close; and T is} \\
\text{the former} & \text{the 3rd-person} & \text{the 3rd-person} & \text{distinguished from P and K by a non-syllabic front spread} \\
\text{item,} & \text{transitive} & \text{transitive} & \text{vowel ([j]) versus a non-syllabic back rounded} \\
\text{is category} & \text{past} & \text{past} & \text{vowel ([w]) or a sequence of vowels ([VV])}; \text{e.g.} \\
\text{② -d'-} & \text{② -d'-} & \text{② -d'-} & \text{e.g.} \\
\text{on of type} & \text{on of type} & \text{on of type} & \text{P} \\
\text{[kill'], and} & \text{[kill'], and} & \text{[kill'], and} & \text{K} \\
\text{the former} & \text{the former} & \text{the former} & \text{above).} \\
\end{array}
\]

2. Tz in comparison with t and with s

\[
\begin{array}{cccc}
T & P & K \\
& \text{[lhoja, laju; tshoa, lau; (wa:) tsawa, Hou;]} \\
& \text{T: he ran; he took (it) out; P: it was dry; he caught} \\
& \text{it);} \\
& \text{K: he had a bath; he opened it (cf. also II.B.6.a.i above).} \\
\end{array}
\]

The Tz verb glossed as 'run', on the other hand, has a Ns verb as its causative; e.g.

\[
\begin{array}{cccc}
T & P & K \\
& \text{[lhoisje] make (it) run; [lHo:nNa] I shall make him} \\
& \text{Tz: take (it) out; donot take (it) out; he let (it) go; do not release (it);} \\
& \text{Tt: take (it) out for ----; let it loose.} \\
\end{array}
\]

The above examples show that two out of the three Tz lexical items in them have the advantage of having corresponding forms in Tt; while the third has a corresponding form in Ns (or Ts). These three are the total membership of that type, the minority type, of Tz lexical item.
3. Minority and majority sets of phonetic exponents

On the other hand, in favour of accepting the other set, \([-R- -t'--?--d'--t]\), as the orthodox phonetic exponents of Tz, there is the fact that they are much more numerous: in my material this set of features characterizes twenty-three lexical items; the set of features exemplified by \([h\text{Ho}()]\text{je}\), etc. is limited to three lexical items (section B. above).

Further, eleven or twelve of the majority type have matching Tt forms; e.g.
\[z \ [\text{kiRe} \text{ khiRe} \text{ waRe} \text{ kjeRe} \text{ dHeRe} \text{ pARe}]\]

Further, eleven or twelve of the majority type have matching Tt forms; e.g.
\[T \ [\text{kitte} \text{ khitte} \text{ watte} \text{ k\text{Ette} \text{ dHEtte} \text{ p\text{Ette}}];\]

z: be afraid; buy; wear; break (it); cut; scrub one's self;

T: be afraid of; order (something); garland/muzzle; break (it) for ---; scrub for --- (of. also Sprigg to appear, II.B.2 and III.A).

4. Tz in Bantawa and Limbu comparison

A comparison with Limbu shows six Bantawa Tz lexical items, including four formerly classified as Øt, as corresponding to Tz lexical items in Limbu:

Bantawa: \([\text{seRe} \text{ waRe} \text{ paRa} \text{ keRe}; \text{ leu} \text{ laje/laje}]\)
Limbu: \([\text{SERE} \text{ wa(\text{\text})RE} \text{ pa:re HERE}; \text{ lERE la:RE}]\)

Bantawa: kill (it); wear (it); it cackled; crack it; he let it loose; take (it) out;
Limbu: kill (it); wear (it); speak to ---; crack it; leave it; take (it) away from.

It will be seen that comparison with Limbu supports the claim of both the majority and the minority pattern to represent Tz, the first four examples being drawn from the majority, and the last two from the minority, pattern.

5. Two sets of exponents for Tz

Unorthodox though it may seem, I therefore accept both sets of final features as phonetic exponents of Tz,
(i) the minority set, and (ii) the majority set:

i. \([-\text{\text{(\text{\text})j} -t'--?--d'--t}]\)
ii. \([-R- -t'--?--d'--t}]\).

It is difficult to account for the presumed development from [t] to [j] in the three minority-pattern lexical items rather than to the phonetically more plausible,
and much more common, [R]. It would be worth while to examine other dialects within Bantawa, or other neighbouring Rai languages, to see whether some influence in favour of [j] might have come from them.

C. Alternative phonetic exponents for Nz

Support for the possibility that [t] might have developed to [j] for the minority set of the two sets of phonetic exponents of Tz discussed in section (B) above comes from what appears to be a parallel phonetic development giving rise to alternative sets of phonetic exponents for Nz, the corresponding nasal phonematic unit to T within the Z category of final. The alternative phonetic exponents of Nz for the five types of junction are:

i. [-n- -n- -n- -n- -n-] (table 3);
ii. [-j- " " " " ]

i. [ba:nE banNa ba:njaN/banjaN mabannde ban]
ii. [poja pOnNa poijaN mapOnde pOn/po:n];

i. come; I come; he is coming; do not come; he comes;
ii. he grew big; I grow; he is growing; donot grow big; he grows.

There are six lexical items of (i). the former, or consonant, type ([-n-]), and six of (ii) the latter, or vocalic, type ([i: -e- -u- -o- -r-]); e.g.

i. [mine EnE sjEne HEne 1Eane bainE]
ii. [tSi:e tShi:e pe: tea khuje poje/po(;)e] [tSi:n tShin pEn tEn khUn pOn/po:n] (table 3)

i. think about it; hear it; ask him; sacrifice it; thread it; come here;
ii. finish it; put it round; fly; it fell down; carry it; grow big; he finishes it; he puts it round; it flies; it falls down; he carries it; he grows big.

The alveolar nasal consonant ([n]) in type-1 junction definitely establishes the six lexical items exemplified at (i) above as belonging to the Nz class; the alveolar nasal consonant in junction of types 2, 4, and 5, e.g. [pEnNa mapEnDe, pEn], 'I fly', 'do not fly', 'he flies', and the nasalization features in type-3 junction, e.g. [pEjaN], 'he is flying' (cf. also table 3), strongly support the claim of the six lexical items at (ii) to be treated as belonging to the Nz class; but the orality feature in type-1 junction ([V]), e.g. [tSi:e], rather than nasality, e.g. [mine], tells against them. I suspect that this class, the Nz, is in transition from one type of phonetic exponency, the nasal-
consonant, or [-n], type, shown in (i) above, to a type in which orality ([-i; -e; -uj -oj/-o:]), has replaced it in type -l junction, perhaps via a stage in which the apical contact of [n] was lost, and nasality developed into nasalization, e.g. *[-iː- uj-]; something like this seems to be happening in type-3 junction, giving rise to alternative forms [banjaN] and [bajaN].

If this hypothesis should turn out to be correct, then there is a strong case for permitting Bantawa, and other languages that are in transition, to have two sets of phonetic exponents for a single phonological category, one of them from the past and the other indicating the future, as though, paradoxically, the état de langue of such a language comprised two états de langue within it. Such a state of affairs may arise when a language is declining in the face of competition from another language, as Bantawa is from Nepali, and standards of speech become uncertain.

IV. Problem 3: the missing s-final phonematic units P, K, and T

A. Introductory; filling the Øt vacuum

It is revealing to compare the three tables in section (I.F) above, table 1 containing the t-final prosodic class, table 2 the s-final, and table 3 the z-final, and speculate on the absence of certain phonematic units from one or other of these tables. The most notable, for absentees, is table 2, in which only four phonematic units appear, M, N, N, and Ø; for P, K, and T are absent, and so is L. A further absentee should be the Ø member of the system of phonematic units appropriate to the t-final prosodic class table 1), because I have now, in section (III.A) above, transferred the phonetic exponents that I had originally assigned to Øt, in my paper for the 5th International Conference of the Linguistic Society of Nepal (and the phonetic forms exemplifying those phonetic exponents) from the Ø column of Table 1 (the t-final prosodic piece) to the T column of table 3 (the z-final prosodic piece):

Tz: [-R- -t' -?- -t], e.g. [seRe sjEtNa wa? jaN set];
gloss: kill it; I kill; he is wearing it; he kills it.

A glance at table 1, however, will be enough to show that, in anticipation, I have already re-filled the Øt column of that table:
Øt: [-tt- -t'- -? -d'- -t]; e.g. [Itte itNa i?jaN maIdde it];
gloss: laugh at ---; I laugh at ---; he is laughing at ---;
do not laugh at ---; he laughs at ---.
My reason for choosing these phonetic exponents for Øt will
serve to introduce the modus operandi by which I provide
phonetic exponents for the absenteees, Ps, Ks, and Ts, in
section (B) below.

1. Øt and Tt; complete overlap in phonetic expeny
The unorthodox thing about these new phonetic exponents
for Øt, in column 7 of table 1, is that they are identical
with those of Tt, in column 3 of that same table:

Tt: [-tt- -t'- -? -d'- -t]; e.g. [sjEtte sjEtma sjE?
jaN masjEdde sjEt]
gloss: tell -- to kill; to have --- kill; he is telling
-- to kill; do not tell --- to kill; he tells ---
to kill.

In a phonemic analysis of the school that follows the
postulate 'once a phoneme, always a phoneme' an overlap
in the phonetic realization of phonemes is prohibited;
from that point of view this analysis of mine is
unorthodox, to say the least. In fact it could not be
a more flagrant breach of that principle, because the
overlap in phonetic expeny between Tt and Øt is total:
one cannot point to any phonetic feature as being a
criterion for distinguishing the T phonematic unit from
the Ø.

2. Grammatical association of z with t as a criterion
The criterion for assigning a particular lexical item
to the Øt category rather than to the Tt is not phonetic
but grammatical. A grammatical relationship of causative
with non-causative, or of benefactive with non-
benefactive, serves to associate certain undeniably Øz
lexical items with lexical items that are candidates
for recognition as Øt; e.g.

Øz: [i:jE i:je maa tu:jE]
Øt: [Itte Itte matte tUtte]
laugh at (him) bring (it) down lose it
dig it

it rolled down
Øz: [dHY:a]
Øt: [dHItte]
knock it over.
This grammatical association, and the phonological analysis that follows from it, is supported by seven good examples in my material, with two doubtful pairs in addition. This part of my phonological analysis of Bantawa illustrates one of the principles in prosodic phonology, promulgated by J.R. Firth, that the phonological analysis must be congruent with analysis at other levels, in this case, the grammatical level: 'The "meaning" of language events in this sense is dealt with at a mutually congruent series of levels, sometimes in a descending order beginning with the context of situation and proceeding through collocation, syntax, including colligation, to phonology and phonetics, even experimental phonetics, and sometimes in the opposite order' (Firth 1957, 8).

3. Phonetic development of [-tt-] from *[-t-]

By my present analysis Øt is identical, in its phonetic exponent, with Tt: [-tt -t'- -? -dd -t]; but I suspect that at an earlier stage of the language there may have been a difference, at least in type-1 junction ([-tt-]). It would have been logical for the phonetic exponents of Øt to be [-t-] in this type of junction, with the result that the Øt form at (2) above, [lïte], 'laugh at --', 'bring (it) down', would have been *[lïte], and would have been distinguished from the Tt form [sëtte] 'tell (him) to kill --' (and from the Tz form [seRe] 'kill (it)'}). If so, the alveolar plosive *[-t-] would have been the only voiceless plosive in type-1 junction; for there are no such final consonants as *[-p-] or *[-k-]. [p] and [k] occur only as part of the clusters [-pt-] and [-kt-]; so *[-t-] might have been under pressure to follow suit, by developing length: [-tt-] (the alternative route, followed by P, K, and T in the z final piece (table 3, line 1), seems to have been to voice the consonant to [b g d], and then either vocalize it to [-u-/-w-] or [-(:)-j/-j-] or tap it, whence [-R-] (II.C.7 and II.C.6.b.ii above).

4. Grammatical association of z with t for T lexical items

It is only through the sort of grammatical relationship described above that a candidate for classification as Øt can be confirmed as such; in the absence of that association a candidate lexical item must be assigned to the Tt category. In this respect the Tt class differs from the Øt: there is no grammatical requirement. In fact, however, a number of the lexical items belonging to the Tt class have lexical items in the Tz class that
can be associated with them, as causative and non-causative, or as benefactive and non-benefactive, in the same way as the $\emptyset$ and $z$ pairs exemplified in section (2) above; e.g.

\[
\begin{align*}
\text{Tz:} & \quad \text{[seeRe]} & \quad \text{waRe} & \quad \text{kjeRe} \\
\text{Tt:} & \quad \text{[sjEtte]} & \quad \text{watte} & \quad \text{kjeEtte} \\
\text{tell (him) to kill} & \quad \text{garland (him) break (it) for} \\
\text{cut (it)} & \quad \text{buy (rice, etc.)} \\
\text{Tz:} & \quad \text{[dHeRe]} & \quad \text{khIRe} \\
\text{Tt:} & \quad \text{[dHeEtte]} & \quad \text{khitte} \\
\text{cut it for} & \quad \text{order (rice, etc.)}
\end{align*}
\]

(cf. also Sprigg to appear, II.B and III.A).

B. Filling the Ps, Ks, and Ts vacancies

If it were not for the grammatical criterion that I introduced at (A.2) above to justify classifying such forms as [Itte] 'laugh at (him)', 'bring (it) down', and [tUtte] 'dig (it) for' as examples of $\emptyset$, all such forms would have had to be classified as Tt, and there would have been a gap in the phonematic unit in the s-final and in the z-final phonematic systems, but would have been lacking in the t-final system, which would have comprised only the six phonematic units $P$, $K$, $T$, $M$, $N$, and $\emptyset$. As it is, I have been able to add $\emptyset$, to bring that total up to seven.

In comparison with these seven the four phonematic units shown in table 2, $M$, $N$, $N$, and $\emptyset$, seem woefully deficient: $P$, $K$, $T$ are lacking.

1. Grammatical association of $z$ with $s$ as a criterion for $P$, $K$, and $T$

Here, too, the same grammatical relationships as were used at (A.2) above, for associating certain t-final lexical items with z-final lexical items, can be used to associate certain s-final lexical items, as transitive, causatives, and benefactives, with certain z-final lexical items; and the grammatical relationship can then be used for distinguishing phonematic units $P$, $K$, and $T$ within the s-final prosodic class, to fill the three vacancies. Such relationships already apply to the 'orthodox' phonematic units $M$, $N$, $N$, and $\emptyset$; e.g.

\[
\begin{align*}
\text{it rotted} & \quad \text{smell (intr.)} \\
\emptyset & \quad \text{[na:me]} \\
\text{s:[kY:se]} & \quad \text{s: [nams]} \\
\text{rot it down} & \quad \text{smell (tr.)}
\end{align*}
\]
drink it he flies
z: [duNe] z: [pEn]

N s: [dUNSje] N s: [pe:sje]
offer a drink to fly it.

Without a relationship such as those exemplified above for Õz and Õs, Nz and Ms, Nz and Ns, and Nz and Ns, it would not be possible to distinguish Ps from Ms, Ks from Ns, and Ts from Ns; as it is, Ps, Ks, and Ts can be distinguished on grammatical grounds, and exemplified as follows:

(he) cries (he) stands up
z: [khap] e:p]

P s: [khamse] Emsje]
make (him) cry stand (it) up
have a bath he runs it dripped
z: [(wa:) tsaUje] z: [1Ho:t tsoRa]

K s: [(wa:) tsaJsje]s: [1HoSu tsoiSu]
bath him he made (him) he sprinkled it run

2. Grammatical association of t with s as a criterion for P, K, and T

Further support for bringing these phonetically undistinguishable units Ps, Ks, and Ts into the phonology of current Bantawa instead of re-constructing them historically through some such process as internal re-construction comes from comparing candidates for Ps, Ks, or Ts status with Pt, Kt, and Tt respectively. I will first illustrate this relationship of t with s from pairs of examples that are not controversial, those in which the phonemic unit common to them both is Õ, M, N, or Ñ; e.g.
defecate on break wind [?] at bend (it)
t: [?Ette] bHETte] t: [pUmte]

Ø s: [?esje] bHe:sje] s: [pÜmsje]
defecate break wind bend (it)
suck (it) drink (it) for go out
t: [?Umte] t: [dUNte] t: [10Ante]

M s: [?UmSje] s: [dUNSje]
suck (it) offer a drink to he took (it) out
have a bath
z: [(wa:) tsaUje] z: [1Ho:t tsoRa]

he runs
K
s: [(wa:) tsaNsje] s: [1HoiSu tsoiSu]
bth him
he made (him) run
he sprinkled it

2. Grammatical association of t with s as a criterion for P, K, and T

Further support for bringing these phonetically un-distinguishable units Ps, Ks, and Ts into the phonology of current Bantawa instead of re-constructing them historically through some such process as internal re-construction comes from comparing candidates for Ps, Ks, or Ts status with Pt, Kt, and Tt respectively. I will first illustrate this relationship of t with s from pairs of examplex that are not controversial, those in which the phonematic unit common to them both is Ø, M, N, or N; e.g.

defecate on break wind [?] at bend (it)
t: [2Ette] t: [pUmte]
Ø M
s: [e:sje] bHe:sje s: [pUmse]
defecate break wind bend (it)
t: [2Umte] t: [dUnnte]
M N
s: [2Umsje] s: [dUnsje]
suck (it) drink (it) for go out
suck (it) offer a drink to
s: [2Umsje]
s: [dUnsje]

my less orthodox examplex include:

put to sleep
urinate on
shout at (him)
t: [2ipte] t: [tShEtte]
P T
s: [2Imse] s: [tShe (: ) Sa
sleep he urinated
paiasu] he made (him) shout

mount/ride it
it got twisted
rYkta

K
s: [2UNsE rYNsje]
put (it) down spin (it) round.

lock it over.
3. Table 2, revised
Nothing now remains but to revise table 2 in accordance with the analysis proposed above:

Table 2, revised
s-final prosodic class

<table>
<thead>
<tr>
<th>P</th>
<th>K</th>
<th>T</th>
<th>M</th>
<th>N</th>
<th>N</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>[-ms-]</td>
<td>-Ns(j-)</td>
<td>-(:)/iS-</td>
<td>-ms-</td>
<td>-Ns(j-)</td>
<td>-(:)/iS-</td>
</tr>
<tr>
<td>2.</td>
<td>[-m-]</td>
<td>-N-</td>
<td>-n-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
</tr>
<tr>
<td>3.</td>
<td>[-m-]</td>
<td>-N-</td>
<td>-n-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
</tr>
<tr>
<td>4.</td>
<td>[-m-]</td>
<td>-N-</td>
<td>-n-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
</tr>
<tr>
<td>5.</td>
<td>[-m]</td>
<td>-N-</td>
<td>-n-</td>
<td>-m-</td>
<td>-N-</td>
<td>-n-</td>
</tr>
</tbody>
</table>

e.g.

1. [khamse] tsaNsje tsShe(:)Sa ?imsaN dUNsje pe(:)Su bhuiSUN pe:sa]
2. [khamNa] tsaNNa lHonNa ?ImNa dUNNA pe(j)aN pe(j)aN
3. [khamjaN] tsaNjaN tShEjaN ?imJaN dUNjaN pe(j)aN bhuiJaN
4. [makhamde] matsuNde maHonde maimde majUNde mapEnde maped/Re]
5. [kham] (wa: tsaN lHOm im dUN pEn pe:]}
Glosses

1. make him cry; bath (him); he urinated; I slept; offer a drink to -- --; he flew it; he got sick; I made him run; I refused it;

2. I make him cry; I bath him; I make him run; I sleep; I offer a drink to -- --; I fly it; I know;

3. he is making him cry; he is bathing him; he is urinating; he is sleeping; he is offering a drink to -- --; he is flying it; he is being sick; he is making him run; he is refusing it;

4. do not make him cry; do not bath him; do not make him run; do not sleep; do not put it down; do not make it fly; do not vomit;

5. he makes him cry; he baths him; he makes him run; he sleeps; he offers a drink to (you); he flies it; he gets sick.

Notes


2. Since certain symbols of the International Phonetic Alphabet are not readily available, I have made use of the interrogation mark and some capital letters as phonetic symbols; their values are given in the appendix.

3. It is largely because of criticisms levelled at it in Haas 1957, 'Zero in linguistic description', that I have avoided using the zero concept.

4. My data commonly show alternations in vowel sound for the vowel unit of the same lexical item as follows: [i]/[I],[e]/[E], [u]/[U], and [o]/[O]; but for [a:] and [a] the corresponding alternation is one of length and shortness, not one of quality. The closer of the alternative vowels, too, is often accompanied by length ([i:] e(:) u(:) o(:))]. This closer alternative, and the long alternative [a:], generally occur when the vowel in question is followed by a single medial consonant, e.g. [pe;Su na:maN ?i?jaN na:mjaN] (tables 2, 3, 1), or by a vowel or a non-syllabic vowel, e.g. [bHuUjaN p?jaN pe (j) aN lHo:je]; while the more open quality, accompanied by shortness ([I E U O]), and the short vowel [a], generally occur in combination with a sequence of two following consonants and with a single word-final consonant,
e.g. [ʔEpte dUNte ?Ep dUN]. The alternations are, therefore, generally in complementary distribution; but there are exceptions, in which the vowel I have noted in my phonetic transcription is the reverse of what one would expect from the above observation, e.g. [lekte itNa sjE?jaN ?UmajaN po:n]. Where a long vowel is used for emphasis, the vowel sound must be the closer of the alternatives, e.g. [po:n], emphatic alternative to [p0n] '(he) grows big'. Otherwise, assuming that my phonetic analysis and transcription are correct, I can only guess that these irregular vowel sounds are due to confusion resulting from the influence of Nepali, which my informant, in common with the male population of Chhinamukhu, probably spoke at least as frequently as his mother tongue, especially on formal occasions.

5. Alternatives [banjaN] and [bañjaN] have been noted in my data.

6. Michailovsky 1975 gives an acoustic explanation for the Bantawa vocalic features [:] and [i]: 'What the [Lehiste and Peterson] data [from English] shows, for our present purpose, is, first of all, that -t, -n, and -s form a natural group with respect to their F2 transitions (perceptually the most important) with values in the 1400-1600 Hz range. In addition, we find a negative F2 transition after i, eI, and E (eIt is an exception) and a positive one after all other vowels, - - - , (326-7). In the first place, the alveolo-palatal fricative ([s]) of these Bantawa examples can be grouped with Michailovsky's -t, -n, and -s as being in the denti-alveolar region; and, secondly, the Bantawa close front spread glide vowel [i] from the back syllabic vowels [u o] and the open front vowel [a] to the consonant [S] corresponds to his positive F2 transition (+170, +400, etc.), while the length feature, [:], corresponds to his negative F2 transition (-310, -215; but with eIt, at +90, as an exception). 'A rise in F2 corresponds to movement forward in the vowel space' (327; i.e. a movement forward indicated by [i] in these Bantawa examples.

Michailovsky further supports his acoustic observations with examples from two dialects of Bantawa, Dilpa and Khawa; e.g.

Dilpa:  tit dot bin nan
Khawa:  ti? doi? biñ nañ
gloss clothing he begs he flies he rests a load; of Chhinamukhu: [tit d0t pëN nan].

From a comparison of the forms in these three dialects it appears that in the Khawa examples a former F2 transition
has become audibly manifest as the vowel sound [i]/[ɪ]
in do:< and na:<; the corresponding Dilpa exampelx, and
my examples from Chhinamukhu, which adjoins Dilpa, keep
the transition, which is inaudible.

7. I take the phonetic exponent [j] that serves for both Nz
and Tz to be a development of a former close front spread
vowel glide onto a former dento-alveolar consonant:
[-j-] < *[-ɪn-]/[-ɪt-]; e.g.

Nz [pona > po\~na > poia > po\~a > po (:) ja]
Tz [lHota > lHo\~ta > lJoi?a > lHoia > lHo(:)ja]

(cf. Michailosky's Dilpa and Khawa examples in note 6 above).

8. Just as, in note 7, I took [j] to have developed from [i], a
vocalic glide from a back or an open syllabic vowel [u o a]
to a dento-alveolar consonant, so, here too, I take [w] to
have developed from [u], a vocalic glide from the open front
syllabic vowel [a] to the back, or dorso-velar, consonant [k];
e.g. *[jakaN] > * [jaukaN] (or, perhaps, * [jaYkaN]) > *
[jauaN] and, similarly,
[ewa] < * [eu\~a] < * [eup\~a] < [epa].

9. The voicing, vocalization, and lip-rounding of [p] to [u] via
[b] in e.g. [tSEUje] would, in that case, find a parallel
in Nepali in the presumed voicing, vocalization, and
lip-rounding of an earlier [-p] to [-u-] in [baunsA] baunna
'fifty two' from *[bApAnnA], which is supported by the presence
of [-p-] in [tripAnnA], tripanna 'fifty three', and by the
vowel [A] or [bA-] in [bAHAttAr] bahattar 'seventy two'.

For a somewhat similar vocalization of a consonant in English
of Gimson 1962: 'In some speech, notably that of Cockney,
the tongue-tip contact for [L] is omitted, this allophone of
/1/ being realized as a vowel (vocoid) in the region of [o]
with weak lip-rounding or as [Y] with neutral or weakly spread
lips, thus sell [seo] or [seY], -- -- (198); and, for French,
of. James 1924: 'The [l] sound with back vowel resonance will
give way to a back vowel; of a Latin
10. The long vowel [a:] in the form [la:e], in which there is no non-syllabic vowel ([j]) as in [laje], I take to be the in fast tempo the tongue front remains in the open position; in more careful speech it reaches the close position ([j]).

REFERENCES


Michailovsky, B., 1975. 'On some Tibeto-Burman sound changes', in Cathy Cogen et al. (eds.), *Proceedings of the First Annual Meeting of the Berkeley Linguistics Society*


Appendix: improvised phonetic symbols

[?] glottal stop or glottal plosive
[A] half-close spread central vowel
[C] an appropriate consonant
[E] half-open front spread vowel
[H] voiced glottal (arytenoidal) friction, or 'murmur'
[I] centralized front spread vowel, between close and half-close
[L] velarized voiced lateral consonant
[N] voiced velar nasal
[O] advanced half-open back rounded vowel
[R] voiced alveolar tap, with slight retroflexion
[S] voiceless alveolo-palatal fricative
[tS(h)] voiceless (aspirated) alveolo-palatal affricate
[U] centralized back rounded vowel, between close and half-close
[V] an appropriate vowel
[Y] half-close back spread vowel
['] occlusion (without audible release, as opposed to plosion).
1. **INTRODUCTION**

A number of studies on the structure of nouns and noun phrases in Newari are already available, and the present account is an attempt to view the data from a generative standpoint rather than to contradict or replace the existing literature on the topic. In an earlier paper on Newari verbs (Kansakar, 1982:12-29) we argued that the morphological alternations around the stem are derived by various phonological rules from the underlying phonemic form, requiring at each stage the identification of boundary markers and the phonological structure of each morpheme. This implies that each morpheme that undergoes alternation has a single underlying form to which morpheme-structure rules apply first, followed by rules that insert the systematically redundant features. After these two sets have applied, the segments are phonologically specified with the plus-minus coefficients of systematic phonemics. The representations in all cases were phonetically specifiable and this had the advantage of predicting variation in any particular form, while at the same time contributing to generalizations about phonological structure.

We propose in this paper to describe in terms of ordered rules the phonetic realization of Newari nouns when followed by case-markers, number and gender markers, and noun classifiers. It is important to recognize here that the phonological component of a grammar contains a subcomponent of morphemestructure rules (M-S rule) which specify the phonological structure of morphemes and distinguish segments and sequences that are natural or acceptable from those that do not meet this condition. We shall also take the view that the phonemic forms need to be phonetically natural, and that the elements included under each form are fully specifiable for all features. In brief, this analysis will attempt to satisfy two conditions: (a) the morpheme-structure condition which 'specifies the range of wellformed phonemic representations' or Newari nouns, and (b) the phonological
rules (P-rules) proper which 'specifies the variation in shape morphemes undergo in various environments' (Anderson, 1974:50).

2. MORPHOLOGICAL CASE FORMS

Annadalai (1975) in his paper on Tamil nouns recognizes seven case-markers which, if we eliminate his 'proximate location', correspond closely to the six case forms posited by Hale and Manandhar (1973:39-54) for Newari. These labels will be used here to illustrate the case forms in some Newari nouns cited by Hale and Manandhar (40):

(1)  child    servant    mother    I    he
     Nominative  māca    cyaa    māmā    ji    wō
     Ablative2/  mācā-ā    cyaa-nāmā    māmā-ā    ji-I    wō-ō
     Associative  mācā-yāke    cyaa-yāke    māmā-yāke    ji-ke    wō-yāke
     Dative    mācā-yāta    cyaa-yāta    māmā-yāta    ji-ta    wō-yāta
     Genitive    mācā-yā    cyaa-yā    māmā-yā    ji-(gu)    wō-yā
     Locative    -    -    -    -    -

     Nominative  pasaa    saphuu    laa    lākāmā    chē
     Ablative    pasālā-A    saphulī-I    lakha-A    lakāmā-A    chē-E
     Associative    -    -    -    -    -
     Dative    pasaa-yāta    saphuu-yāta    laa-yāta    lākāmā-yāta    chē-yāta
     Genitive    pasaa-yā    saphuu-yā    laa-yā    lākāmā-yā    che-yā
     Locative    pasala-e    saphuli-i    lakha-e    lakāma-e    chē-E

While Hale and Manandhar (1973:3(-54) discuss morphological case in relation to the clause structure of Newari, we wish to limit our attention to the morphological alternations within individual nouns and noun phrases. The rules that we formulate will assume an explicit relationship between phonological and phonetic representations, as this is quite crucial within generative phonological theory today. Another aspect of this approach concerns the facts relating to alternations between morphemes and the ways these are handled in natural languages. Our main goal then will be to account for these alternations by a process of derivation from the underlying base form for each morpheme. The occurant case forms of various nouns in (1) can first be summarized as follows for easy reference:
Case morphemes

<table>
<thead>
<tr>
<th>Ablative</th>
<th>Associative</th>
<th>Dative</th>
<th>Genetive</th>
<th>Locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>-AA</td>
<td>-yǝke /-lke</td>
<td>-yǝta/</td>
<td>-ya</td>
<td>-ae</td>
</tr>
<tr>
<td>-AA</td>
<td></td>
<td>-ita</td>
<td></td>
<td>-ii</td>
</tr>
<tr>
<td>-EE</td>
<td></td>
<td></td>
<td></td>
<td>-ee</td>
</tr>
</tbody>
</table>

The question posed by Hale and Manandhar constitutes the syntactic and semantic analogue of the central phonological problem we wish to analyse here, i.e. 'What deep structure relationships are signalled by each of the various case endings and in which contexts do these occur?' In other words, how are the occurrent morphological cases derived from the underlying deep structure? Consider as an illustration an ablative rule which normally consists of the following two phonological processes:

1. Vowel nasalization
2. Vowel lengthening

A simultaneous application of these two processes will have the following effect:

\[
\begin{align*}
\text{(3) Underlying :} & \quad \bar{\text{maca}} + \text{ Abl.} & \quad \text{'child'} \\
& \text{(R.1)} & \text{ (R.2)} \\
& \downarrow & \downarrow \\
& \bar{\text{A}} & \bar{\text{A}} \\
\text{Derived :} & \quad \text{macAA} & \quad \text{'by/from the child'}
\end{align*}
\]

In this example a long nasal vowel which constitutes a case-maker, is derived from a short oral vowel of the stem noun, and this is true for all ablative cases except for those nouns which now add -nAA to the stem. This process however is reversed in the example /mAÀ/- 'mother' which already contains a long nasalized vowel in the stem-final position, so that when the ablative case-maker -mAA or -nAA is added, the vowel in the stem is de-nasalized and shortened as can be seen in the following derivation:

\[
\begin{align*}
(4) \quad /\bar{\text{mAÀ}} & \quad + \text{ Abl./} \\
& \quad \text{mÀÀÀÀ-a} & \quad \text{V lengthening} \\
& \quad \text{mÀÀÀÀÀ} & \quad \text{V nasalization}
\end{align*}
\]
In a paper on Newari syllable structure (Kansakar, 1983: 63-75) we had observed that the loss of the stem-final syllables are still retained in the oblique case formations. These alternations are also obvious in the paradigms presented in (1) and can be seen in the following derivational rules:

(5) (a) UF /lakha + Abl/ /sukuli + Abl/ /nugala + Abl/
Abl Rule lakha-A sukuli-I nugala-A
DF la.khAA suku.lli nuga.lAA
'by/from the water'
'by/from the straw-mat'
'by/from the mind'

(b) UF /lakha + Loc/ /sukuli + Loc/ /nugala + Loc/
Loc Rule lakha-e sukuli-i nugala-e
DF la.khe suku.lli nuga.lae
'in the water'
'on the straw-mat'
'in the mind'

As in the input string in (4) above, namely /mAmA + abl/ where the slashes represent word boundaries, and the '+' represents a morpheme boundary, and 'Abl' is the representation of a morpheme which triggers the application of a rule that lengthens and nasalizes the final vowel of the preceding stem. We argue for the existence of a final vowel in each of the forms /mAma/, /lakha/, /sukuli/ and /nugala/ on the basis of the parallel need for a final vowel in the stems like /saphuli/ 'book', /tuUthi/ 'well', /cukuU/ 'bolt', /pukhuli/ 'pond' etc where the final vowel is /i/ rather than /a/. The underlying forms in (5) therefore have been posited so that all nouns can follow the same derivation for locative and ablative forms. While this has the effect of simplifying the derivation of locatives and ablatives, there are certain complications involving the underlying representation of the old stem-final /l/. In order to derive the unmarked or nominative forms of /sukuli/ and /nugala/, we need to delete certain final syllables as in the following:

(6) /sukuli + Nom/ /nugala + Nom/
Nom.Rule sukuu nuga

This however is not an adequate generalization since we do not want /-li/ deleted from such underlying forms as/gwAl/ 'heal', /bAl/ 'harvest', /jaU/ 'net', /mwaAl/ 'flute' etc where a syllable non-deletion Nom. rule will apply.
The Nom.rule then deletes a Nom except where the stemfinal is one of a listed set of syllables, i.e. /ti/, /ti/, /li/, /la/, /kha/, /wo/, /ja/, /sa/, /ca/, /ma/, /na/ and possibly /pa/ (as in /sarāa/ "curse", but /sarāpā/ 'with a curse'). Where the Nom.rule applies to an affricate or fricative it will not simply delete and lengthen the preceding vowel, but will also replace the deleted syllable with /e/:

(8) UF
    Nom.Rule
    bhoie/   /desa/   /thaśa/   /kwAca/  
    'feast'   'country'   'place'   'bone'

Where the Nom rule applies to a nasal, it will nasalize the preceding vowel as well as lengthen it:

(9) UF
    Nom.Rule
    /gā ma/   /na ma/   /bākha.na/   /cika.na/  
    'village'   'name'   'story'   'oil'

In a large number of recent loans with word-final consonants, however, the final syllables are not deleted by the Nom rule, e.g. in /parmeswar/ 'God', /jahān/ 'family', /māhārāj/ 'king', /memsāb/ 'lady', /mālik/ 'master', /rāches/ 'giant', /tārīf/ 'praise', /pāp/ 'sin', /āpat/ 'crisis', /mec/ 'chair' and the like. So while the Nom rule in (9) applies to an underlying form such as /gāma/ 'village' or /phāsa/ 'wind', it cannot apply to an underlying from such as /mālik/. Though this may appear to be a forced solution, it does have the virtue of distinguishing forms to which the rule is or is not applicable. In other words, the rule can apply only to forms that end in the listed syllables, and the loan patterns obviously do not meet this condition. Note also that the underlying forms in (9) are marked with syllable boundaries so that we could simply refer to listed syllables and avoid confusion over the morphemic status of the old stem-finals. It is not however clear whether these stem-finals ever were morphemes, as the consonants at least seem to have been part of the noun stem and not independent morphemes or part of the suffix system.

For example, the Nom rule will apply to the form /gwā.ca/ 'moustache' by virtue of /ca/ being a listed syllable, but it does not apply to /ku-cā/ 'a piece of' where /cā/ is a diminutive suffix which is indeed a morpheme. So the syllable boundary at this stage of the derivation functions as a special marker that triggers the operation of the Nom rule, but is
/bəli + Nom/
/bəli
'harvest'

stemfinal
/thi/, /li/,
and possibly
a curse').
tricative it
vowel, but

/kwAcA/
kwAE
'bone'

nasalize the

/cika.na/
cikAA
'oil'

consonants,
the Nom rule,
ərəj/ 'king',
ərət, /tərιp/
ərər' and the
underlying
it cannot
ugh this may
be virtue of
applicable.
that end in
usly do not
forms in
ould simply
norphemic
lear whether
onsons at
em and, not
em, ə
form /gwə.ca/
llable, but
/cə/ is a
the syllable
a special
le, but is

t blocked if there is a morpheme boundary. The derivational
rules involved for all the forms can thus be summarized in
the following two rules:

(10)  
(a)  C ----> Ø / [Stem + Nom] $ V
(b)  Ø ----> C / [Stem + Abl/Loc] + { V; \VV }

where '+' represents a morpheme boundary
and '$' a syllable boundary.

A notable exception to case formations for this class of nouns
is evident in the example /chE/ 'house' in which the
hypothetical final consonant does not surface in the forms
either as ablative or locative case endings. This implies
that Rules (10a) and (10b) do not apply to this form, and
instead the case markers are indicated by lengthening of the
stem vowel as can be seen in (11) formulated in terms of
distinctive features:

(11)  

[ + syllabic
[ + high
[ + nasal
] ----> [+ long] / [+ stem ] +

Rule (11) illustrate the simple fact that a high nasal
vowel is lengthened in the stem-final position. Note that
Rule (11) is quite similar to the V lengthening rule in
(3) above, but the two rules are to be distinguished in
that they indicate different case markers, i.e. nasalization
as a feature is inherent in (11) while the form in (3) has
an underlying oral vowel. We thus have the following 3
part derivation for the form/chE/:

(12)  
UF /chE + Nom/ /chE + Loc/ /chE + Abl/
Nom. Rule chE
Loc. Rule chE-E
Abl. Rule 'house' 'in the house' 'by/from the house'

Here the Nom rule simply deletes 'Nom'; the Loc rule affixes
/-e/ according to rule and nasalization spreads across
the syllable; and the Abl rule lengthens and (vacuously)
nasalizes the stem-final vowel. Note that the Locative
and Ablative forms of /chE/ are phonetically similar since
speakers do not consistently distinguish the two forms
in normal speech. This is precisely what the normal rules
for ablative and locative would predict, given a form with
no deleted final consonant. So the form /chE/, where the
vowel is short and no consonant surfaces in either the
locative or the ablative forms, can be taken as an expected phonological ambiguity within the system of Newari noun phonology.

The remaining case-markers */-yäke/, */-yäta/ and */-yä/ apply uniformly to the Associative, Dative and Genitive forms respectively without involving alternations in the stem nouns. In (5a) and (5b) we saw that the stem vowel is shortened when followed by a case-marker beginning with a lateral or an obstruent. But when a noun is followed by a glide-initial suffix */-yäke/, */-yäta/ or */-yä/, the segments in the stem remain constant. Notice however the free variation indicated in (2) above, i.e. */-yäke/ and */-yäta/ are phonetically reduced to [-ike] and [-itä] in normal speech. The genitive case ending */-yä/ is not reduced likewise especially in word-final positions. But as part of a compound involving weak syllables, */-yä/ is often realized as [ï], e.g. tho-yä-gu and tho-i-gu - 'his', the first occurs in careful speech and the second in rapid speech. This however may be a general rule that applies not only to nouns but to verbs as well, e.g. covä-conä and coi-conä - 'was writing'. Thus if we were to maintain that word-final position is what blocks the rule, then auxiliaries would have to be taken as parts of verbal compounds. This may be the logical view for Newari verb phrases as reflected in the current spelling conventions. The case-ending */-yä/ can also be followed optionally by a */-gu/ form, and in most speech situations this occurs quite normally. For the first person pronoun 'I' the */-gu/ form seems to be obligatory as an appropriate marker for possession, e.g. ji-gu-saphu - 'my book', but is not marked as such by Hale and Manandhar (1973) since they were dealing with clause-level constructions where */-gu/ as marker of inanimate possession or */-mha/ as marker of animate possession are not strictly relevant.

Another morphological alternation relating to the stem-final consonant concerns the distinct tendency towards 'absolute neutralization' of the underlying segments. In present day Newari it appears that the stem-final syllables which have been lost are not all preserved in the ablative and locative form of nouns, and these consonants now gradually fill to appear on the surface. Hale and Manandhar (40) note that "...these consonants may soon be lost. The ergative form celä- 'by the servant' for example is on its way to obsolescence and is being replaced by cyaa-nAA. The form mää-nAA 'by the mother' now occurs along side the ergative, mä-mAA. The all-purpose ergative -nAA is paralleled by the locative, lae (or khae in Bhaktapur) for those speakers..."
who have lost the oblique stem forms of various nouns."
It is not however certain on what basis Hale and Manandhar
have suggested /l/ as the underlying segment, unless it
is the case that /l/ is historically earlier than /w/.
The underlying form /cela/ thus may have been replaced
by the current archaic form /cewa/, as the ablative /cyel.wAA/
is still evident in speakers of the older generation.

Consider however the currently obsolete form /celA-A/ as
an illustration of this trend. If the lost stem-final
/l/ in cyaa was recoverable in the ablative celA-A, then
we can logically posit /cyaa.la/ as the underlying form
and obtain the following derivational rules for both the
case forms:

(13) UF /cyaa.la + Nom/          /cyaa.la + Abl/
    Nom Rule cyaa             cyaa.la-A
    Abl Rule [tse:] 'servant'   [txe, I:] 'by/from the servant'

on the similar basis, since the nasal C /m/_ surfaces in
the ablative forms of mAA - 'mother' and lAA - 'shoes',
we can assume these nominative forms to contain the underlying
stemfinal nasal, as can be seen in (14):

(14) (a) UF /mAaa.ma + Nom/          /lAAa.ma + Nom/
    Nom Rule mAA          lAA
    'mother' 'shoes'
    (b) UF /mAAa.ma + Abl/          /lAAa.ma + Abl/
    Abl Rule mAA               lAA
    Mama-A                    lAA
    'by/from the mother'      'by/from the shoes'

The alternative forms of the ablative consist in all cases
of the Nominative form followed by -nAA. Thus the alternative
forms would be /mAA.nAA/ and /lAA.nAA/. The fact that
/cyaa.lAA/ or /cyaa.wAA/ has now been replaced by a more
general ablative _/cyaa.nAA/, and the concurrent uses of
/mAA.nAA/ and /mAA.nAA/ indicate a process of historical
change which may be described as changes in the order of
application of certain rules (Kiparsky, 1965). The derivations
in (13) and (14) are however stated as a condition on underlying
forms rather than a condition on rules. This condition
assumes that if the alternating forms manifest one or more
allomorphs, i.e. [Ø] vs [m] or [n], then one of the allomorphs
is posited in the underlying base and others are derived
from it.
3. NUMBER AND GENDER

Another central problem in lexical representation for nouns is the problem of alternations that take place under morphological conditions in gender and number. Such alternations may involve only one form, i.e. the addition of a uniform suffix to the stem noun such as jvāpu 'farmer' - jvāpu-nīi 'farmer's wife'; kalāa 'wife' - kalāa+plII 'wives'; phai 'sheep' (sing.) - phai+ta 'sheep' (plu.) etc. Or, they may involve more complex cases where vowels and consonants can alternate within a single morpheme or in some classes of words a monophthong/diphthong alternations to indicate gender/number distinctions. This brief analysis then will seek to determine what sort of underlying representation to give to a stem that undergoes such alternations in morphological environments. All alternations that involve classes of nouns will be examined and represented in rules that derive surface phonetic forms from the underlying morphemes.

3.1 Number Markers

Shrestha Char (1964:9) describes three ways of indicating number distinctions in Newari: (a) addition of a suffix /-pII/; (b) insertion of the suffix /-ta/ to the stem noun; and (c) by reduplication of the wh- question markers, or reduplications in pronouns and demonstratives. Here are illustrative forms:

(15)

(a) /kišā/ -brother /kišā-pII/ -brothers
/kāe/ -son /kāe-pII/ -sons
/taamī/ -a rich person /taamī-pII/ -rich persons

(b) /phāi/ -sheep (sing.) /phāi-ta/ -sheep (plu.)
/kīsī/ -elephant /kīsī-ta/ -elephants
/manuŭ/ -man /manuŭ-ta/ -men
/lākāā/ -shoe /lākāā-ta/ -shoes (Kinds of)

/cīmā/ -tree /cīmā-ta/ -trees (kinds of)

(chē)/ -house /chē-ta/ -houses (kinds of)

(c) /chu/ -What? /chu-chu/ -what kinds?
/go/ -where is it? /go-go/ -where are they?
It may be noticed from (15) that the alternate uses of /-pII/ and /-ta/ appear to be unpredictable since these suffixes are not strictly confined to [+human] and [-human] nouns respectively. We thus have /i-pII/ 'they', /jihān-pII/ 'families', and /pāju-pII/ 'uncles' etc alongside other [+human] nouns such as /manuu-ta/ 'men', /guthyra-ta/ 'members of a social/religious organization', /misa-ta/ 'women' etc. A general rule may be stated to cover what first appears to be idiosyncratic alternations in /-pII/ and /-ta/:

(16) Ø ---→ {pII} / [-ta] \ [animate] #

This generalization however is not entirely satisfactory since /-pII/ and /-ta/ are by no means in free variation and cannot be attached to any noun indiscriminately. Shresthacharya (10) makes the plausible suggestion that nouns which have the classifier /ma/ or /mha/ as an implicit singular marker can take /-pII/ or /-ta/ in the plural, and the nouns which have underlying /-gu/ or other classifiers as the singular marker will in all cases take /-ta/ as the plural suffix. The examples in (15) fully support this fact since all nouns with /-pII/ as the plural suffix can have /mha/ in the singular form, e.g. /kijā-mha/ - /kijā-pII/ 'the one who is/those who are brothers'. /kāe-mha/ - /kāe-pII/ 'the one who is/those who are sons', /taamī-mha/ - /taamī-pII/ 'the one who is/those who are rich' etc, but we cannot have */lākā-mha/, */simā-mha/ or */chē-mha/ in any context.

Hale (1971:1) distinguishes three classes of nouns which he claims "can be defined in terms of differences in affixation, where affixation is taken to include both the classifiers which are affixed to the numerals which quantify the noun and the affixes which attach to the noun stem itself." Hale's classification is similar to Shresthacharya's in that Class 1 nouns take /pII/ and Class 2 nouns take /-ta/ as the plural marker, while Class 3 nouns manifest numerous singular classifiers and marginal occurrences of the plural marker /-ta/ which according to Hale usually has the meaning 'kinds of', i.e. /lākā-ta/ or /simā-ta/ imply 'kinds of shoes' and 'kinds of trees' rather than simple plural formations. As a general rule, Hale classifies...
class 1 nouns as 'honored animate nouns', Class 2 as 'non-honored nouns', and those of Class 3 as 'inanimate nouns'. The facts as described by Shresthacharya (1964) and Hale (1971) seem to suggest that the three classes of nouns which trigger the uses of /-pII/ and /-ta/ can be expressed in terms of the following three rules:

(17) (a) \[ \text{Class 1 nouns} \]
\[ +\text{singular} \]
\[ +\text{human} \]
\[ \Rightarrow \text{Stem} + \text{pII} \]
\[ \text{Plural} \]

(b) \[ \text{Class 2 nouns} \]
\[ +\text{singular} \]
\[ +\text{animate} \]
\[ +\text{human} \]
\[ \Rightarrow \text{Stem} + \text{ta} \]
\[ \text{Plural} \]

(c) \[ \text{Class 3 nouns} \]
\[ +\text{singular} \]
\[ +\text{animate} \]
\[ \Rightarrow \text{Stem} + \{\emptyset\} \]
\[ \text{Plural} \]

These rules will allow us to derive the following plural formations for the three classes of nouns:

(18) (a) /p\text{"}j\text{"}u + Plu/  /j\text{"}h\text{"}n + Plu/  
Plu Rule  p\text{"}j\text{"}u-pII 'uncles'  j\text{"}h\text{"}n-pII 'families'

(b) /khic\text{"}a + Plu/  /phog\text{"}I + Plu/  
Plu Rule  Khic\text{"}a-ta 'dogs'  /phog\text{"}I-ta/ 'beggars'

(c) /si\text{"}m\text{"}a + Plu/  /ch\text{"}E + Plu/  
Plu Rule  Si\text{"}m\text{"}a-ta 'kinds of trees'  Che 'houses'

In (18a) the plural suffix /-pII/ applies obligatorily to particular [+human] nouns; in (18b) the suffix /-ta/ occurs optionally for [+human] nouns but in general to all [+animate] nouns; and in (18c) the sequence [stem+ta] is marginal so that a plural interpretation can be given even in the absence of /-ta/ by "specifying the classifier or set of classifiers in terms of which the noun may be quantified" (Hale, 1971:3).

3.2 Gender Markers

Shresthacharya (1964) recognizes three ways of indicating gender: (a) V or/and C alternation in the noun stem; (b) insertion of prefixes /ba-/ or /ma-/ to the noun stem; and (c) addition of a suffix /-nii/. As an illustration of (a)
consider first the following forms which constitute the most common alternations in gender markers:

(19) /näe/ 'butcher' /nAI/ 'butcher's wife'
/wEE/ 'mad man' /UII/ 'mad woman'
/kÄA/ 'blind man' /kanI/ 'blind woman'
/näyaa/ 'head man' /nakII/ 'head woman'
/jyāemha/ 'young man' /lyāse/ 'young woman'
/mijAA/ 'man' /misA/ 'woman'
/khwAE/ 'deaf man' /khusII/ 'deaf woman'
/pwarīyā/ 'fisherman' /pwarII/ 'fisherman'
/langarā/ 'lame man' /langari/ 'lame woman'
/gallarā/ 'man with goiter' /fallari/ 'women with goiter'
/yārpa/ 'cock-eyed man' /yālII/ 'cock-eyed woman'
/jyātha/ 'old man' /jithi/ 'old woman'

The paradigms given in (19) present a very complex picture of alternations, and apart from the uniform agreement in the initial C for masculine and feminine counterparts, each pair of nouns manifest a variety of alternations in the stem morpheme.

These alternations involve changes from a monosyllabic to a disyllabic word, e.g. /kÄA/ - /kanI/; vowel and consonantal changes within disyllabic patterns such as /näyaa/ - /nakII/, /khwAE/ - /khusII/; and stem-final vowel alternations in /langarā/ - /langari/, /gallarā/ - /gallari/ etc. For the purpose of the present analysis, however, we shall consider pairs like /näe/ - nAI/, /wEE/ - UII/, /näyaa/ - /nakII/, /jyāemha/ - /lyāse/, /yārpa/ - /yālII/ etc as separate lexical items rather than as derivations of the from the other. Historically these are very interesting forms, but in a synchronic description it is doubtful whether the patterns are sufficiently productive to warrant setting up the rules to derive them from underlying sources. Further, the rules required to derive each item seem to be highly restricted, and the complexity involved in the rules is not easily justified in terms of the number of lexical forms they serve to describe. These rules however may be given a natural ordering statement independently for each form:

1. A vowel lengthening and nasalization rule which lengthens and nasalizes a vowel sequence when followed by a nasal consonant in the word-final position:

\[
\begin{align*}
{[+\text{syllabic}] + [+\text{long}]} & \quad /\quad \text{N#}
\end{align*}
\]
2. Syllable re-structuring rule which inserts or deletes segments, thus affecting the relative distribution of consonants and vowels within the word. A consonant may be deleted word-finally but is retained when followed by a suffix. A vowel may also change into a glide, and diphthongs may be monophthongized in certain positions. These alternations have the effect of changing the syllable structure of the stem word. Further, the class of suffixes applicable to this function alters the syllable shape of the derived output:
(a) + CV.CV + ---» CV:
(b) VV ---» V:

The V lengthening and nasalization rule (1) and the re-structuring rule (2) apply simultaneously, as can be seen in the following sample derivations:

(a) UF /kā.na/ 'blind man' /ka.niina/ 'blind woman'
1. v length. /kā́na/ kaniina
2. V nas. kā̀ Nina kanIIina
3. N del. kā̀ kanII
DF [ka:] [kāni]́

(b) UF /nūya.kā/ 'head man' /nāki.na/ 'head woman'
(R.1) nūya.kaaka nakiina
(R.2) nūyaaka nakiina
(R.3) nūya nakiin
DF [nj:ka:] [nj:ki]́

(c) UF /khwāy.na/ 'deaf man' /khusi.na/ 'deaf woman'
(R.1) khwāe.na khusiina
(R.2) khwāé.na khusIIina
(R.3) khwā̀e khusII
DF [khwāçi:] [khusi]́

The derivational rules illustrated above leads to a change from a more complex syllable structure to a basic CV pattern which we take to be the preferred syllable structure for Newari. Such processes have the effect of reducing a disyllabic word into a single syllable, of deleting word-final consonants, and a vowel sequence realized as a single long vowel. The alternations involved in these processes may thus be regarded as 'optimal alternations' that derive the basic syllable structure of contemporary Newari (see also Kansakar, 1983).
It now remains to account for those classes of nouns which require direct insertion of affixes as differentiating gender-markers. It is obvious from such examples as /khwÆ/ - /khusII/, /náyaa/ - /nakII/, /galaarã/ - /galaarã/ etc that the high vowel [i] generally signals a feminine marker, but the final syllables with this high vowel do not constitute independent morphemes and hence are not a part of the suffix system. In the case of /jya.tha/ - /ji.thi/ however, there is a possible morpheme break between the first and second syllables of the two words. The vowel harmony-like agreement in this pair of nouns is therefore an interesting fact which has no parallel in the data so far examined.

The class of nouns that insert prefixes or suffixes as gender-markers can be seen in the following forms:

(21)
/ bā-r̥-kisi/ - male elephant / mā-r̥-kisi/ - female elephant
/ bā-hAE/ - drake / mā-hAE/ - duck
/ bā-dhu/ - tiger / mā-dhu/ - tigress
/ bā-cakhu/ - male sparrow / mā-cakhu/ - female sparrow
/ yemI/ - male resident of Kathmandu / yemI-nII/ - female resident of Kathmandu
/ kAAmI/ - carpenter / kAAmI-nII/ - carpenter's wife
/ sãemI/ - Manandhar caste / sãemI-nII/ - a Manandhar's wife
/ awāwā/ - a roof-tile layer / awāwā-nII/ - tile-layer's wife

It is evident from the examples in (21) that the prefixes / bā-/ and / mā-/ can go only with [animate, -human] nouns, while the suffix / -nII/ is inserted only in the case of [+human] nouns. These facts can be described in the following two simple rules:

(22)
(a) ∅ ----> bā- / mā- / # + Stem
     [animate] [human]

(b) ∅ ----> -nII / Stem
     [+human] + #

4. NOUN CLASSIFIERS

Hale and Shresthacharya (1973:1-21) in their highly interesting paper on "Is Newari a Classifier Language?" explore various criteria for characterizing true classifiers and provide
a wide sampling of representative classifiers in the language. We shall not be concerned here with the total system of classifiers, but more directly with the phonological representation of noun classifiers in particular. The brief analysis that we intend here will take account of phonological alternations involved in the use of noun classifiers and to express such facts in terms of informal rules. In this sense, we could treat classifiers in the same way that we have treated nouns, to the extent that they manifest the same stem alternations as the nouns. The syntactic and semantic implications of classifiers as investigated by Hale and Shresthacharya will thus be largely ignored in the present analysis since the choice of a classifier with a given head noun is accomplished by the syntax rather than the phonology.

We can thus make use of the rules we have developed for nouns (i.e. nominative, ablative, locative and plural rules) and illustrate how these rules also apply in the same form to classifiers. As the phonological shapes of individual classifiers are determined by their pairing with certain classes of nouns, we need in the first place to distinguish between classifiers that accompany [+animate] or [-animate] nouns on the one hand, and unit countable or unit non-countable nouns on the other. The following examples will serve to illustrate these distinctions:

(23)  
manuu cha-mha - one person  
khicā cha-mha - one dog  
saphuu cha-gu - one book  
cosā cha-pu - one pen  
chē cha-khā - one house  
lākā cha-ju - one pair of shoes  
swā cha-phwo - one flower  
laa cha-phuti - one drop of water.

The illustrative forms in (23) show a uniform sequence, i.e. stem noun + numeral + classifier. The lexicon as listed however convey different kinds of information about the stem, e.g. phonological information: that each stem is composed of specified number of segments; syntactic information: that each is a noun that may be animate or inanimate, singular or plural etc; and semantic information: that its use is determined by the meaning content of the object or concept specified. Further, the use of classifiers more than the use of numerals serve to quantify the head noun in a manner which explicitly defines the inherent
the language. A system of phonological rules is the account of noun and classifier use. The number of noun and classifier inflections in the form of the noun is that the nouns, classifiers and other choices will thus be accomplished.

(24)

(a) UF /manu.kha + Nom/ /manu.kha + Abl/ 
Nom. rule: manuu Abl.rule manuu khAA
Classifier rule: manuu cha-mha Clf. rule1 manuu cha-mhaesilAA/sike
'one person'

(b) UF /mhyä.ca + Nom/ /mhyä.ca + Abl/ 
Nom. rule: mhyäe Abl.rule mhyäe-caAA
Classifier rule: mhyäe cha-mha Clf. rule1 mhyäe cha-mhaesilAA/sike
'one daughter'

(c) UF /saphu.li + Nom/ /saphu.li + Abl/ 
Nom. rule: saphuu Abl.rule saphuu III
Classifier rule: saphuu cha-gu Clf. rule saphuu cha-gulII
'One book'

In this sense the syntactic component of the grammar would indicate that the features of the classifier would be copied from the head noun, or that the classifier itself must reflect the properties implicit in the stem. But prior to the application of phonological rules we assume that the syntactic or morphological features of the classifiers are converted into a string of segments which is added to the stem. We also assume that the spelling rules for the derivation of classifiers are not required since the selection of lexical items is determined by the syntax and provided in the input string. The derivational rules for the nouns and the classifiers given in (23) can thus take the following forms:

developed for plural forms and plurality in the shapes of their pairing in the first place and countable. The following

shoes
water.

form sequence, lexicon as information about

each stem's syntactic animate or information: the content of the classifiers if the head the inherent
<table>
<thead>
<tr>
<th>UF</th>
<th>/saphu.li + Plu/</th>
<th>/saphu.li + Loc/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plu.rule</td>
<td>saphuu-(ta)</td>
<td>saphuu lii</td>
</tr>
<tr>
<td>Clf. rule</td>
<td>saphuu-(ta) ni-gu</td>
<td>saphuu cha-gulii</td>
</tr>
<tr>
<td></td>
<td>'two books/two kinds of books'</td>
<td>'in one book'</td>
</tr>
<tr>
<td>(d) UF</td>
<td>/chE + Nom/</td>
<td>/chE + Abl/</td>
</tr>
<tr>
<td>Nom.rule</td>
<td>chE</td>
<td>chE-E</td>
</tr>
<tr>
<td>Clf. rule</td>
<td>che cha-khā</td>
<td>chE cha-khāā</td>
</tr>
<tr>
<td></td>
<td>'one house'</td>
<td>'by/from one house'</td>
</tr>
<tr>
<td>(e) UF</td>
<td>/lākā,ma + Nom/</td>
<td>/lākā,ma + Abl/</td>
</tr>
<tr>
<td>Nom.rule</td>
<td>lākāA</td>
<td>lākā mAA</td>
</tr>
<tr>
<td>Clf. rule</td>
<td>lākāA cha-ju</td>
<td>lākāA cha-jUU</td>
</tr>
<tr>
<td></td>
<td>'one pair of shoes'</td>
<td>'by/from one pair of shoes'</td>
</tr>
<tr>
<td>(f) UF</td>
<td>/swā,na + Nom/</td>
<td>/swā,na + Abl/</td>
</tr>
<tr>
<td>Nom. rule</td>
<td>swāA</td>
<td>swāA nAA</td>
</tr>
<tr>
<td>Clf. rule</td>
<td>swāA cha-phwo</td>
<td>swāA cha-phwo nAA/III</td>
</tr>
<tr>
<td></td>
<td>'one flower'</td>
<td>'by/from one flower'</td>
</tr>
<tr>
<td>(g) UF</td>
<td>/la.kha + Nom/</td>
<td>/la.kha + Abl/</td>
</tr>
<tr>
<td>Nom. rule</td>
<td>laa</td>
<td>laa khāA</td>
</tr>
<tr>
<td>Clf. rule</td>
<td>laa cha-phutI</td>
<td>laa cha-phutII</td>
</tr>
<tr>
<td></td>
<td>'one drop of water'</td>
<td>'by/from one drop of water'</td>
</tr>
</tbody>
</table>
5. **CONCLUSIONS**

We have attempted in this paper to write the rules for the morpho-phonology of Newari nouns by specifying the phonological structure of morphemes and the possible alternations in the stem nouns. As in the case of verbs (Kansakar 1983), we have described these alternations by a process of derivation from the underlying base form for each stem noun, and the morphological conditions under which such rules operate. These rules however have in the main been phonetically motivated since we attempted to determine the deep structure relationship of individual forms from the surface representation or morphological affixes. Such phonetic evidence, we pointed out, can be seen most clearly in the case of those nouns which have lost the stem-final syllables as part of historical process. These stem alternations are clearly obvious in the numerous examples provided to illustrate nominative, ablative and locative rules where the derivational processes involved for various classes of nouns have been analysed in terms of case-endings, number-gender markers, and noun classifiers. The main purpose of this analysis has thus been to present the problems as clearly as possible with the support of extensive data and, more specifically, to show the relationship and constraint between Phonology and Grammar which remains a basic issue in Generative Phonological theory.
NOTES

1/ The transcription scheme used in this paper is a phonemic representation of spoken Kathmandu Newari. This transcription consists of six short vowels: i, e, a, ō, o, and u; eight long vowels: ii, ee, ae, ēe, aa, āa, oo, and uu; and the diphthongs: ai, au, āi, āu, and ui. The nasalization of vowels, which is contrastive in the language, is represented by capitals: I, E, A, Ā, O, U, II, AA, UU etc. The transcription of Newari consonants includes the stops: p, ph, b, bh, t, th, d, dh, k, kh, g, gh; the affricates: c, ch, j, jh; the nasals: m, mh, n, nh, (ng); the liquids: l, lh, r (rh); the fricatives: s, h; and the glides: w, and y.


3/ We have renamed the Agentive as Ablative since it is clearly not semantically an agent with inanimate nouns. Ablative is the traditional name for source and in the instances where t is a semantic agent, the agent can be viewed as the source of the action. This is in line with the idea put forward by Kolver and Kolver (1975: 87–117) and others that Newari is an ergative language.

4/ For discussions that have a bearing on this problem, see also Kansakar (1983:63–75).
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A MORE PROMISING RULE FOR NOMINATIVE CASE-ASSIGNMENT

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INTRODUCTION

As the rule for nominative Case-assignment, Chomsky (1981) proposes that the subject NP of a tensed clause is governed and assigned nominative Case by INFL (containing agreement, henceforth, AGR). This paper is an attempt to show how this rule cannot be upheld for languages like Maithili (an Indo-Aryan language). Instead, we suggest that COMP be treated as the governor of the subject in a tensed clause and the Case-assigner to it. This suggestion is worth exploring for theoretical advantage, in that it accounts for the phenomenon of nominative Case-assignment not only in Maithili-type languages but also in languages like English, Italian and Spanish.

This paper is organized as follows. In section 1 we present a brief sketch of the Case theory, as proposed within the theory of government and binding (henceforth, GB), focusing our attention on the rule for nominative Case-assignment. In section 2 we argue that Chomsky's rule for nominative Case-assignment cannot be retained for Maithili-type languages, where AGR contains grammatical features of not only the subject but also of the direct/indirect object and possessive. In section 3 we suggest that INFL (containing AGR) in Maithili be generated within VP, since it is a part of V. In section 4 we note the problem of nominative Case-assignment in Maithili if we treat INFL as a node within VP. We try to resolve this problem by proposing that the subject of a tensed clause is governed and assigned nominative Case by COMP containing the feature + Tense. We also show how this proposal has cross-linguistic validity, in that it is operative not only in Maithili but also in languages like English, Italian and Spanish. We conclude by summing up our discussions in the preceding sections and showing how the proposed rule is more 'promising' than its earlier counterparts.

1. THEORETICAL ASSUMPTIONS ABOUT CASE THEORY

The theory of Case occupies a significant status within some recent versions of EST [Vergnaud (1979); Chomsky (1980, 1981, 1982); Jaeggli (1980) and other similar works]. It has been considered as one of the principles of universal grammar (UG, henceforth). Under the assumptions of the Case theory, 'abstract' Case is a feature assigned to a lexical NP in a Case-marked position, irrespective of whether it is morphologically realized in a language or not. Thus, nominative Case is assigned to the subject NP of a tensed clause in English, but it is morphologically full.

- 55 -
To implement the idea underlying the theory of Case, we assume that Case features appear freely within the syntactic feature matrix of lexical nouns listed in the lexicon. For example, nouns like boy have the feature \([ + \text{Case} \]) , along with other syntactic features:

(1) \( \text{boy} [ + \text{N}, + \text{Count}, + \text{Human}, + \text{Case}] \) We also assume that the Case features of nouns percolate upwards to NPs. Chomsky (1981:331) expresses this assumption as follows:

(2) The Case of an NP is derived from that of its head (i.e. N), or is assigned by a Case-assignment rule if the NP has no head (e.g. gerund).

Now that the Case features are assigned 'freely' to nouns in the lexicon, it may happen that they are assigned improperly. For instance, a noun which requires nominative Case may be specified with objective or some other Case. To avoid such unwanted Case-assignment, the following principles have been proposed as Case-checking devices [Chomsky (1981)].

(3) a. \( \text{NP} \rightarrow [\text{nominative}] / \text{if governed}^{3} \text{ by INFL} \)
   b. \( \text{NP} \rightarrow [\text{objective}] / \text{if governed by V} \)
   c. \( \text{NP} \rightarrow [\text{oblique}] / \text{if governed by P and certain Vs.} \)
   d. \( \text{NP} \rightarrow [\text{genitive}] / [\text{NP} \quad \text{X'}] \)

The Case-checking rules in (3) specify the contexts in which an NP with a specific Case feature can appear. In other words, these rules determine whether Case features have been properly assigned to an NP in the lexicon or not. Nominative NPs, for instance, may be base-generated in any position of a D-structure. But rule (3a) permits them to appear only in the position governed by INFL (viz. as the subject of a tensed clause). Following Chomsky (1981), we assume that Case-checking applies at no later level of representation than S-structure, since this level is an input to LF - and PF components, both of which require Case-assignment.

In addition to the free assignment of Case features in the lexicon and Case-checking rules (3) applying at S-structure, a grammar requires another device, called Case Filter, to ensure that even lexical NP contains a Case feature. It is stated as follows:
(4) *[NP-Case phonetic matrix]

Note that the rules in (3) do not permit the NPs which are improperly Case-assigned. But they cannot block the NPs which are not Case-marked at all. Hence, Case Filter (4) is required to rule out such non-Case-marked NPs. Following Vergnaud (1977) and Jaeggli (1980), we suggest that Case Filter (4) should best be treated as a condition on morphological well-formedness. Thus, a sentence in which a lexical NP is not specified with a Case feature will be blocked, since it will not satisfy the well-formedness condition in (4). If so then the Case Filter obviously belongs to the PF-component of grammar.

We have so far discussed Case-assignment to the NPs in the lexicon, i.e., base-generated NPs. Now, we turn to show how Case is assigned to moved NPs, e.g., a wh-phrase in English moved to COMP position. In the GB theory Chomsky proposes a device like 'Case-inheritance,' whereby a moved NP 'inherits' the Case of the variable that it binds. The variable may be a trace or a resumptive pronoun. To execute the notion of 'Case-inheritance', Chomsky (1981, 1982) suggests that Case should be assigned to a 'chain'. To accommodate Case-assignment only to a chain, Chomsky (1981: 334) reformulates the principles of Case-checking [listed in (3)] in terms of a chain. Accordingly, a member of a chain can be assigned a specific Case if and only if it appears in a specific Case-marked position. Extending this assumption to the Case Filter in (4), Chomsky revises it as: every lexical NP is an element of a chain with Case.

2. THE RULE FOR NOMINATIVE CASE-ASSIGNMENT AND THE MAITIILLI DATA

Let us now turn to the main issue, i.e., investigating the empirical adequacy of the rule for nominative Case-assignment in the light of the Maithilli data. This rule, stated in (3a), is repeated in (5):

(5) NP \rightarrow [nominative] / if governed by INFL

Consider structure (6) in this respect:

(6) John INFL [VP think that [She INFL [VP leave his book]]]
Here INFL governs John (= the subject of the matrix clause) and he (subject of the embedded clause); so it assigns nominative Case to these subject NPs by rule (5).

As noted earlier, rule (3a), repeated as (5), (including other rules in (3)) is a part of UG. It then naturally follows that the rule in question should be operative not only in English-type languages but also in languages like Maithili. That is to say, in Maithili too, the subject NP of a tensed clause is governed and assigned nominative Case by INFL. If so then we require to invoke an S-expansion rule in Maithili like (7), where INFL is treated as an immediate constituent of S:

\[(7) \quad S \rightarrow NP \quad INFL \quad VP\]

Rule (7) can be motivated for English-type languages on various grounds. For instance, consider subject-verb agreement. Chomsky (1981:52) assumes the following expanding rule for INFL.

\[(8) \quad INFL \rightarrow [\pm Tense] \quad (AGR)\]

AGR in (8) is optional; it shows up if and only if INFL contains [+ Tense]. It includes grammatical features like person, number, gender, etc. In English-type languages AGR contains the features of only the subject NP. Therefore, it seems quite plausible to assume that INFL containing AGR is the Case-assigner to the subject NP. Such an assumption is feasible within the GB theory only if INFL is generated as an immediate constituent of S, governing the subject NP, as in (7).

The treatment of INFL as an immediate constituent of S cannot be retained for Maithili, however. It is quite unmotivated for the language, since it provides none of the evidence in support of rule (7), and, for that matter, rule (5). In the subsections that follow we present two arguments against the retention of the preceding treatment of INFL for Maithili-type languages.

2.1 THE AGREEMENT FACTS IN MAITHILI

AGR in Maithili has some very striking properties. A verb in the language agrees with the person and honorificity of not only the subject but also of the direct object, indirect object, and possessive NPs. These agreement facts are illustrated by the following examples (SUB = subject; DO = direct object; IO = Indirect Object; POSS = Possessive; hon = honorific; nonhon = nonhonorific; Midhon = midhonorific;
1 = first person; 2 = second person; 3 = third person; and M = nasalization:

(9) Subject + direct object agreement

a. O toraa maar-al-kunh
   he- [3 hon.] you-[2 nonhon.] be - past - [3 hon SUB ]
   [2 nonhon DO]

'He beat you'.

b. U toraa maar-al-kau
   he- [3 nonhon.] you- [2 nonhon] - [3 nonhon SUB ]
   [2 nonhon DO ]

(Same as in a.)

c. ham toraa maar-al-iau
   I - [1] you - [2 nonhon.] - [1 SUB ]
   [2 nonhon DO]

'I beat you.'

d. tuM hunakaaw maar-al-uhunh
   you - [2 nonhon.] him- [3 hon.] - [2 nonhon. SUB] 
   [3 hon. DO ]

'You beat him.'

e. tuM Lkaraa maar-al-ihi
   you - [2 non hon.] him - [3 nonhon.] - [2 nonhon. SUB]
   [2 nonhon. DO ]

(Same as in d.)

f. tuM haharaa maar-al-ae
   you - [2 nonhon.] me - ][1]
   [2 nonhon. SUB]
   [ 1 DO ]

'You beat me.'

(10) Subject + indirect object agreement

a. tuM hamaraa okaraa
   you - [2 nonhon.] me - [1]
   him - [2 nonhon.]

de - 1 - ae

give-past - [2 nonhon. SUB]
   [ 1 IO ]

'You gave him to me.'
b. tuM hamaraa hunakaa de-l-ae
   you- [2 nonhon.] me-[1] him- [3 hon.] [2 nonhon.SUB]
   [1 IO ]

(Same as in a.)

c. ahaaM hamaraa okaraa de-l-auMh
   [1. IO ]

(same as in a.)

d. ahaaM hunakaa okaraa de-l-iaenh
   you- [2 hon.] him- [3 hon.]
   [2 hon. SUB] [3 hon. IO ]

'You gave him to him'. (where two occurrences of him are not coreferential)

(11) subject + possessive agreement

a. ham tohar ghar dekh-al-iau
   I - [1] your- [2 nonhon] house see-past- [1 SUB]
   [2 nonhon POSS]

'I saw your house.'

b. ham tohar ghar dekh-al-iah
   your- [2 midhon] - [1 SUB]
   [2 midhon. POSS]

(Same as in a.)

c. ham ahaaMk ghar dekh-al-auMh
   your- [2 hon] - [1 SUB]
   [2 hon. POSS]

(same as in a)

d. ham okar ghar dekh-al-isek
   his - [2 nonhon] - [1 SUB]
   [3 nonhon. POSS]

'I saw his house.'
The agreement facts illustrated in (9-11) show that AGR in Maithili is a complex symbol, including the grammatical features of subject and object (direct or indirect) or a possessive NP. Given the fact that a verb in Maithili agrees not only with the subject alone, it does not seem plausible to treat INFL (containing AGR, as shown in (8) as the Case-assigner to the subject NP, as in rule (5). In other words, if we assume that rule (5) is valid for Maithili also, we do not have any answer to the question: Why does INFL (containing AGR) assign nominative Case only to the subject NP, and not to the object and possessive NPs, since the verb shows agreement with these NPs too?

2.2 Affix Hopping

Rule (5) can be rejected for another reason as well. Suppose we accept rule (5), setting aside the agreement facts mentioned above. Then we would have to invoke a rule like affix Hopping. But the rule in question is unmotivated for Maithili, since there is no syntactic process (e.g. subject-auxiliary inversion, as in English interrogatives) in the language which requires such a rule.

3. INFL AS A PART OF V

The feature content of AGR and other syntactic processes in Maithili obviously suggest that INFL, which contains AGR, cannot be generated as an immediate constituent of S (as in (7)) and whereby be allowed to govern the subject and assign nominative Case to it (as in (5)). INFL in Maithili is in fact the feature drawn from the subject as well as the object or possessive, and is always attached to the final element in a verbal sequence by suffixation. Hence, we must treat it as a part of V and generate it inside VP. To accommodate this fact, we stipulate the following categorical rules for Maithili:
(12) a. \( S \rightarrow NP \ VP \)
    b. \( VP \rightarrow \ldots \ V \ \ldots \)
    c. \( V \rightarrow STEM \ldots \ INFL \)

(The dots in (12c) indicate that some auxiliary elements like aspect and model may intervene between STEM and INFL.)

4. **PROBLEM**

How that INFL in Maithili is generated not as an immediate constituent of \( S \) out as a part of \( V \) inside \( VP \), it cannot govern the subject and assign nominative Case to it by rule (5). This raises a problem for the Case theory within the GB framework; namely, the lexical subject \( NP \) remains non-Case-marked, violating Case Filter (4). To illustrate this issue, consider the sentence in (13):

(13) raam haiMsaaet achi
    Ram Laughs
    'Ram laughs.'

The structure of the sentence in (13) is given below:

(14) \([S'
    COMP [S'...
        [NP [V
            \ldots [STEM
            ASPACT be INFL]]]]\]

The subject \( NP \) in (13) is lexical; so, it must be Case-marked to satisfy Case Filter (4). But, in a structure like (14), it is not feasible to assign Case to the subject under government, since INFL appears inside \( VP \) and there is no lexical category (namely, \( \{\pm N, \pm\} \) that can govern it.

5. **SOLUTION: COMP AS THE GOVERNOR OF THE SUBJECT NP**

To get around the problem of nominative Case-assignment in Maithili, we might simply say that while all other Cases are assigned under government, nominative Case-assignment involves a different device. Jaeggli's suggestion may be worth exploring in this regard [Jaeggli (1980)]. He also argues that INFL cannot be treated as the governor of the subject in Italian and Spanish, since it is a part of \( VP \) in these languages. Hence, INFL cannot govern the subject and assign nominative Case to it by rule (5). Instead of rule (5), Jaeggli proposes a two-step procedure for nominative Case-assignment in Italian and Spanish: free assignment of Case and a filter. First, nominative Case is assigned
freely to any NP. Thus, if a NP, which is already specified for a Case, is also assigned nominative Case freely, then the resulting configuration would be (15):

(15) [NP, + NOM, Case]

But such a configuration in which Case is assigned twice to an NP is morphologically uninterpretable. To block it, Jaeggli proposes the filter in (16) as the second step:

(16) A [ + NOM, NP] must agree in person and number with the verb, otherwise.

Jaeggli's proposal, which is well-motivated for the Italian and Spanish facts, cannot, however, be operative in Maithili, since we know that a Maithili verb agrees not only with subject but also with the direct/indirect object and possessive.

There is in fact no need to stipulate an alternative device for nominative Case-assignment in Maithili. Assume that COMP, instead of INFL, governs the subject NP and assigns nominative Case to it by rule (17):

(17) NP → [nominative]/if governed by COMP

Then the subject raam in (13) does not remain non-Case-marked under government, since it is governed and marked nominative Case by (17). All that is required now is to stipulate COMP as a governor like N, V, and P.

Rule (17), stipulated for Maithili, can also be extended to the nominative Case-assignment in Italian and Spanish. If so then the subject in these languages too will receive Case from COMP under government and we need not invoke a different mechanism in this connection, as proposed by Jaeggli (1980). As regards the post-verbal subject in Italian and Spanish, we might say that it is base-generated pre-verbally and later moved to the post-verbal position by move (See Chomsky (1980) for further discussion.). Then the moved NP inherits the Case of its base position through coindexing. This approach has an edge over Jaeggli's proposal, in that it brings together divergent types of Case-assignment under government and accounts for nominative Case-assignment both in Maithili, and Italian and Spanish by a single rule, viz. (17).
As for English, it is interesting to note that the assignment of nominative Case in this language too has been analyzed in almost the same way (Bennis (1981)) proposes that a subject NP is governed and assigned nominative Case by the COMP of a tensed clause.

Even within the GB-framework (Chomsky (1981); also see Chomsky (1980), there is nothing new about our decision to treat COMP as the governor of the subject. The complementizer for, which is an element in COMP, has been treated as the governor of the subject in infinitival constructions like the following:

(18) the students prefer \[ S' [COMP \text{for}] S \text{Bill to visit paris}\]

In (18) \text{for} governs the subject \text{Bill} and assigns it oblique Case by rule (19):

(19) \text{NP} \rightarrow \text{[oblique]}/if governed by \text{P}

This approach seems to be worth exploring, in the sense that both types of complementizers (namely, \text{for}: the complementizer of a tenseless clause, and \text{that}: the complementizer of a tensed clause) are supposed to govern the same element, i.e. the subject NP, which leads to a kind of unification between the two types of complementizers. They can be further unified if we assume that the COMP nodes itself, instead of complementizers within it, always governs the subject, irrespective of whether it contains \text{for} or \text{that} (along with other elements, e.g. a \text{wh}-phrase in English). Note that the COMP of a tensed clause differs from the COMP of a tenseless clause with regard to Case-assignment; i.e. the former assigns nominative Case, while the latter assigns oblique Case. To distinguish different Case-assignment by COMP in tensed and tenseless clauses, we require to postulate a feature \text{[± Tense]} in COMP and state that [COMP + Tense] assigns nominative Case and that [COMP - Tense] assigns oblique Case:

(20) a. \text{NP} \rightarrow \text{[Nominative]}/if governed by [COMP + Tense]
b. \text{NP} \rightarrow \text{[oblique]}/if governed by [COMP - Tense]

[COMP - Tense] is realized as \text{for} in English and referred to as 'prepositional' complementizer (Chomsky (1981)). Since it assigns the same Case as a preposition does and has the form identical with the preposition \text{for}, rule (20b) can be subsumed under (19). In Maithili, however, COMP is always \text{[± Tense]}, since Maithili has only tensed clauses.
and the Maithili counterparts of tenseless clause behave like VP's; hence, there is no need for specifying [+Tense] in the COMP node of the language.

6. CONCLUSION

In this paper we have examined Chomsky's rule for nominative Case-assignment and shown its inadequacy in accounting for the facts about Maithili language. Incidentally, Jaeggli (1980) also makes similar observation with respect to the Italian and Spanish data and proposes a two-step procedure for nominative Case-assignment, which does not involve the notion of government. Instead, we have made an attempt to postulate the rule in (20m), which can accommodate nominative Case-assignment not only in Maithili but also in languages like English, Italian and Spanish. The rule in question accounts for more data than its earlier counterparts (viz. rules (5) and (15) and (16) and makes the grammar simpler and more elegant. It is in this theoretical sense that we have referred to our rule in (20m) as 'more promising'.
FOOTNOTES

* I wish to thank K.A. Jayaseelan and P. Dasgupta for their insightful comments. An earlier version of this paper was presented at the fourth annual conference of the Linguistic Society of Nepal (Dec. 23–24, 1983).

1 See Chomsky (1965) for a discussion of such a matrix.

2 Mohanan (1981) also makes a similar assumption for analyzing the Case-system in Malayalam (a Dravidian language).

3 For the definition of 'government' see Chomsky (1981: 165).

4 cf. Chomsky (1980), where a wh-phrase receives the Case of the position from which it is moved to COMP.

5 For a detailed discussion of resumptive pronoun, see Yadava (1982, 1983).

6 By 'chain' Chomsky (1981) means sequences of categories at S-structure, the first member of which is a lexical NP or PRO, called the 'head' of a chain, and the rest are traces coindexed with the head by Nove 2. For illustration, consider the structure given below:

\[ S_1 \text{John} \rightarrow [S_2 t_1 \text{to be happy}] \]

The chain in this structure is [John, t], wherein the first member John is the head and the second member is the trace t, coindexed with John.

7 Later Chomsky (1981) reformulates the Ω-criterion in such a way that Case Filter follows from it and, therefore, it need not be stipulated independently in the grammar.

8 This is not an exhaustive treatment of verbal agreement in Maithili. For a more detailed discussion, see Jha (1958), Trail (1973), and Yadava (1980, 1983).

9 In Yadava (1983) the following categorial rules (along with the rules in (12)) have been proposed for generating Maithili sentences:

(i) \( S'''' \rightarrow \text{COMP } S'' \)
(ii) \( S'' \rightarrow T \ S' \)
(iii) \( S' \rightarrow F \ S \)

(T = Topic; F = Focus)

10 Under the assumptions of the GB-framework, Bennis (1981) argues that English does require for another reason that COMP
be stipulated as the governor of the subject; otherwise, this would lead to the violation of the Empty Category Principle (ECP). See Bennis (1981) for further discussion.

11 Bennis (1981) provides two arguments for positing the feature [± Tense] in COMP. First, the choice of a lexical complementizer depends upon whether the verb is tensed or not. Thus, that appears with a tensed verb and for with a tenseless verb. (Chomsky (1981) also expresses a similar view). Secondly, in Dutch root sentences a tensed verb is moved into COMP position.
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Translation: Mapping the Territory of Participants' Experience

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The paper presents the linguistic perspective of translation which shows it as a mutual sharing of experience by participants, as an exercise in the territory between two languages or as a study of texts: each is 'as it were a translation of the other'. The paper will examine various stages of translating by putting the activity in a hierarchical paradigm known as rank-scale. The main object of putting the study in this framework will be to show that the translation can start at the lowest rank where the mutual equivalence between languages will be minimal, but greater equivalence between two languages can be established by gradually moving upwards from the lower to the upper rank. Such an upward movement will mark a systematic shift from one-to-one correspondence between two languages to the realization of free equivalence and the ultimate production of a text known as translation. Translation at this stage provides an insight into the nature of ethnomological linguistic system. It also provides other theoretical insights into the nature of semantic equivalence between lexemes. At the outset, the paper will briefly present the description of translation as such viz; technical translation, machine translation and literary translation. But the main thrust of the paper will be a linguistic description of translation as an exercise in mutual communication between two parties visible or invisible.

Translation has been regarded traditionally as a self-containing system. Traditional linguistics regarded it as the literal transfer of one code system into another. Such a notion of translation does not take into account the most important factor in the construction of a text whether that be original or translation, the context. Context helps the translator to map text-worlds onto the surface texts, which is realized via discourse actions (Dressler 1981: 216). Translators who ignore the context element advocate the effectiveness of literal translation. But the modern approaches to the theory of translation stipulate that language equivalence cannot be set up by ignoring the context or the setting. In other words, there can be no text without contextual value attached to it, because the only function of language is to set

up a communicative situation, and such communication cannot be set up without taking into account the setting in which the discourse is to take place, or the text is directed. The translator should aim at providing a context in the text so that the translation may become readable or meaningful to the target audience. He should all the time strive to narrow the experience-gap between the two worlds of text very easily if their mental tasks such as trying to narrow the mental experience gaps between degree, works like a creative writer. He can be more creative in literary translation theam in scientific translation. The scale of creativity differs in various types of translations, and the degree of creative or free exercise can be plotted along the longitudinal scale from L1 to L2. Poetic, technical, journalistic, commercial, official, scientific, legal translations will have various degrees of difficulties of establishing equivalence. Translation requiring immediacy such as scientific or technical translations, or journalistic translations tend to be theoretically easier than the literary translation which does not require the immediacy of action as the translations of the previous category. Literary translations can wait, but scientific and technical translations cannot. It is easier to recognize cognates more easily in technical texts than in literary texts, because of the fixed nature of the technical terminology in the modern world. But whatever may be the nature of the complexity of semantic equivalence, translation as such yields to the linguistic scrutiny.

Translating is transferring an event, the event of one language into another language - the goal language. The translated text thus becomes a third text that links up the worlds of texts. That is why, taking translation as a formal correspondence between two texts is not a correct approach, pragmatically or theoretically either. Those who believe in the one-to-one correspondence theory believe in the creation of two identical environments or contexts, but in reality, that does not happen. We prepare a scale along which we plot the points of acceptability for translation. The degree of acceptability shifts with various varieties of language. Some forms of translation will have a high degree of acceptability than others, but here we are concerned with the communicative function that translation performs, by reference to the texts. That is why, it is not possible to judge the degree of acceptability by establishing grammatical and lexical correspondences between two languages alone. An alternate and more viable model will be one of progressive selection among categories which will map the degree of correspondence between two worlds of texts, by starting from the lowest rank where we can realise the 'most probable' equivalent and move upwards realizing in each stage the less probable equivalent (Halliday 1964:127). We start from morpheme, the smallest meaningful grammatical unit and move through
word, group and clause. This framework postulates that the higher units will produce more acceptable equivalents. We are using this model to show translation at various ranks. The translated texts selected for the study in this model were acquired by giving a Nepali short text to advanced English learners located in Kirtipur, who are involved in research works requiring English translation very often. The informants produced naturally various translations of the same Nepali text. Since the level of English proficiency of the informants is high, their various responses to the Nepali text indicate the various communicate strategies they would adopt in communicating with the invisible party, the consumer of the translated text. However, certain common features emerged from the texts some of which have been used in the rank-scale paradigm below:

Text A

<table>
<thead>
<tr>
<th>Translation at rank</th>
<th>ma ekanki + ko pandulipi liera hinde</th>
</tr>
</thead>
<tbody>
<tr>
<td>morpheme</td>
<td>I</td>
</tr>
<tr>
<td>Word</td>
<td>I drama of manuscript bring</td>
</tr>
<tr>
<td>Group</td>
<td>I drama of manuscript bring</td>
</tr>
<tr>
<td>Clause</td>
<td>I brought along the manuscript of the drama</td>
</tr>
<tr>
<td>Sentence</td>
<td>I set with the manuscript of the one-act play</td>
</tr>
<tr>
<td>Context</td>
<td>Anaphoric reference provided by the use of the definite article. Drama, a generic term replaces specific term. Translation stays at the level of clause</td>
</tr>
</tbody>
</table>

Text B

<table>
<thead>
<tr>
<th>morpheme</th>
<th>ma ekanki + ko pandulipi liera hinde</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word</td>
<td>I one-act of manuscript set out</td>
</tr>
<tr>
<td>Group</td>
<td>I one-act of manuscript set out</td>
</tr>
<tr>
<td>Clause</td>
<td>I set out from there with the manuscript of the one-act play</td>
</tr>
</tbody>
</table>
Sentence: I left with the manuscript of the one-act play.

Context: *set out* introduces spatio feature, with preposition used.

Context (Contd): to translate the Nepali predicative. Thus, introduces extra features to build up a context not quite required by the target language.

In the following translation as shown by the rank-scale, context is provided by deletion of elements in text A. B provides the social context by retaining the cultural feature of addressing a writer as dai, or brother, not common in the English context.

Example -

Text A

Translation at rank of:

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Vijaya</th>
<th>dai</th>
<th>nikai</th>
<th>kalpanashil</th>
<th>cha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>is</td>
</tr>
<tr>
<td>Word</td>
<td>Vijaya</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>is</td>
</tr>
<tr>
<td>Group</td>
<td>Vijaya</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>is</td>
</tr>
<tr>
<td>Clause</td>
<td>Vijaya</td>
<td>is</td>
<td>conteunteive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence</td>
<td>Vijaya</td>
<td>is</td>
<td>is</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td></td>
<td></td>
<td></td>
<td>Deletes 'dai' kinship term from the Nepali text for the advantage of the target audience. Also deletes the degree marker.</td>
<td></td>
</tr>
</tbody>
</table>

Text B

Translation at the rank of:

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Vijaya</th>
<th>dai</th>
<th>nikai</th>
<th>Kalpanashil</th>
<th>Cha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vijyadai</td>
<td>-</td>
<td>imaginative</td>
<td>is</td>
<td></td>
</tr>
<tr>
<td>Word</td>
<td>Vijaya</td>
<td>dai</td>
<td>-</td>
<td>imaginative</td>
<td>is</td>
</tr>
</tbody>
</table>
group 
Vijaya dai tremendously imaginative is
clause 
Vijayadai is tremendously imaginative
sentence 
Vijaya is a quite imaginative writer
context 
Retains Nepali kinship term not appropriate in the English context. Introduces extra emphasis by using 'tremendously' to mark degree represented by quite/prettty in English.

Both texts are context-sensitive. Text A tries to build up the context at the lower levels, at the level of word or group or clause but text B builds up context at the higher level—at the level of sentence or text. Text B provides several cohesive components to lend texture to the text. This translated text is equally sensitive to the L1 environment as it is to the L2 environment. As a result, each text, as far as text B is concerned, to quote Halliday, is 'as if it were a translation of the other.' The one-to-one correspondence gives way to a lesser degree of correspondence at the higher level. At this level the translator may refer to the codes of both languages his chief objective no longer being to match each item of the two texts but to establish a kind of communicative or discourse system, with the target consumer of his text. Here is an example from the letter of an English writer of Nepali:

Journal bishaema na timile na nirmalle chinta linupardaina.

The triple negatives used here are derived from English and Nepali grammatical systems about the use of negatives.

The speaker or a writer may sometimes translate his thoughts into the textual patterns in the goal language that will require a great deal of effort to spell out his communicative strategy. In a special survey of English language use in the present day world, the Newsweek (Nov 15, 1982) published several instances of complex text structures by the foreign learners of English language. The report says, "A busy school teacher in India might tell a pupil "Do not you know I am not vacant? Come behind." Or a happy person might say," My heart is garden-garden." An American university professor received the following letter from Taiwan: "Would you mind enlightening the thirsty palmer languishing in the icy quagmire of despondency on the names and addresses of the professors adorning the Department of Linguistic science, University of Illinois?"
In the above discussed rank-scale paradigm the cultural or ethological factors can be shown to be operating at the linguistic level. Sometimes the components shift their ranks in the translated form. For example, the following words shift their ranks and represent groups in translation:

langauti = loin-cloth
chirita/tilak = forehead marking
chayaur = haircutting ceremony
pira = sitting plank

At the level of word and group also the translator can build up a native contextual unit. Braj Kachru (1983) has culled the following examples to indicate conscious shifts by injecting native environment into the goal language –

- May the vessel of your life never float in the sea of existence
- a crocodile in a loin-cloth
- May the fire of ovens consume you
- What honourable noun does your honour bear?
- What is the name conferred upon you by the authorities of your existence (my collection)
- Son of a concubine
- You donkey's husband, you have eaten my life
- When you are married I shall drink a seer of frothing warm milk, you widow
- the incestuous sister-sleeper
- you circumcised son of a pig
- If I do not spit in Mali's mouth my name is not Jugger Singh
- I bow my forehead
- Well Professor sahib how are things?

In these instances, words and expressions are features or symbols of culture. According to Nida (1964:91), ecology, material culture, social culture, religious culture and linguistic culture should be taken into consideration to tackle the problems of translation which are essentially problems of equivalence. The translation of ecological terms such as hill, mountains, rivers, lakes etc. depend upon the ecological features. A Scottish couples driving me to the borders exclaimed, "Oh, the sun over the hills looks beautiful tonight!" This is only a natural thing to say in an ecological environment where the sun sets only at 10 o'clock in the night. If I were to translate that into Nepali how would I do it? Same is true about material culture, Nepali rakṣi is often translated as wine which is not an exact translation of the word. Sometimes the speaker of one language finds it difficult
to translate the lexemes of another language whether that be foreign or some native language, and continues to use the duplication form. Examples:

- tikanbajichiura
- byroakdo bato
- bootjutta
- restaurant bhojanalaya
- muffler pheta

To make up for the lexical deficiency in its own system, a language sometimes takes the lexicons of another language bringing in 'new civilization,' and use alongside its own near-equivalent lexemes. In the same manner, one language may lexicalize a meaning that is not lexicalized in another, which becomes manifest in translation. Here are a few example:

- 'to get wet' gets lexicalized into Nepali rujhnu
- 'to roll a ball' into bhakundyauna
- 'a ball of flour given as fodder to animals' into kundo
- 'suffering from diarrhoea' into cheraute
- 'laslai sugandhi aushadhi aadi halera kuhuna nadinu gets lexicalized into 'mummyfy' in English.

The above phenomenon reveals that word-for-word translation is unsatisfactory because the so-called equivalent lexemes become incongruent in such translations. Some translators try to lexicalize the native lexeme into the goal language and produce very artificial translation.

The complexities of social organization and social control pose problems for translation. Translator's problems will be formidable if he is operating in a society with sharp social stratification on the basis of caste and social privileges. One can notice a tendency among people to translate their castes into Sanskrit or curiously enough, their titles in English abbreviations. In social discourse, interlocutors often tend to avoid the use of native kinship terms. In Nepali conversational situations one can very frequently encounter such evasions as -

- aaja mero wifele try garne bhakekocha
- mero husband lai yo jutta asadyai man parcha hao!

In a very orthodox gathering of pundits, I heard a lady, apparently the wife of the main pundit speaker, give her introduction as -

- ma wahan speakerkai misses hun.
English pronominals and predicatives occur to avoid the complex
placing of honorifics in the hierarchical paradigm in Nepali
such as ta, timi, tapai, hajoor, with the corresponding predicatives
gar, gara, garna and garisiyos. A number of other problems
involved with the translation of cultural or ritual practices
require rank-shifting in the rank-scale paradigm. The English
translation of Jutho as 'ritualised pollution' is one such curious
example of rank-shifting at the level of cultural interpretation.

Differences existing between languages effect translation very
much. While translating a foreign place name or name, translation
tends to select the most homophonous lexeme in his translation.
Several curious examples of such homophonous adaptations can
be cited from a Nepali script Jangbahadurko Belavat Yatra
(Janga Bahadur's Visit to England) written by a member of Jang's
entourage in 1850. The text translates -

- Southampton as sautanghat
- Birmingham as barmadi
- Richmond Terrace as rjabantakyari
- Alexendria river as alakhajanari nadi
- Plymouth as pimla
- Lord as jathsahib
- Jesus as Jiju
- River Thames as timas nadi

The Dinman weekly of India translates Mrs Thatcher as srimati
taichar. Most curious cases of homophonous translations occur
when the translator tries to evade the sounds that might cause
embarrassment to the consumer. To avoid embarrassment to the
listeners in the hills and tarai, the Radio Nepal used to translate
Shekmuvjiboor as Shekhamajibar.

Morphological features effect translation greatly. English uses
compounds by deleting possessives like 'school compound,' 'courtyard'
etc. whereas Nepali very rarely uses that system of compounding.
So, a Nepali translator tends to translate such compounds by
providing the possessives as compound of the school etc. Sometimes
a word shifts double ranks and becomes a clause in translation:

- swargabasi becomes 'Mr x who now lives in heaven'
  (Encountered in a special translation)
- sworgiya becomes 'Dwelling in heaven' (Turner 1931)

Translation of some words require a rank-shift to a position
as high up as the context itself which requires the creation
of a text that performs a particular speech act itself. Here
is an example from Turner (1931):
The lexeme bhatkaru in Nepali is translated into English as, "Messenger sent ahead of the marriage procession to the bride's house to give information of the procession's approach and of the number of men in it and the amount of rice required to be made ready."

So, in the rank-scale paradigm words that do not require rank-shifting are mainly technical words. Fewer cases of rank-shifting occur in technical or machine translation which is based upon the view of language, to quote Halliday (1964:133) as "a string of beads, whether called words or morphemes arranged into patterned sequences called sentences." But more powerful models of language such as literary or cultural text translation requires the recognition of the complex exponents of the categories in the rank-scale paradigm.

**Conclusion**

Translation is the production of a progressive language with dynamic exponents of categories operating at every point along the scale. The translator keeps shifting and adjusting the categories according to the nature of the communicative situation where the translated text which I would like to call intertexts, has to operate. So, the intertext operates in or requires the same kind of variables as are necessary to build up a discourse system.
REFERENCES


