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by

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SOME LAMANI SENTENCE TYPES:
AN EXPERIMENT IN PEDAGOGICAL RESEARCH

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I. INTRODUCTION

There seem to be two near polar philosophies about education. Both
are aimed at eventual independent creative work on the part of the
student. Both give thorough theoretical orientation prior to practical
field work. They differ however, in the means used to transfer the
student from dependence to independence. The one expects the student
to begin work immediately after theory with little, if any, orientation
as to method or heuristic. The other not only gives a thorough orienta-
tion on method, but requires the student to work side by side with the
instructor on practical field problems before being asked to do inde-
pendent work. It is this latter technique which has been used in the
work reported in this paper. Our purpose is to report on our experiment
by recording our procedures and results with the hope that others doing
similar research will find it useful.

In early 1974 I was asked to teach a course in sentence analysis
to a class of students in the Linguistic Training Course of the Insti-
tute of Nepal and Asiatic Studies and the Summer Institute of Linguis-
tics of Tribhuvan University, Kathmandu, Nepal. As I had other work to
do besides the teaching, it was necessary to find a way of teaching
that would require a minimum of time of outside class preparation on

the part of the instructor. It occurred to me that if we could use
class time for research and write-up as well as instruction, we could
accomplish this goal. I had been wanting to do some work on the sen-
tence structure of Lamani[1], and saw that it would be instructive for
the students to watch and participate in actual sentence-level proce-
dures in action. If the students could not only be oriented as to
theory and method, but could also watch and participate in actual lan-
guage analysis, their learning would be much more complete and I could
finish some much needed analysis as well as teach the course.

The following then were the ground rules used in the course. Class
was held for two hours daily and consisted of four students, one Lamani
language assistant, and the instructor. All six have been listed as
co-authors of this paper. Our class room research procedure is given
in eleven steps listed below. Our purpose was to familiarise ourselves
with sentence as a semantico-grammatical level, and then to research
and write up *in class* as many sentence types in Lamani as course time
would permit. It was understood that initially the instructor would
carry the main load of research until the class felt sufficiently
familiar with the method to assist, but that from the beginning class
would be informal and open to suggestions, comments, and questions by
the students.

Class was begun with presentation of a survey of sentence types to be
expected in any language and instruction in a means of formulaic display
for each type via a four-box tagmeme system (see Trail 1973b. Notes on
sentence structure). Time allowed us to cover four sentence types
using the following research procedures on each:

1) Decide on the sentence type to be investigated.

2) Read in the literature about any theoretical discussions of that
   type and any practical work done on that type in related lan-
   guages.

3) Look for examples of the sentence type in text and/or ask the
   language assistant to give examples. (If the assistant lacks the
   sophistication required to do this, other methods of elicitation
   will be necessary such as asking the assistant to translate ex-
   amples of the sentence type from national language examples, or
   making up hypothetical situations which would naturally involve
   the use of that sentence type, and asking him to retell it in his
   language.)

4) After sufficient examples have been collected (five to ten for a
   beginning), divide each sentence into its constituent parts and
   arrange the examples with translation in a systematic manner so
   as to facilitate observations. That is, if the sentence has three

constituents, arrange the examples so that similar constituents
from example to example fall into the same column.

5) Make observations about the sentence recorded, meticulously
   writing out these observations. These will later provide material
   for further investigation and final write-up. Typical observa-
   tions have to do with number of constituents, form of verbs, dele-
   tion patterns, form of links or relators, mood restrictions,
   tense-aspect pairing patterns across the bases, and so on.

6) From the observations and the data, form hypotheses about the
   structure of the type and then proceed to confirm or disprove
   these by checking with other data and asking questions of the
   language assistant.

7) After all observations have been made about the data, the follow-
   ing check list of questions was found useful to make sure we had
   covered all important areas of possible fruitful investigation.
   (Some of these will overlap with observations already made.)

   a) Can we permute (change the order of) the constituent parts?
      Does the meaning change or remain the same? Are other struc-
      tural changes necessary in order to permute?

   b) Must we have same Subject or Actor in both bases? Must we
      have the same Predicate or same terms in both bases?

   c) What happens if we add negative to one base?

   d) Can we make the sentence interrogative?

   e) Can we make the sentence imperative?

   f) Can the verb forms of the bases change? If so, what restric-
      tions are there on which forms can occur?

   g) Are there any cross-referencing particles occurring across
      the bases like 'if...then', or 'although...yet'.

   h) Are there any discernible deletion patterns?

   i) Are there any restrictions on the clause type which may fill
      either of the bases?

   j) Are there other ways of expressing the same relationship be-
      tween the bases?

8) Make a workchart of one or two examples according to the pattern
   given in Notes on Sentence Structure p. 7. (This step may be
   merged with 9) if it is not found necessary as a separate step.)

9) From the workchart or data make a formula or formulae which ade-
   quately represent the data covered.

10) Write up the results drawing on your observations and examples.
    (For the write-up format that we found useful, see the four Lamani
    sentence types given below.)

11) Pass out a draft copy of your write-up to interested scholars
    for their comments before proceeding to make polished copies.

Using this procedure we examined in class four Lamani sentence
types: Conditional, Antithetical, Alternative, and Conjunctive. We
present them below largely as they were written up in class and later
discussed and polished.

One further note should be made. In this paper we are viewing a
sentence as a distinctive semantic relationship which exists between
two propositions or groups of propositions, correlated with a grammat-
ical relationship — coordinate or subordinate — which exists between
two clauses or groups of clauses, and which has definite phonological
boundaries of aperture and closure. This means that the traditional
simple sentence consisting of only one proposition or clause is beyond
the scope of our study.

II. SOME LAMANI SENTENCE TYPES

A. *CONDITIONAL SENTENCE*

1. Contrast

a. *Formula*

DB	AR Cl -to		IB	I CL	
Cond Prop	$\begin{bmatrix} \text{pos} \\ \text{neg} \end{bmatrix}$ *		Conseq Prop	$\begin{bmatrix} \text{pos} \\ \text{neg} \end{bmatrix}$ *	
	P--->			Q	

with a **+** between the two halves.

* This notation refers to the deep structure only and therefore to the
value system of the language. Underlying it is the assumption that
positive causes give only positive results and vice versa. For the
surface structure rules regarding the positive and negative interplay
between the bases, see the last paragraph under this type below.

b. *Description*

In Lamani the conditional sentence is composed of just two bases
the first of which is dependent and the second independent. The first
base is made dependent by the obligatory presence of the relator to
'if'. For the pairing of aspect and tense across the bases see
Figure 1 below. Semantically the first proposition stands as a condi-
tional cause of the hypothetical result or consequent proposition. The
whole sentence is therefore hypothetical or unreal and in this area it

contrasts sharply with the temporal sequence sentence which implies
certainty or reality.

2. Variation

THE ASPECT-TENSE PAIRINGS ACROSS THE BASES. In general contingent
or subjunctive-like aspects characterise the pairings especially in the
consequent proposition. One exception to this is when perfect is paired
with perfect in the putative contrafactual sentence yet to be investi-
gated.

Conditional Proposition Aspect/Tense	Consequent Proposition Aspect/Tense	Example
future	future	1
future	vb-e-waaL	2
future	potential	
future	present	
potential	imperative	5
potential	future	
potential	potential	
potential	vb-er cha	6
present	present	
perfect	future	7
perfect	future perfect	8

Figure 1. Some typical aspect/tense pairings in the con-
ditional sentence.

Although the chart is not exhaustive, it is representative of the
kind of pairing which frequently occurs in the language. As has been
pointed out, most of the aspects are of the contingent or unverifiable
class. Perhaps the most easily understood of these is the pairing of
future with future.

1) ye   katraa-n maar-i-s   to, ma ghar r-i-yũ
   this dog-obj *kill-will-you if, I home stay-will-I*
   If you kill the dog I will stay home.

Another pairing with future is the -e-waaL aspect which is trans-
lated either, *'about to ___'* or *'will ___'*. The example below followed
example 1 in a text and can be considered a fair transform of it with
perhaps a bit of emphasis added.

2) ye   katraa-n maar-i   aa-i-s   to, ma ghar re-waaL ch-ŭ
   this dog-obj *kill-ing come-will-you if, I home stay-er am-I*
   If you kill the dog and return I will stay home.

A note should be added that the morpheme jar *'if'*, can be inserted
in the conditional proposition of any conditional sentence. Its func-
tion seems to be to emphasise the to *'if'*. It also serves to make a
conditional sentence unambiguous with an identical temporal sequence
sentence. (Since this analysis, we now have reason to believe that jar
is not Lamani but Marathi. If so, though it would have no emphatic
function in a pure Lamani sentence, it could still be used to disambi-
guate a questionable sentence.) Note the following English pair:

3) *When I come she will be happy.*
4) *If I come she will be happy.*

These two could have the same surface structure in Lamani, but jar
could only be added to the second meaning.

Not unexpected is the pairing of potential and imperative — both un-
realised aspects.

5) ek dan taar kan aaTo na ra to, maar kan-ti   le-n   kho
   one day your near flour not is if, my   near-from tak-ing eat!
   If one day you do not have enough flour, take from me and eat!

Potential also pairs with obligatory aspect which is semantically
related to imperative.

6) naaNkyaa bhaai-n   k-ŭ   to, aad gaThDi de-r   cha ma-na
   younger brother-obj *say-I if, ½ bundle giv-ing is me-to*
   *If I tell my younger brother, I will have to give him half of the
   treasure.*

Unexpectedly the perfect aspect pairs with the future. At first it
seemed that there must be some mistake until it was realised that the
future needed to be translated *'would'* rather than *'will'* in this con-
text. Future then doubles for both *'will'* and *'would'* in Lamani.

7) jar wo   gaThDi haat lagaaD-i   to, gaanjyaa wo-na cunD jaa-i-ya
   if that bundle hand placed-she if, wasps   her-to sting go-will-they
   If she placed her hand on that bundle, the wasps would sting her.

It helps in translating this sentence to preface the sentence with
'supposing' rather than *'if'*.

8) jar daaL khaar we g-i   to, khaar we g-i   w-i-ya
   if dal salty we went-it if, salty be went-it be-will-it
   If the lentils were salty, they would/will have been salty.

The conditional idea is closely related to the temporal sequence idea. Because of this, there can be ambiguity when both sentence types use the same relator to *'if/when'*. We therefore felt it important to show how these two contrast so that given an example which is ambiguous, we could by applying certain tests, determine which one was intended. Figure 2 lists six ways in which the two are distinct.

Conditional	*Temporal Sequence*
1) The conditional relator is to *'if'*.	1) The temporal relators are: to *'if'*, janaa *'when'*, -er paca *'after'*, etc.
2) Aspect/tense pairings are mostly hypothetical.	2) Aspect/tense pairings are mostly declarative.
3) Sentence can be transformed to interrogative without structural change.	3) Sentence can be transformed to interrogative but a structural change is required.
4) Bases may be permuted without loss of meaning or structural change.	4) Bases may be permuted without loss of meaning, but to must be replaced by janaa and occur between the bases.
5) Accepts jar *'if'*.	5) Rejects jar *'if'*.
6) The condition can be expressed negatively by the formula na to *'if not'*, following the sentence.	6) The prior proposition cannot be expressed negatively by na to following the sentence.

Figure 2. Conditional-Temporal contrast chart.

SURFACE POSITIVE-NEGATIVE PAIRINGS. By surface structure negative we insist on the presence of a negative morpheme like *'no'* or *'not'*. If one of these is absent from the clause we will label that proposition a positive proposition. Keeping this in mind, the following rule applies: If the consequence proposition is in the declarative mood, then the surface pairings of positive-negative, negative-positive, positive-positive, and negative-negative across the bases, require that if a change is made in one base a reciprocal change be made in the other. That is,

with the positive in the first base and a negative in the second, the
changing of positive to negative in the first base requires a corre-
sponding change of negative to positive in the second if the truth
value of the sentence is to remain unchanged. Similarly, negative-
positive becomes positive-negative; and positive-positive becomes
negative-negative and vice versa. This was noted in our attempt to add
negative to one base of the conditional sentence, Example 9 below. The
informant insisted that negative be added to both bases as in Example 10.

9) jar tũ aa-is   to, ma aa-i-yũ
   if you come-will if I come-will-I
   If you come then I will come.

10) jar tũ koni aa-is   to, ma koni aa-i-yũ
   if you not come-will if, I not come-will-I
   If you do not come then neither will I.

B. *ANTITHETICAL SENTENCE*

1. Contrast

   a. *Formula*

IB	I CL		LINK	Cj	paN		IB	I CL
Thesis Prop	P	**+**	Adver-sative Conn	∧	*'but'*	**+**	Anti-thesis Prop	Q

   b. *Description*

   The antithetical sentence in Lamani is composed of three grammatical
constituents — an independent base, a link, and a second independent
base. Semantically these function respectively as thesis, adversative
connector, and antithesis. Opposition characterises this sentence type.
The adversative connector in each case signals either contrast, frus-
trated expectancy, a counterbalancing consideration, or a thwarting
reason to the concept of the thesis proposition. These semantic areas
of opposition are illustrated below. Although they contrast semantic-
ally, there has been insufficient grammatical difference to warrant
separate types.

2. Variation

   CONTRAST. This domain requires a two-fold opposition across the
bases. That is, two clause constituents of one base must contrast with

two corresponding constituents of the other. The three types of contrast may be symbolised as follows:

    a) $Pa \wedge \bar{P}b$

    b) $Pa \wedge P"b$

    c) $Pax \wedge Pby$

In which $\wedge$ = *'but'*; P = predicate; a,b = terms of predicates; x,y = terms of predicates with spatial or temporal functions; $\bar{P}$ = negation of P; and P" = antonym or situational opposite of predicate P. Note that either two terms of one proposition contrast with two terms of the other, or the predicate plus a term of one contrasts with the predicate plus a term of the other. These are illustrated in Examples 1, 2, 3 below corresponding to a, b, c above.

1) yaaDi se kes paN i   waat   mat   ka
   woman all tell! but this matter don't tell!
   Tell everything, woman, but don't tell about this one thing!

Note the double contrast: a versus b, that is, *'all'* versus *'this matter'*; and P versus $\bar{P}$, that is, *'tell!'* versus *'don't tell!'*.

2) premer jyot sadaa baL   cha paN bekaarer jyot jaldi
   love's flame always burns -- but evil's   flame quickly

   khatam   wa cha
   finished is --

   Love's flame never goes out but evil's flame is quickly extinguished.

Here *'love's flame'* is opposed to *'evil's flame'*, and *'always burns'* to *'is quickly finished'*.

3) tũ to   maare goDe par so go paN ma ker   goDe par soũ
   you then my   knee on slept but I whose knee on may sleep
   You have slept on my knee, but on whose knee shall I sleep?

Now our predicates remain the same, so the double contrast is between *'you'* and *'I'*, and between *'on my knee'* and *'on whose knee?'*.

   There remains the distinct possibility that a Q proposition could substitute for either $\bar{P}$ or P", and thereby contrast with P. If so, it would add a further category to the above three.

   FRUSTRATED EXPECTANCY. As Longacre (1972:68) has pointed out, this type of antithesis is built on the concept of expectancy chains such as *'start out...arrive'*, and *'serach for...find'*. In the antithetical sentence, the expectancy chain is broken. In Example 4 the expectancy chain which is broken is, *'spend money...obtain an audience'*. Whereas Contrast required a two-fold difference between the propositions, this

and the following two domains require only a single contrasting or
opposing idea.

4) laakosi rapiyaa ma karac   kido paN maare darsan   din-i   koni
   100,000 rupees I squander did but my   audience gave-she not
   I squandered 100,000 rupees but she did not give me an audience.

COUNTERBALANCING CONSIDERATION. In this type, the first proposition
presents an idea whose situational value is either positive or negative.
That is, it either raises or lowers the expectancy of the audience.
The second proposition then serves to counterbalance this expectancy
by presenting an opposite or mitigating consideration which has an op-
posite effect on the expectancy of the audience. In Example 5 the nega-
tive value of *'small'* of the first proposition is opposed by the posi-
tive value of *'very wise'* of the second.

5) sasyaa jaat   naaNkyaa cha paN phaar capaL cha
   rabbit class small   is but very wise is
   The rabbit is small but very wise.

Note the deletion of the subject from the second proposition because
it is shared by both.

THWARTING REASON. In this type the reason which thwarts or obstructs
the accomplishment of the logical outcome of the thesis proposition is
presented as the antithesis proposition. The logical outcome is not
explicitly stated but is left to the audience to supply. Note the fol-
lowing extended example in which the logical outcome is put in paren-
theses,

6) *I wanted to go to the cinema but (I didn't because) I didn't have*
   any money.

We have symbolised this by P ∧ (P̄) P"', in which P"' = a thwarting or
obstructing predicate to predicate P.

7) holi ramen   jaa ro   to paN baaper   parwaaNgi koni maLi
   Holi to play go -ing was but father's permission not gotten
   I was going to play Holi but my father didn't give permission.

Notice how the proposition *'I didn't go'* is left implicit and how the
prohibition of the father thwarted the original intention.

8) ma M.A. padwir pariksha den   jaaewaaLo rũ paN weLe par
   I M.A. degree exam   to give going   was but time on

   bimaar paD go
   sick   fell

*I was about to take my exam for my M.A. degree but just then I got
sick.*

MISCELLANEOUS OBSERVATIONS AND RESTRICTIONS

a) Unlike the imperative and declarative moods, interrogative can
only be added to the second base where it serves to make only that base
interrogative.

b) No stateable patterns emerged in the study of aspect/tense pair-
ings across the bases. There were three instances of pairing of the
same aspect in one base with the same in the other — perfect with per-
fect, imperative with imperative, and present with present.

C. *ALTERNATIVE SENTENCE*

1. Contrast

a. *Formulae*

Exclusive Alternative Sentence:

IB	I CL		LINK	Cj	ka		IB	I Cl
Alter Prop	P	**+**	Alter Conn	$\neq$	*'or'*	**+**	Alter Prop	Q

Inclusive Alternative Sentence:

IB	I CL		LINK	Cj		IB	I CL		LINK	Cj		IB	I CL
Alter Prop	P	**+**	Alter Conn	v	**±**	Alter Prop	Q	**+**	Alter Conn	v	**+**	Alter Prop	N

The exclusive alternative sentence turns on an *'or'* which permits no
third choice. The conceptual universe of the sentence is divided into
two polarised choices typically positive versus negative of the same
predicate, or the use of antonyms between predicates or corresponding
terms in opposing propositions. Inclusive alternation on the other
hand, permits a third choice. Here the alternation turns on different
predicates or different main participants of the propositions. (We use
the term 'main participant' as meaning the participant most closely as-
sociated with the action of the verb whether that participant is Actor
or Undergoer).

Grammatically these sentences are coordinate structures with obli-
gatory links between the bases. The final base, although potentially
independent, often undergoes heavy deletion leaving it dependent both
semantically and grammatically on the first.

2. Variation

a. *Exclusive Alternation*

We have observed five subtypes of exclusive alternation which are as follows:

a) Pa ≠ P̄a (Examples 1 & 2)
b) Pa ≠ Pb (Example 3)
c) Pa ≠ P"a (Example 4)
d) Pa ≠ Pa" (Example 5)
e) Pa ≠ Qa (Example 6)

(≠ = exclusive alternation — no other choice permitted.)

1) chori-n da   cha ka de-ni
   girl-obj give -- or give-not
   Will they give the girl or not?

2) se   jiwan surusti, maNkyaa, praaNi-ti   budiwaan cha ka cheni
   all created life   man   animals-than wise   is or is not
   In all of created life is man wiser than the animals or not?

Note in these two examples the complete deletion of everything except the negative form of the verb in the second base.

3) yaaDi-baaper saamaLNo aaco cha ka dusre lokur
   parents'   teaching good is or other people's
   What is best, your parents' instruction or that of others?

Note the deletion in the second base leaving it both semantically and grammatically dependent. Note also that the alternation is between the two terms — *'parents' teaching'* and *'the teaching of others'* — the predicate remaining the same in both bases.

4) jiwaNe maai keti   prem karNo aaco cha ka bekaar
   life   in   anyone love to do good is or evil
   In life is it good or evil to love someone?

Here the alternation is between antonymical predicates — *'is good'* and *'is evil'*.

5) chorir jaat maa-baape par jerer   puDi ka ijater   puDi cha
   girl's class parents   on poison's packet or prestige's packet is
   Are girls an asset or a deficit to their parents?

Depending on how we analyse this sentence, this alternation can either be alternation between antonymical terms or full propositions. The surface structure seems to illustrate the former. However, both terms

can be expanded to full propositions and the sentence will remain well-formed.

6) ab-er duniyaa, kalaa premi ka sahityaa   premi
   now's world   art   lover or literature lover
   Is today's world a lover of art or literature?

b. *Inclusive Alternation*

The two subtypes of inclusive alternation are symbolised as follows:

a) Pa v Qa v Na (Example 7)
b) Pa v Pb v Pn (Example 8)

In each formula, n or N indicates the last in a series; v indicates inclusive alternation, that is, a third choice is permitted.

7) maar baap naagar hangkaal ro cha ka haaTe-m   go   cha ka sikaar
   my   father plow driving is -- or market-in gone has or hunt

   ramen go   cha
   to do gone has

   My father is either ploughing the fields, or he's gone to market, or he's gone hunting.

8) ma jaaū, ka tū jaawa chi, ka u jaawa cha, bhagwaaner darsan   karen
   I go   or you go   --   or he goes --   God's   audience to do
   Shall I or you or he go to pray to God?

c. *General Discussion*

EVENT–STATE RESTRICTIONS. There seemed to be some kind of restrictions on the pairing of bases in this sentence type. This was not a restriction in clause types since we found transitive clause paired with intransitive. We did notice however, that Event clauses were always paired with Event clauses and State clauses with State clauses. Until further data disproves this, we present it as one of the restrictions of the alternative sentence.

Another pattern noticed was the tendency to match tense with tense, aspect with aspect, and mood with mood across the bases.

PERMUTATION. Permutation of the bases is allowed, but a change of order of the constituents was frequently required to bring together contrasting constituents.

CONTRASTING TERMS. Alternation in the Lamani sentence is built on either opposing predicates, Actors, or Undergoers. Our hunch is that

whenever temporal or other peripheral terms are alternated, they are
alternated within the phrase only. To expand these terms to full pro-
positions is exceedingly awkward if allowed at all.

D. CONJUNCTIVE SENTENCE

1. Contrast

    a. Formula

DB	Cj D Cl		DB	Cj D Cl		IB	I Cl
Initial Conj Prop	A	$\pm$	Conj Prop	B	... $+$	Final Conj Prop	N

    b. Description

   Grammatically the conjunctive sentence in Lamani is a series of at
least two bases, the first of which is dependent and the second of which
is independent. If more than two bases occur, only the final base is
independent. Semantically it is a series of propositions linked to-
gether in a conjunctive relationship to each other with a possible se-
quential relationship sometimes included as well. Though this is not
necessarily true, some situational contexts require stricter sequence
among the bases than others. For an example of strict sequence see
Example 6 below.

2. Variation

   SINGLE MAIN PARTICIPANT REQUIREMENT. One of the most distinct
characteristics of this type is the requirement that the main parti-
cipant remain the same throughout the series. The main participant may
switch roles from base to base but it cannot change to another person.
Note in Example 1 the change in role of the main participant *'he'*, from
Actor of the dependent clause to Undergoer of the independent clause.
Note also the strict sequence requirement of the situational context,
that is, that the *'running'* precede his *'dizziness'*.

1) u dhããsan, wo-na cakar   aa-i
   he running, him-to dizziness came
   Having run he became dizzy.

2) to   shangkar shangkar ke-taaNin, dhããs-an, aa-taaNin,
   then Shankar Shankar say-ing   run-ning come-ing

     raD baD-an, wor munDiyaanga aa-n   paD g-i
     trip-ping   his face   before com-ing fell-she

Then saying Shankar, Shankar, she ran, tripping as she came and
fell before him.

Note that in this example, *'she'* is the main participant and she re-
mains the Actor of each clause throughout the series. The sequence of
the bases is not strict in that we could conceivably switch some of the
bases within the series without change of meaning. In addition, some
of the bases seem to be simultaneous with others. However, there is a
definite sequence between the dependent bases as a group and the final
base, as there is between the first four dependent bases and the fifth.
The amount that sequence is involved then seems to be determined by the
situational context and not by the surface structure.

MOOD OF SENTENCE. It was also noted that the mood of the sentence
could be declarative, imperative, or interrogative, and that mood was
determined entirely by the final independent base. The dependent bases
are neutral as to mood and take their mood from the final base.

3) Raame-n le jaa-n, wata jo
   Ram-obj tak-ing   there go!
   Take Ram and go there!

Note that Raamen le jaan *'taking Ram'* by itself is not imperative.
However, because it is linked with an imperative independent base, it
also becomes imperative in mood as well. The same is true of the de-
pendent bases in Example 4 which become interrogative because of the
final interrogative base.

4) waaT jhaL-taaNin, aangga maLe   maai jaa-taaNin, kããi ka cha u
   road go-ing   ahead garden in   go-ing   what says   he
   After going along the road and entering the garden, what does he say?

NUMBER OF BASES. The second base in the formula is open-ended. The
exact number of times it can be repeated is unknown but Example 5 is a
natural sentence taken from text in which the second base is repeated
five times. These plus the first and final bases give a total of seven
different verbs in the one sentence.

5) gaddaa manggaa-n,   maato samraa-n, cuno copar-an, raajaar golNi-n
   donkey send-ing for, head shav-ing, lime rub-bing, king's wife-obj

   hangkaal de-n, wor beTi-n   le-n,   raajeki   kar-an, khaad-o
   driv-ing away, her girl-obj tak-ing, kingly rule do-ing, ate-he

   He sent for a donkey, had the queen's head shaved, rubbed on lime,
   drove her away, married another one's daughter, ruled his kingdom and
   ate his food.

VERB FORMS. The form of the independent verb is static in that it
takes either of two participial affixes, -an or -taaNin. Which one is
used seems to be completely optional or determined by the speaker's
style. In Example 5 both forms are used with the same verb — aa-n
(aa + -an), and aa-taaNin. Both forms have the same meaning. In con-
trast to this, the form of the verb of the independent clause is dynamic,
depending only on the choice of the speaker.

DELETION PATTERNS. The main participant is typically deleted from
all but one base and may not occur at all except in the verb morphology
of the final base. Example 5 does not name the main participant. Ex-
ample 6 names the main participant in the first base only.

6) Sonaa wata bes-an,   loTaa-n   aaco ghas-an,   aaco
   Sona   there sit-ting, water jug-obj well rub-bing, good

   paaNi laa-i
   water brought-she

   *Sona sat there, gave the jug a good polishing, and brought back
   fresh water.*

ORDER OF THE BASES. The preferred order of the bases is dependent-
independent but this can be reversed without loss of meaning or struc-
tural change. Note Example 7.

7) paaNi pi,   dhaap-an
   water drink, fill-ing
   Drink until you are full!

EVENT-STATE PAIRING. In the majority of examples studied there was a
decided preference for Event clauses as against State clauses. However,
State and Event clauses were found in the same series together but
seldom more than one State clause in any one series. The number of
Event clauses in a given series on the other hand is open-ended.

III. CLOSING REMARKS

My personal enthusiasm for this experiment is great. We all enjoyed
the course immensely and felt that much was learned by the students,
language assistant, and instructor alike. What was a rather sketchy,
indefinite research procedure at the beginning developed into a more
definite, detailed procedure as the course progressed. Student parti-
cipation and confidence increased as familiarity with the procedure in-
creased. Another plus for this type of research is that it keeps the

instructor on his toes and to the point of the research being done.
The meticulous writing out of all observations served three useful pur-
poses: it preserved thoughts in a form which could be recalled; it
built confidence in the students in that every observation was con-
sidered a definite contribution; and it formed the basis on which
hypotheses could be made and further research carried out.

SYMBOLS AND ABBREVIATIONS

P--->Q	If P, then Q (where P and Q are different propositions).
P ≢ Q	Either P or Q but no third choice allowed.
P v Q	Either P or Q with the possibility of a third choice.
P ∧ Q	P and/but Q.
N	The last predicate in a series of predicates.
n	The last term in a series of terms.
a,b	Terms of propositions which may be either Actor or Undergoer.
x,y	Terms of propositions which have temporal or spatial reference.
+	Obligatory.
±	Optional.
$\bar{P}$	Negation of predicate P.
P"	Antonym or situational opposite of predicate P.
P"'	Thwarting or obstructing predicate to the logical outcome of predicate P.
a"	Antonym of term a.
(___)···	Constituent enclosed in parenthese may be repeated indefinitely.
Alter	Alternative
AR	Axis-Relator
Cond	Conditional

SYMBOLS AND ABBREVIATIONS — CONT.

Conj/Cj	Conjunctive/Conjunction
Conn	Connector
Conseq	Consequence
D Cl	Dependent Clause
DB	Dependent Base
IB	Independent Base
Prop	Proposition
neg	negative
pos	positive
obj	object marker

NOTE

1. The Lamani language is spoken by over one million speakers in
several States of Central India. The particular dialect described in
this paper is spoken in eastern Maharashtra State near Yeotmal. The
language has several other names by which it is known, the chief ones
of which are: Banjari, Lambadi and Lambani. It is a dialect of
Rajasthani closely related to Marwari and Gujarati. Our language
assistant, Harisingh Tarasingh Rathod, comes from Umri, Maharashtra.

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A PALATOGRAPHY EXPERIMENT
TO SHOW THE CONTRAST BETWEEN DENTAL AND
POST-ALVEOLAR STOPS IN PUNJABI

PETER J. GRAINGER

INTRODUCTION

This experiment was carried out in the Department of Linguistic Science at the University of Reading in October 1974. It was part of an M.A. Course at this University which included a series of lectures in Experimental Phonetics given by Mr P.J.R. Roach and Dr W. Hardcastle.

This particular experiment was part of an introduction to palatography and was a preliminary attempt to use standard palatography equipment.

The palatograms used in the experiment are from photographs taken of the mouth of Mr Vasant Mahandru, an adult male whose mother tongue is Punjabi. Mr Mahandru belongs to an Indian community resident in East Africa.

PROCEDURE

The upper teeth, alveolar ridge and palate of the subject were sprayed with a mixture of charcoal and chocolate. The subject then articulated the relevant utterance six times. Without further tongue movement or swallowing, he placed his mouth over a mirror situated in front of a camera-lens so that the back part of the mirror lodged behind his back upper teeth. A flash photograph was then taken of the upper mouth in the mirror and developed immediately afterwards (the camera used was Polaroid). The developed photograph showed the area of "wipe-off" made by the articulation of the utterance.

The whole process was repeated for each utterance and the results transferred on to graph paper to show accurately the measurement of wipe-off for each utterance (see appended photographs and palatographs).

EXPERIMENT

The subject articulated the following utterances:

(1) An unaspirated, voiceless, dental stop followed by a close, front, spread vowel [t̪i]

(2) An unaspirated, voiceless, dental stop followed by an open, central, spread vowel [t̪a]

(3) An unaspirated, voiceless, dental stop followed by a close, back, rounded vowel [t̪u]

(4) An unaspirated, voiceless, post-alveolar stop followed by a close, front, spread vowel [ti]

(5) An unaspirated, voiceless, post-alveolar stop followed by an open, central, spread vowel [ta]

(6) An unaspirated, voiceless, post-alveolar stop followed by a close, back, rounded vowel [tu]

These particular utterances were used because the dental/post-alveolar contrast is one which is found in the speaker's mother tongue (Punjabi). The vowels used are also found in Punjabi.

RESULTS

When the palatograms are charted according to the zones suggested by Firth (1948), the following general observations can be made:

1. The distinction between the dental and post-alveolar stop can be clearly seen —

DENTAL STOP: There is a wipe-off only in the dental zone in the three palatograms of [t̪]. There is some lateral contact with the sides of the tongue in the right and the left of the alveolar zone varying according to the following vowel.

POST-ALVEOLAR STOP: The wipe-off in the three palatograms for [t] is in the dental and alveolar zones although the wipe-off seems only partial. There is lateral wipe-off in both the right and left alveolar zones.

2. The influence of the vowel following the stop can clearly be seen in the three palatograms for [ʈ] but not in those for [t̪]. It is seen in those of the dental stop by considerable lateral contact for the front vowel, somewhat less for the central vowel, and by only slight sipe-off in the left alveolar zone for the back vowel. The contact for the three post-alveolar palatograms shows little change, i.e. the wipe-off is approximately the same for each vowel in the lateral direction (with slightly more wipe-off for the front vowel than the back in the horizontal plane).

LIMITATIONS

This experiment is obviously very limited in that it deals with the speech of only one subject and is tested for only two stops with three different vowels following in a CV sequence. It could be that different speakers, other vowels, different sequences, or voicing or aspiration of the stops could make a difference to the amount of wipe-off.

However, the experiment does show what can be achieved with standard palatography equipment and little expertise in their use. It also points to possible other areas of investigation.

FURTHER AREAS FOR INVESTIGATION

1. The partial wipe-off for the post-alveolar stops merits further investigation to see whether it is caused by tongue-curling or some other factor (possibly bad experimentation although this is doubtful as the other articulations made a clean wipe-off).

2. Linked with the previous point, Firth's experiment for Marathi indicates quite different results from these for Punjabi. Firth himself points out (in reference to Marathi) that "articulations of this type do not occur in Hindustani". However, all the stops in the post-alveolar region are usually referred to as "retroflexed" (or "cerebral") by linguists working in these Indo-Aryan languages. Perhaps some sort of distinction should be made between retroflexed and post-alveolar stops in this group of languages. For this we need to obtain palatograms of other languages, for example, Nepali.

3. It might be useful to make similar palatograms for the English alveolar stop as a means of demonstrating the different point of contact for those trying to learn Punjabi (or other IA languages) and vice-versa.

POSTSCRIPT

Standard palatography is a useful device for establishing a precise point of articulation for sounds — particularly those behind the dental position which are difficult to observe. However, recent experiments in electro-palatography (at Edinburgh and Reading Universities) offer much more exciting prospects. In these experiments a plastic palate embedded with up to 64 electrodes is fitted and inserted in the subject's mouth. These electrodes are located in regular positions around the palate and are connected to a display board palate where a light corresponds to a particular electrode and lights up when this is touched. With the aid of a cine-camera, a whole sequence of articulations can be filmed and seen in much more detail than with standard palatography procedure. This may also have useful practical applications such as teaching deaf persons to speak.

* * *

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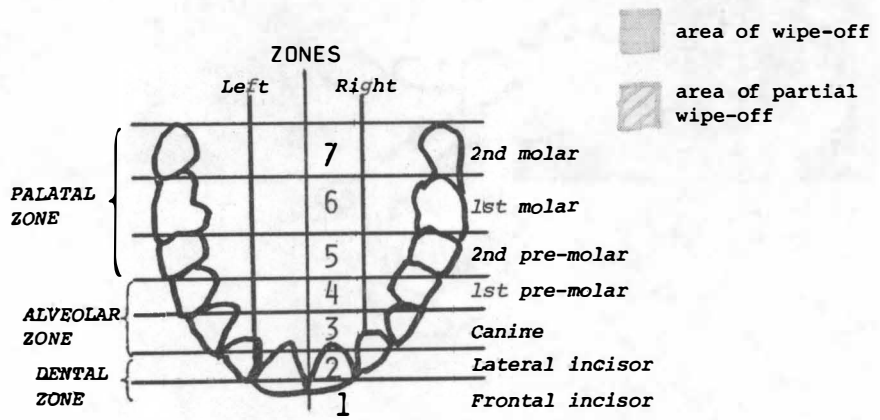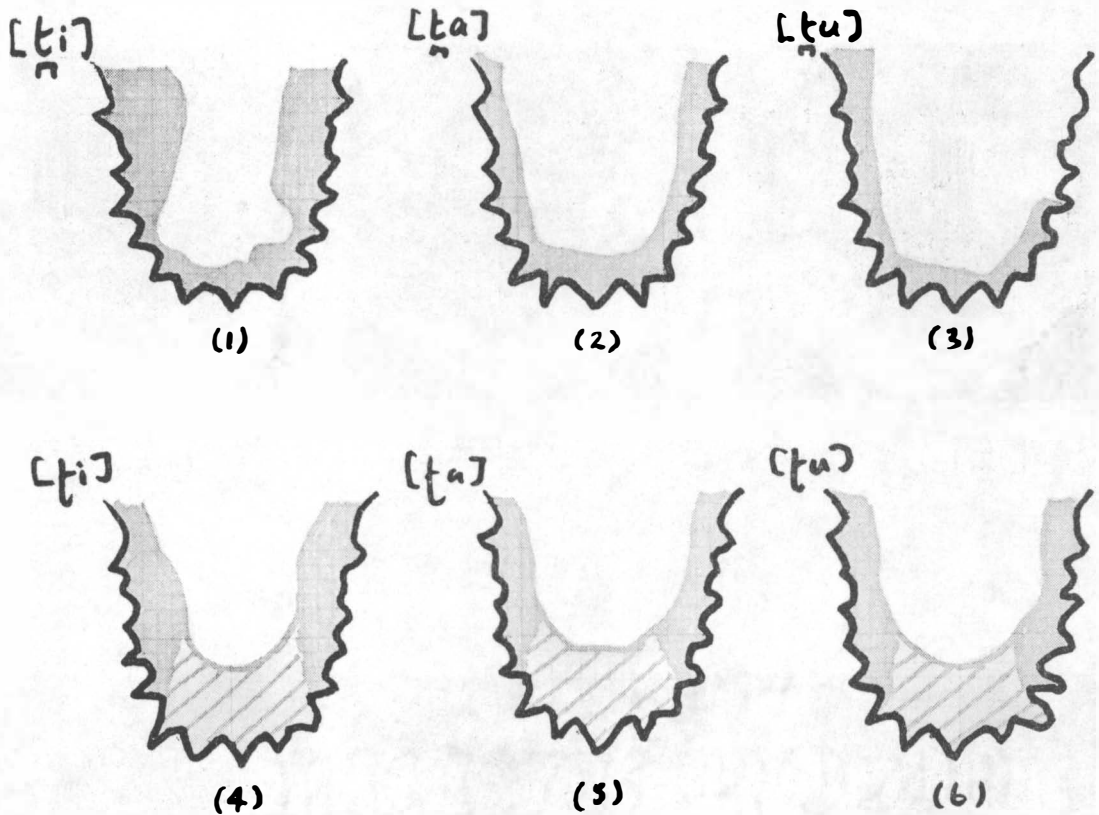
FIRTH'S PALATOGRAM FIGURE SHOWN WITH MOUTH OF ASSISTANT USED FOR THIS
EXPERIMENT
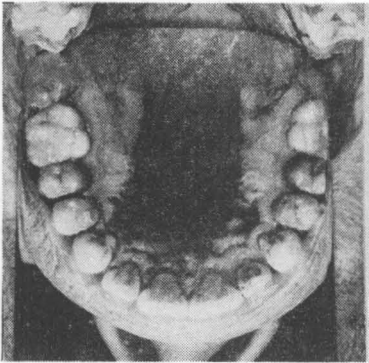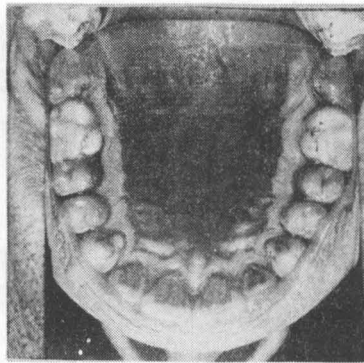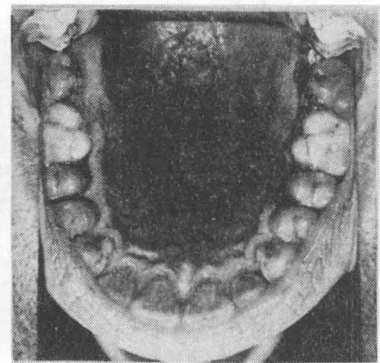
[ʈi]   [ʈa]   [ʈu]
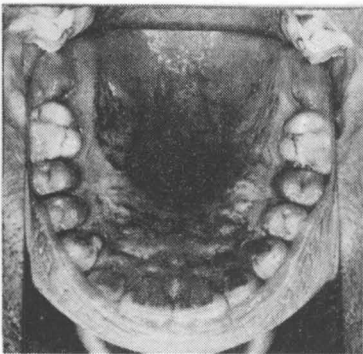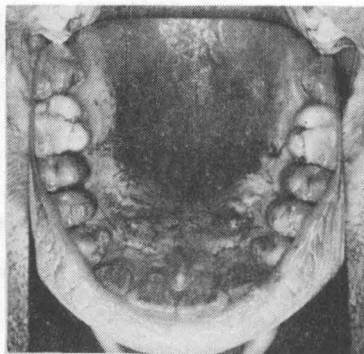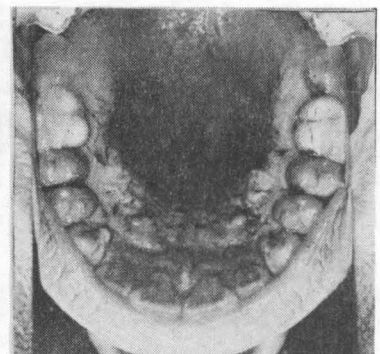
[t̪i]   [t̪a]   [t̪u]

PALATOGRAM PHOTOGRAPHS

GURUNG DIALECTS

WARREN W. GLOVER & JOHN K. LANDON

1. Local opinion

2. Word lists

3. Isoglosses

4. Sound shifts

5. Intelligibility testing
    5.1. Method
    5.2. Results
    5.3. Sources of error; reliability

6. Conclusions

Every natural language shows dialectal variation, and the study of
such variation contributes to our knowledge of the language as a living
medium of communication. This study is especially important when ap-
proaching the task of communication across dialects, and it is in this
context that the older "static" methods of lexical comparison are power-
fully supplemented by "dynamic" studies of interdialectal intelligibil-
ity. The present study considers various kinds of evidence in defining
dialects of Gurung, and compares the conclusions suggested by them.[1]

The Gurung language is spoken chiefly in the seven jillas (districts)
of Gandaki anchal (zone) of Nepal (Map 1). Table 1 gives latitude
and longitude of the district centres and of the 14 villages chosen, in
the course of the intelligibility survey, as reference and test points,
together with their arbitrarily assigned index numbers, 1 to 14, which
will be used on maps and tables throughout. The 1971 Census of Nepal
reports 171,609 people as claiming Gurung as their mother tongue, of

whom 135,118 live in Gandaki anchal — 20,781 in Gorkha jilla, 13,031 in
Tanahun, 36,742 in Lamjung, 3699 in Manang, 25,466 in Kaski, 9779 in
Parbat, and 25,620 in Syangja. However not all Nepali citizens of the
Gurung ethnic group speak the Gurung language. Those living in south-
eastern Gorkha district and in much of Tanahun, and those who have
grown up outside west Nepal, in general have never learnt Gurung and
use only Nepali. Further, Gurungs in Gorkha jilla east of the Darondi
Khola (river) speak the Ghale language,[2] even though they regard them-
selves as speaking Gurung. Even the most cursory examination of
vocabulary shows this Ghale language (so called after the Ghale people
of Barpak and Uiya, the main Ghale centres in northeast Gorkha), with
44% probable cognates with Ghachok Gurung (No.2 on maps), to be a
radically more different form of speech from Gurung than either Tamang
or Thakali, which share respectively 66% and 72% probable cognates with
Gurung (Glover 1974:13). (Conversely, the Ghale of Lamjung district,

Village	District	Index	Latitude (N)	Longitude (E)
Besishahar	Lamjung		28° 14'	84° 23'
Damauli	Tanahun		27° 59'	84° 16'
Gorkha	Gorkha		28° 00'	84° 38'
Kusma	Parbat		28° 13'	83° 40'
Pokhara	Kaski		28° 14'	83° 59'
Syangja	Syangja		28° 05'	83° 53'
Bhangeri	Tanahun	1	27° 54'	84° 29'
Ghachok	Taski	2	28° 20'	83° 57'
Siklis	Kaski	3	28° 22'	84° 06'
Yangjakot	Lamjung	4	28° 16'	84° 06'
Ghandruk	Parbat	5	28° 23'	83° 48'
Sirubari	Syangja	6	28° 08'	83° 45'
Chiplag	Lamjung	7	28° 25'	84° 26'
Daduwa	Lamjung	8	28° 13'	84° 15'
Nepani	Gorkha	9	28° 06'	84° 35'
Badhagaon	Lamjung	10	28° 16'	84° 23'
Ghanpokhara	Lamjung	11	28° 17'	84° 20'
Ribang	Kaski	12	28° 19'	83° 55'
Torke	Syangja	13	28° 11'	83° 53'
Ghurung Khang	Syangja	14	28° 01'	83° 42'

Table 1. Latitude and longitude of district centres
          and test points.
Source: HMG Survey Dept. map (1974), drawn to 1:500,000 scale.

in villages such as Ghalegaon, speak Gurung, not Ghale.) As both
groups — those Gurungs speaking Nepali as mother tongue and those speak-
ing Ghale — may have been at least in part recorded in the census as
Gurungs the figures cited are likely to be somewhat inflated, especially
for Gorkha jilla.

1. LOCAL OPINION

The most easily accessible and obvious evidence on dialect divisions
is the opinion of native speakers of a language as to whether other
native speakers use the same form of the language, or even the same lan-
guage. Thus Gurungs around Pokhara, in Kaski jilla, reported that the
bxaasi[3] (pronunciation or intonation) of Gurung varies from village to
village, and more particularly from river valley to river valley, but
that it is the one language (bxaasa) throughout. However, they say that
Lamjung Gurung is not intelligible to them, and a few reported the same
for the Gurung spoken in the Andhi (AAdhi) Khola basin, which includes
most of Syangja jilla. Gurungs of Lamjung and, further east, Gorkha and
Tanahun districts reciprocate: they feel they cannot understand Kaski
Gurung (they did not mention Andhi Khola specifically) and the villagers
of southern Syangja regard both Kaski and Lamjung Gurung as unintelli-
gible. Local opinion, then, suggests a major dialect division between
East (Lamjung, west Gorkha, and east Tanahun) and West (Kaski and
Parbat), with the existence of a South (Syangja) dialect less strongly
asserted.

Within these broad divisions the Gurungs of the West area claim that
they can understand speakers from all over the West,[4] while those in the
East confess greater diversity. Thus the headman of Bhangeri village in
east Tanahun (No.1 on maps) said that the Gurung in Lamjung district was
hard to understand, and the headmaster of the school in Ghanpokhara (11)
described six villages in Manang jilla as representing three or four
distinct dialects, each not understood by the people of Ghanpokhara. He
felt that the village of Chiplag (7) in northern Lamjung was different
in dialect from Ghanpokhara (in, roughly, central Lamjung) but tended
toward Lamjung speech rather than toward Manang. On this evidence one
should perhaps postulate a North Gurung dialect, or group of dialects.[5]
Ghanpokhara itself was regarded by other villages in Lamjung district,
such as Daduwa (8), Gilung, and Yangjakot (4), as being difficult to
understand — but it was clearly a prestigious dialect as a number of
people we met on the road in Lamjung jilla directed us to Ghanpokhara
as the proper place to study the Gurung language. As noted below
(Section 4.2.) Ghanpokhara shows some idiosyncratic sound shifts which

may contribute to the difficulty experienced by Gurungs from other
places in understanding Ghanpokhara speech, and the relative absence of
Nepali loanwords in Ghanpokhara speech (Don Messerschmidt, personal
communication) also contributes to the difficulty, as the use of Nepali
loanwords bridges dialectal disparity.

2. WORD LISTS

    A second type of evidence on dialects is the comparison of word
lists supplied by different speakers. Lexicostatistical examination
of the Swadesh 100-word lists, using particularly stringent criteria
for counting likenesses, show percentages of like forms between lists
obtained over the Gurung area ranging from 58% to 91%. (These figures
compare with 57% between Thakali and Ghachok Gurung and 51% between
Tamang and Ghachok Gurung using similar criteria.) One reason for the
more stringent criteria is that in studying dialect variation one notes
differences, such as nagi and nakyu 'dog', which are diagnostic of geo-
graphical dialects and relevant for Gurung literature, but which prob-
ably represent reflexes of a common root form and so would not be scored
as noncognates in a lexicostatistical survey of language relationships.
A second reason is the desire to relate the lexicostatistical measures
to mutual intelligbility scores (Section 5.3.3). Thus phonetic changes,
as between tI and dxI 'house', were observed to impede comprehension of
the taped speech samples and so such changes were scored as differences
in the lexical comparisons, though they would not be so treated in a
count of probable cognates. Further, where two lists give the same loan
word from Nepali for an item the item is counted as a likeness for com-
munication purposes, but in normal lexicostatistics it is either counted
as noncognate (Gudschinsky 1964) or excluded (Glover 1974:8).
    Table 2 shows the likeness percentages of pairs of 13 selected vil-
lages (the indexed 14, less Badhagaon where we neglected to record a
word list!). The highest percentage recorded was 91% between Ribang (12)
and Ghalel (not in the indexed list). Inasmuch as these villages both
lie in the Mardi Khola Valley this supports the view of local people
that Gurungs living in the one river valley tend to speak similarly.
However the "river valley hypothesis" fails to account for the relativ-
ely low likeness percentage (75%) between Siklis (3) and Yangjakot (4),
six hours' walk apart on opposite sides of the Madi river. Both vil-
lages show higher percentages with Ghachok (2) and Ribang (12), which
are 7 to 10 hours' walk away, across hills and rivers, in each case.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bhangeri	1														
Ghachok	2	60													
Siklis	3	59	82^{16}												
Yangjakot	4	64^{34}	79^{17}	75^{18}											
Ghandruk	5	59	80^{15}	76^{21}	74										
Sirubari	6	67^{31}	78	76	75	80^{20}									
Chiplag	7	64^{36}	66	64^{30}	66^{30}	66	67								
Daduwa	8	73^{26}	68^{25}	69^{22}	71^{24}	63	66	67^{30}							
Nepani	9	79^{21}	60	62	63	58	67	74^{27}	75^{21}						
Badhagaon	10	--	--	--	--	--	--	--	--	--					
Ghanpokhara	11	65	66	71^{22}	69^{28}	68	70	71^{25}	74^{23}	73	--				
Ribang	12	64	85^{11}	84^{12}	76^{20}	85^{15}	83^{19}	67	70	63	--	72			
Torke	13	63	82^{15}	79	78^{20}	84^{17}	84^{16}	69	67	63	--	68	86^{15}		
Ghurung Khang	14	70^{32}	75^{25}	75	74	78^{25}	86^{15}	64	66	65	--	68	82^{18}	81^{17}	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Number of Nepali loans in 100-word list		14	3	3	9	2	7	4	8	8	--	2	4	7	5

Table 2. Likeness percentages for reference and test points.
(Isogloss counts are italicised - see p. 35 and Map 2.)

It should be recognised that the process of lexicostatistical counting has several sources of error. Some of the major ones are:

a) One item on the list, such as *'woman'* or *'stand'*, can elicit several different responses in the one dialect and the choice as to which one is supplied and recorded for the purposes of comparison is essentially arbitrary. Different people from the same village, and the same person on different occasions, may randomly volunteer different forms. Some effort was made to reduce such random variation by narrowing the semantic field — thus *'stand'* was specified as *'be standing'* not *'stand up'*, and *'know'* is taken as *'know a person'* (N cinnu) not *'know a fact'* (N jaannu).

b) Recording of forms may be inaccurate in hurried or difficult circumstances, but this is minimised if the investigator is fluent in a dialect of the language under study.

c) Certain people will be influenced by the medium of elicitation, Nepali, to give Nepali loans. This occurred sometimes with *'hill'* (N parbat, pahaaD), but for this item there is apparently no native Gurung term in wide use today in any case. One interesting instance of systematic bias, *against* loan words, was a senior school boy who had learnt Gurung only on return from a Nepali-speaking military camp over-seas. He left many blanks in the list, scrupulously avoiding any Nepali loans, even though the other lists all contain some, usually 4% or more.

d) It is difficult to be consistent in scoring likenesses and dif-ferences. If, by criteria such as given by Gudschinsky (1964:616-17), one counts forms on lists A and B as same, and forms on lists B and C for the same item as same, the same criteria may yet show the forms on lists A and C as different. Largely for simplicity, this state was re-garded as impermissible and the criteria relaxed sufficiently in indi-vidual cases to count the forms on lists A and C in such a case as same.

Gudschinsky (1964:619) provides a formula for the standard error of the percentage figures, and the formula yields standard errors for the figures in Table 2 ranging from 3% (for a 90% figure) through 4% (on 80%) to a maximum of 5% (on a 50% figure).

From the 44 lists taken 12 were selected as covering the major dia-lectal variation encountered, and these are included in Appendix 1. While there are many erratic distributions of forms evident in the lists a number of forms show a similar pattern, with divisions of South// West//East. Siklis (3), Yangjakot (4, normally included with 2, 12, and 13 as representing a Kaski dialect), and Daduwa (8) fall sometimes with the East and sometimes with the West. Table 3 gives a few examples. Inspection of the lists supports, then, the South//West//East trichotomy of local opinion.

		South (14)	West (2,5,12,13)	East (1,7,9,11)
2.	*you*	ki	kxi (+3,4)	kyo/ky0 (+8)
3.	*we (exc.)*	ngyo	ngxyo (+4)	ngyo/ngy0 (+3,8)
6.	*which?*	khae	khab (+3,4,8)	su
10.	*much*	sogo	lxe/lxE/lxEde (+3,4,9)	le,lE,lEnde (+8, -9)
21.	*dog*	naki (+5)	nagi (+4, -5)	nagyu/nakyu (+8)
24.	*seed*	plu	plxu (+4)	plu (+3,8)
31.	*bone*	xrip	xriba (+3,4)	nugri (+8, -1)
57.	*look*	ngxyo-	ngxyo- (+3,4,8)	cyo- (-11)
74.	*star*	saar	musaara (+4)	saara (+3, -7)

Table 3. Examples from Swadesh list items showing three dialects.

Note: The dialects are identified by the villages whose numbers are shown in
parentheses, at the head of the column. If on a particular item a village shows
a different form this is noted with a minus sign (e.g. -9) under East for item
10, as the forms in Nepali were the breathy lxe and lxEde). Also in parentheses
after a particular item it is noted if the form occurs in Siklis (3), Yangjakot
(4), or Daduwa (8), which lie on the border between East and West Gurung.

3. ISOGLOSSES

Local dialects are defined by isoglosses, an isogloss being the line
on a map defining the boundary of areas which differ in some feature
of the language (Bloomfield 1933:51). Lists of 108 items taken in thir-
teen villages were plotted on maps and isoglosses drawn. (For some 30
of the items there was no appreciable variation across the whole thir-
teen lists. These items thus represent a lexical core which can be
taken as defining the Gurung language.) The result was rather bewilder-
ing. There was evident no sharp divide between dialects marked by a
large number of isoglosses between any two adjacent villages - large,
that is, in comparison with the number of isoglosses falling between
other pairs of adjacent villages.[6] Map 2 shows the thirteen villages in
geographical location and the numbers of items which differ signifi-
cantly (not just a minor phonetic difference) between selected pairs of
villages. These numbers represent isoglosses that fall between the
particular pairs of villages. The map shows that while no two villages
in the East dialect (east of Siklis (3) and Yangjakot (4)) are separated
by fewer than 21 isoglosses, no two villages in the West dialect, in-
cluding Siklis and Yangjakot, are separated by more than 21. Further,
the South (Ghurung Khang (14) and Sirubari (6)) can be included with the
West without exceeding this figure for reasonably close villages, al-
though Ghurung Khang (14) has an isogloss count of 25 with each of
Ghandruk (5) and Ghachok (2). Thus the counting of isoglosses confirms

the impression that the East dialect is more diverse than the West, and
that West and South are less sharply divided than West and East.

4. SOUND SHIFTS

Whereas the previous section was concerned with items which differ
significantly (by the use of a different root, or substitution of a loan
word) between villages, this one deals with various phonetic differences,
or sound shifts, that can be noted in reflexes of the one root in dif-
ferent areas. Awareness of such sound shifts may help in the devising
of a common form for written Gurung for use in literature.[7]

4.1. Siklis and the neighbouring villages of Tangting and, to a lesser
extent, Thak, situated in the upper Madi (maadi) River valley, generally
insert a homorganic voiced stop following a word initial nasal (b after
m, d after n, g after ng) before an oral vowel (mbxi (mxi)[8] *'person'*,
ngga (nga) *'I'*, ndai (nagi) *'dog'*, mbwi (mwi) *'body hair'*, nggxyoba
(ngxyoba) *'look'*, ndur (7 nur) *'weariness'*), but not before a nasal
vowel (mI *'name'*, mxwIs *'night'*, nxAAmsyo *'cloud'*, ngyO *'we (inclusive)'*).
nxemE *'ear'*, nemaa *'bird'*, 3 meuro *'ash'*, and Tn/Tk mbI *'eye'* are ap-
parent counterexamples to the rule.[9] The postnasal stop is more frequent
in some villages than others (Tn mbiuro Tk mebro 3 meuro *'ash'*). It has
not been observed at all word medially (roinamu *'is lying down'*, caimu
'has eaten'). While the data were being recorded phonetically a Gurung
assistant (from Ghachok) protested at the writing of the stop - to him
the nasal-plus-stop combination sounded, in isolated words, indistin-
guishable from a nasal alone. Since the stop is of doubtful phonemicity
even in Siklis, being almost predictable from word position (initial)
and quality of the following vowel (oral), it is a reasonable guess that
Siklis readers would accept words written with just a nasal, without the
orthographically complicated combination.[10]

4.2. Ghanpokhara dialect shows almost complete loss of breathiness on
vowels: le (lxe) *'many'*, nge (ngxI) *'two'*, ngyuba (ngxyoba) *'look'*.
When the vowel follows a voiceless stop the breathiness is replaced by
aspiration: phyaa (pxyaa) *'feather'*, phali (pxali) *'foot'*, cheba (7
cxeba) *'bite'*, thina (7 txini) *'sun'*. Three words where breathiness is
retained are mxi *'person'*, nxabi *'ear'*, and Txi/Thi (7 Txi) *'skin'*.

4.3. Breathiness seems to be particularly a feature of the West dialect,
a number of words breathy in West Gurung being clear in other dialects
without, except in the case of Ghanpokhara, any compensating aspiration:

'one'	gxri (2,5,12,13) — khri (3) kri (4,11,14) ki (7) gri (8)
'many'	Ixe (2,3,5,9,12,13) IxE (4) — IEnde (1) Ie (7,11) IE (8)

'two'   ngxI (2,4,5,12,13) ngxyAUIO (7) — ngI (3) nge (11) ngyakaIO (1)
            ngyOIO (8) ngyaugIo (9) ngyaki (14) ngyakhrA (6)

'not'   ax- (2) — aa- (elsewhere)

4.4. In a few words Chiplag (7) dialect records shortened forms: yU
(yuma) *'stone'*, Txi (3 Txibi) *'skin'*, saa (musaara 3 saara) *'star'*, pxi-
(pxiri-) *'fly'*. Ghanpokhara shares the same forms for *'stone'* and
'skin', and Daduwa the same form for *'skin'*, but otherwise the abbrevi-
ated forms are unique to Chiplag in the data. Counter examples to any
"Chiplag chops" rule include txini (3 txI) *'sun'* and IangI (3 IE) *'moon'*.

4.5. In the words kxU- (kU-) *'sit'* and pxi- (bi-) *'say'* Siklis dialect
(and, for *'sit'*, Chiplag also) records breathiness where other dialects
lack it.

4.6. In the southeast of the dialect area -ya replaces -e word final in
a few words: mya (me) *'tail'*, Iya (Ie) *'tongue'*, sya (se) *'flesh'*, ngya/
ngxya (ngxe) *'breast'*. These examples were all recorded for Daduwa (8)
and some of them for Bhangeri (1), Nepani (9), and Yangjakot (4) also.

4.7. One of the most obvious problems in preparing literature for
readers from various different villages is that many words vary, without
any apparent pattern, in the use of the vowels i and e. Thus, a far
west grouping of villages (5,6,12,13,14) uses me *'fire'* and mekhu
'smoke' while all other of the indexed villages use i vowel in these
words; but a northeast grouping (7,9,11) uses cxe-/che- *'bite'* while the
far west grouping, and all others, uses i. Both groupings split for
pxali/pali/phali (5,6,7,11,13,14) versus pxale/pale (9,12) *'foot'*. For
'tail' there is a different distribution: me/mE (5,6,7,9,11,12) versus
mI (14), with both forms alternating mi/me in Torke (13) and Ghachok (2).

The Gurung evidence here of irregular distribution of innovated forms
points to a lexical and geographical diffusion of changes in individual
words, not to regular sound changes throughout the language.[11] That is,
a change may occur in a certain phoneme in a certain word in one village
(such as, possibly -e changing to -ya word final in Iya *'tongue'* in
Daduwa (8)), spread to other words with the same phoneme in the same
environment (sya *'meat'*, mya *'tail'*, ngya *'breast'*) and to other villages
(Bhangeri (1), Nepani (9), Yangjakot (4)). The change has not so far
occurred in Daduwa in IE (Ixe) *'many'*.

There is no evidence that this change actually took place first in
Daduwa, nor first with lya. These are cited just as a possible se-
quence of events. The point is that the erratic distribution of the -ya
forms, or the -i and -e words mentioned in 4.7., cannot be explained
by a rule, even one limited to some part of the dialect area, without
stating many local exceptions.

5. INTELLIGIBILITY TESTING

The purpose of the intelligibility testing phase of the survey was to
cover the whole of the Gurung-speaking area in Gandaki anchal as com-
pletely as time allowed, but more especially to concentrate on the West
dialect and in particular to investigate which particular village speech
of the western area would be best understood by people from all over the
western dialect area, or what would be the best communicative centre in
that area.

5.1. *METHOD*

The basic method followed was that described by Casad (1974), a
method developed by the Summer Institute of Linguistics for use in
dialect testing in Mexico, itself adapted from the work of others dating
back to Voegelin & Harris (1951). Casad describes in detail the test
procedure used, from both practical and theoretical viewpoints, and
only a brief summary of the essential points will be given here. The
method used for the Gurung survey is a modification of Casad's sentence
test (1974:ch.5), which he did not describe in such detail as he had
used it only in an experimental way. His basic method is to taperecord
speech samples in various dialects of the area to be surveyed, one tape
per dialect, and then to play each tape to sets of subjects in a re-
presentative selection of villages and to record their understanding of
the samples by means of questions, thus measuring the intelligibility
of the dialect of the sample in the particular villages of the test.
Casad describes a preliminary trip which is necessary in order to
record the samples and to gain as much information as possible on the
dialect situation by way of people's opinions and other sociolinguistic
observations before attempting to do the actual intelligibility testing.
From the preliminary trip a general picture is built up of the dialect
situation, though this remains very tentative and is used only to plan
the actual intelligibility testing trip. In particular, it is decided
at this stage which villages will be visited to do the testing. Basic-
ally, it is desirable to visit as many places as possible and to test as

many tapes in each place as possible, but inevitably limitations of time
mean that compromises have to be made.

In most surveys in Mexico the speech samples were short narrative
texts, and comprehension was checked by interspersing ten questions at
various points in the text to test understanding of the preceding por-
tion. The interspersing of questions reduced the memory load on the
subject, but inevitably also impaired the discourse continuity of the
texts. In the sentence test, on the other hand, the samples are ten un-
related sentences, with one question asked on each. Each of ten subjects
in each village listens to a selection of six sentence sets in different
dialects and is scored out of ten on each set — one point for each cor-
rect answer and half a point for each answer deemed to show partial
understanding of the test sentence. The sum of the ten subjects'
scores, out of one hundred possible maximum, is defined as the percen-
tage intelligibility of the dialect in which the sample was recorded at
the village where the test was carried out.

The questions vary as to the response required — a place which is
referred to in the test sentence, or a time, a cause, an adjectival word
or construction, an event. Thus different types of grammatical construc-
tion, but nothing complicated, and different types of words are included
in the test in a systematic way, held constant for each set of ten sen-
tences. So an attempt is made at uniformity in the intrinsic difficulty
in understanding the sets of sentences, and purely linguistic differences
should therefore be the main factor in people's understanding.

Casad used reel-to-reel taperecorders, dubbing or splicing the ques-
tions into the right places on the previously recorded sentence tapes
where appropriate gaps had been left at the recording stage. Because
travel and transporting of equipment was much more difficult in Nepal
than in Mexico, and had to be done mostly on foot, it was decided to use
cassette recorders to economise on weight. A system was thus devised
whereby the sentence sets from the various villages chosen as reference
points were recorded on one cassette and the questions, translated into
the local dialect of the test point (the village of the test), were re-
corded on another cassette, played on a second recorder. A device was
constructed whereby a switch could be made very easily between the sen-
tence tape and the question tape. In the test the two taperecorders
were played alternately (the output played through headphones for the
subject and an earphone for the investigator) to give sentence followed
by question — or, if necessary, question followed by sentence. This
flexibility of order was extremely useful for some subjects who found it
difficult to answer a question about a previous sentence but could
answer the question provided it was played first. In addition to thus

allowing the testing of less sophisticated subjects, the two recorder
method greatly saved time in making up test tapes at each test point —
it took less than one hour, compared with 3-4 hours stated by Casad
for an experienced team (1974:23). Further, having all test sets on the
one cassette avoided the loss of time and confusion (which we experienced
in early trial tests) of selecting and changing tapes. It did, however,
involve a little more running of the recorders, and use of batteries, in
winding forward or back to the desired test set.

In the Gurung survey the preliminary trip to construct the sentence
tape could be done mostly within Pokhara town itself since, as noted by
Doherty (1974), Gurungs from many villages of the western part of the
anchal have migrated to Pokhara in the last few years. Thus to record a
sentence set in the dialect of a desired village it was only necessary
to visit the Pokhara house of a person from that village who still spoke
his village dialect. Recording samples with people who had lived away
from their home village (several years in the case of Daduwa) may have
given rise to slightly inferior understanding by subjects of the sen-
tences recorded in their own dialect. (The first sentence set played to
any subject was always the one recorded in his own dialect, to famil-
iarise him with the test procedure. Occasionally a subject was excluded
from proceeding with the test if he did not score highly enough on his
"home town" tape.) However, the results show that this was not a serious
effect except in one or two places.

5.2. *RESULTS*

In all, sentence sets were recorded for 12 reference points and these
were tested in 13 villages, though in all except Ghachok and Daduwa only
five sentence sets in addition to the "home town" set were tested, being
as many as a subject could reasonably be expected to cope with. Chiplag
(7) was not visited at all, and Torke (13) and Ghurung Khang (14) were
test points only. Because Ghachok was the village of considerable pre-
vious linguistic work, and because Daduwa appeared from early tests (in
the eastern area) to be a "centre" of the East dialect, more extensive
testing (10 sentence sets) was done at these villages and the Ghachok
and Daduwa sets tested at most test points.

The results are summarised in Table 4, along with the "likeness"
counts. In each cell of the matrix the "likeness" count (from Table 2)
is entered in the top half; the intelligibility score in the bottom half
is parenthesised if a reciprocal score is also available, recorded in
the other half of the matrix. It may be seen that the "home town" scores,
recorded on the diagonal, are greater than 89% except at Daduwa (84%)

		SENTENCE SETS, j												
TEST POINTS, i		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bhangeri	1	94	60 (36)	59 44	64 76		67 (71)		73 (95)						
Ghachok	2	60 (82)	92	82 (96)	79 (86)	80 (89)	78 (95)	66 62	68 (76)	60 (68)	(73)	66 (68)			
Siklis	3		82 (74)	96			76 77		69 (78)			71 (50)	84 (71)		
Yangjakot	4		79 (82)	75 92	97				71 (90)			69 (71)	76 (82)		
Ghandruk	5		80 (88)	76 81		90	80 (92)		63 (84)				85 (89)		
Sirubari	6	67 (88)	78 (58)			80 (91)	98		66 (70)				83 (68)		
Chiplag	7														
Daduwa	8	73 (86)	68 (46)	69 (82)	71 (83)	63 (67)	66 (84)	67 75	84	75 (78)	(84)	74 (66)			
Nepani	9	79 96	60 (44)		63 73			74 53	75 (90)	80					
Badhagaon	10		(40)		63			76	(98)	84	99				
Ghanpokhara	11		66 (64)	71 (82)	69 (74)				74 (93)	73 80		98			
Ribang	12			84 (74)	76 (66)	85 (92)	83 (88)		70 74				96		
Torke	13		82 70		78 65		84 93		67 78				86 74	96	
Ghurung Khang	14	70 85	75 54				86 90		66 80				82 63		96

Table 4.   Intelligibility test results with likeness counts.

and Nepani (80%).   In both these cases the test point did not exactly coincide with the village of the speaker who had recorded the sentence set (in Pokhara and Gorkha bazaars, respectively) but the distances involved were only some one or two hours' walk and the places were in the same or a neighbouring panchayat.   The low score at Daduwa is particularly surprising since at five other places where the set was tested it

scored higher than the "home town" figure. No explanation has been
found for this. At Nepani the low score may have been due to insuffi-
cient introduction to the test; it was our second test point only, and
in the course of the survey the introductory explanation of the test,
played before the "home town" tape, was improved.

Significant nonreciprocal intelligibility is seen to exist, the most
extreme case being the 82% versus 36% results for Ghachok and Bhangeri.
Those tested at Ghachok, a large village close to Pokhara, seemed to
have above average understanding of other dialects in general, and those
at Bhangeri, an isolated hamlet, below average. The Bhangeri result is
based on a sample of only five subjects, because of shortage of time and
technical difficulties, so that the reliability of these scores is a
little more doubtful than others. Even allowing for some random errors,
however, there remains a substantial nonreciprocal effect and this may be
put down to factors such as prestige of certain dialects, patterns of
travel (and hence learning of other dialects leading to a certain bi-
dialectalism), and diachronic differences in dialect development.
Systematic effects of varied intrinsic difficulty of the sentence sets
are discussed in Section 5.3.1.

In order to display the intelligibility results in a way that shows
the natural grouping of dialects on a geographical basis a method of
analysis developed by Grimes (1974) and described in detail by Casad
(1974:29-45) was followed. The dialect grouping problem is likened to
that of a communications network where it is desired to communicate as
effectively as possible to all points of the network from the least
number of communication centres. For the purpose of the present ana-
lysis the points of the network were taken to be the test points of the
survey (thus excluding Chiplag (7)) and the possible communication
centres were taken to be those reference points from which sentence sets
were tested at more than four test points. This limitation was intro-
duced to avoid excessively large random-error effects from the smallness
of the data base. Thus possible communication centres were Bhangeri (1),
Ghachok (2), Siklis (3), Yangjakot (4), Sirubari (6), Daduwa (8), and
Ribang (12). Clearly it would have improved the result if the data were
complete (that is, if all sentence sets had been tested at all test
points) but time did not permit this.

The grouping of the test points around centres is based on the reduc-
tion of the total "cost of communication" for the network to a minimum,
since certain groupings result in a lower "cost" than others. The rela-
tionship between the cost c_{ij} of communicating *from* point j *to* point i
(note the direction here) and the intelligibility x_{ij}% of the j sentence

set when tested at point i is defined by the equation

$$C_{ij} = 100 - X_{ij}$$

Thus as the intelligibility falls from 100% to zero the cost of com-
munication increases from zero (perfect communication equals no cost) to
100. This is only one possible way of relating C_{ij} to X_{ij}, but is easy
to use and shows no obvious disadvantages for this survey where the
minimum value of X_{ij} (with $i = 1$, $j = 2$) was 36.

The contour map (Map 3) is drawn by plotting each numbered test point
in geographical relation and circling all points, first, which can be
reached with a cost of 10 or less by a communication centre. In cases
where a test point can be reached with this cost by more than one centre
the lower cost is chosen. The total acceptable increase in cost incur-
red by merging two subgroups of the network is then gradually increased
until one subgroup can be placed with another subgroup. A new grouping
is made, and the contour establishing the group marked with the increase
in total cost caused by this saving of a communication centre. The new
communication centre is chosen from the two former centres and is that
from which communication is most easily made to the entire new group.
This process continues until all the points can be comprehended in one
contour. Thus optimum groupings at various thresholds emerge and main
dialects appear, with centres. The arrows indicate the direction in
which communication must be made for minimum cost.

This method of display is felt to be the best available, but it
must be emphasised that it does not fully show all the results and does
tend to magnify the effects of random (or other) errors. For instance,
the decision to group Ghachok (2) with Siklis (3) rather than Sirubari
(6) on Map 3 rests on the fact that the intelligibility of the Siklis
tape at Ghachok was 96% while that of the Sirubari tape was 95%, an in-
significant difference. If the scores had been the other way round then
Ghachok would have been grouped initially with Sirubari and only joined
with the Siklis group by the "46" contour. Nevertheless the main pic-
ture is clear: an east-west division with a fairly well substantiated
further division (NE-SW) of the western area. Note that the whole
eastern area is encircled by the "11" contour, whereas the west is only
enclosed by the "46" contour.

Comparison with the lexicostatistical data is made in Section 5.3.3.

5.3. *SOURCES OF ERROR; RELIABILITY*

There are many sources of possible error in determining dialect dif-
ferences, even if the parameter being measured is indeed a good approxi-
mation to the theoretical and somewhat abstract quantity which it is

desired to know. Casad (1974:ch.4) discusses the concepts of reliabil-
ity and validity in a general context and his discussion makes salutary
reading. The wise research worker does not allow himself to be carried
away by the latest methodological novelty, however impressive it may
seem.

Some errors may be categorised as "random" in the sense that natural
phenomena (and people in particular) are not easy to measure and many
samples must be taken to reduce the likely error in the averaged result.
Other errors, usually more insidious, are systematic and result from in-
adequacies in methodology. Certain features built into the methodology,
and checks built into the analysis of the data, can be helpful in re-
ducing, or at least revealing, errors.

In this survey, the methodology was scarcely changed from that of
Casad, but may not have been quite up to his standard because of the more
exacting circumstances. A certain amount of data analysis, which Casad
does not describe as having been done in his work, was performed after
completion of the fieldwork. In particular, a rather more detailed
comparison was made with the lexicostatistical data than has been seen
in previous literature. Several different possible sources of error are
considered in the following subsections.

5.3.1. Sentence and question sets

In constructing test tapes the greatest care needs to be taken in en-
suring that the recording is of high quality. Taking the technical side
for granted in these days of sophisticated electronics (though in prac-
tice it is still possible to make mistakes) there are problems of
speaker's voice quality and speed, interference by background sources
(people, chickens, etc.), and translation. One or two speakers were
exceptionally fast and it was difficult to slow them down; one man
stuttered a little; some did not give the exact translation of the de-
sired sentence or question (which gave rise to occasional mismatches
between sentences and questions, to the subsequent confusion of the
subjects). The only proper way of estimating the effects of these would
be to conduct an independent test using different speakers; there has
not been opportunity to do this, except in the case of the sentence set
with a slight stutter where a second recording was made halfway through
the survey and the sets used alternately thereafter for comparison.
Results from the two sets, when averaged, were surprisingly similar,
with barely a significant difference. This was encouraging since it
emphasised that actual linguistic differences, not extraneous effects
from the speakers, were causing differential comprehension of the test
sets from different dialects.

Another source of error considered was the intrinsic difficulty of
the sentence and question sets, listed in Appendix 2. Though sentence
and question types were controlled it was not always easy to ensure
similar intrinsic complication, especially through translation first
into Nepali and then into the local Gurung dialect. A basic estimate of
"difficulty", D, was made for each sentence as the sum of two factors.
One factor was whether the question itself suggested the required answer,
so that an intelligent guess might obviate the necessity to understand
the sentence. Thus

    9.3. S. Being thirsty I asked for water.

         Q. Why did I ask for water?

is much more likely to be guessed correctly than is

    10.9. S. He put the naamlo round his chest.

         Q. Where did he put the naamlo?

since a naamlo *'carrying strap'* is normally worn round the forehead.
This part of the difficulty rating was on a scale from 1 (e.g. example
9.3.) to 4 (e.g. example 10.9.), with a rating of 2 for a question
mildly suggesting the answer and 3 for the (most common) neutral rela-
tion of question to answer.

The second part of the "difficulty" rating was the number of parts
(content words) required for the correct answer. Thus 9.3. essentially
requires *'thirsty'* as the answer and 10.9. *'chest'*, so are both rated
as 1. However

    7.5. S. During the evening the goat ate all the radishes.

         Q. What happened during the evening?

requires *'goat'*, *'ate'*, *'all'*, and *'radishes'* for a complete answer, so
was rated as 4.

For each question of the whole test the average score obtained was
calculated and plotted against its "difficulty" D. Results for the 12
tapes are shown in Figure 1, and show a very random scatter, indicating
little correlation between the average score on a question and its "dif-
ficulty". Figure 2 shows the average scores for all questions with a
given D, combining all 12 tapes for this purpose, plotted against D. A
slight correlation is evident, of about -3.9% per unit of D. The aver-
age values of D for each of the 12 question sets fell in the range 4.1-
4.9, which would suggest a maximum discrepancy between question sets of
about 3% in average expected score, so it appears that variation in "in-
trinsic difficulty" of the sentences is not a primary source of diffi-
culty in comprehension. An analysis of sentences by types (Locative,
Cause, Event, etc.) also showed only small fluctuations between average
scores for the different types. The lowest group mean was 68.5% for
Body Part questions, and the highest 81.1% for Kin questions, with the

major groups (having two questions in each set of ten) of Adjectival
(77.2%), Cause (79.9%), and Event (73.3%) being closer to the overall
mean of 76.5%. (These figures are calculated excluding the subjects'
"home town" tape scores.)

5.3.2. Testing procedure and conditions

Choice of test subjects presents problems which have been discussed
by other authors (e.g. Casad 1974:110-13). In particular, those who are
willing to take the test are normally the more outgoing, better travelled
men who could be expected to show above average comprehension of other
dialects. Women, who normally hardly travel, might be expected to show
less ability to understand dialects of neighbouring districts. An age
factor might also be expected. In practice, women do not seem to have
been tested much by others in dialect surveys.

The present survey tested a total of 141 people, of whom a substan-
tial minority (33, or 23%) were women. Average scores (calculated in-
cluding "home town" tape scores) for men and women were 79.1% and 79.6%
respectively, the women thus scoring better, contrary to expectation,
but the difference is nonsignificant statistically. A breakdown by age
is given in Figure 3, showing a rather larger number under 30 years of
age than over, and the analysis of scores by age (men and women combined)
in Figure 4 shows a slight fall in average score in the 10-19 and 50+
age brackets with very consistent results for the middle ranges. (The
youngest tested was 11 years old and the oldest 69.)

Another source of interference hard to eliminate was that due to by-
standers learning the test. Some who were about to take the test tried
to listen to the previous answers and one or two had to be eliminated
when it became clear that they were trying to imitate the previous sub-
ject without listening to the sentences at all. This was rare, however.
Headphones were used, after the first two test points of Bhangeri (1)
and Nepani (9), so that bystanders would not hear the sentences or the
questions and so would still be eligible subjects, but since a subject
frequently responded to the test by repeating aloud the whole sentence
in his dialect (a tendency difficult to stop) it was difficult to avoid
some possible "pre-learning" by bystanders. Cyclic permutation of the
order in which the tapes were played helped to reduce this effect.

To test whether subjects scored higher on tapes played later in the
series of five, perhaps through becoming more at ease during the test,
an analysis was performed of the average scores for the test tapes ac-
cording to their position in the order played. (The actual sentence
sets, other than the "home town" set, were permuted in the test so that

for each group of 10 subjects each sentence set in a particular dialect
occurred in each of the five chronological positions exactly twice.)
Figure 5 shows a small improvement from position 1 (immediately follow-
ing the "home town" tape) to position 2, and then a less well marked
trend. The standard error in these results was difficult to estimate
but some check was made by working out the results separately for tapes
1 to 6 and tapes 7 to 12. The two sets of results, together with the
combined results, are shown in Figure 5.

This learning effect, though of interest in itself, did not affect
average intelligibility scores since it was averaged out by the cyclic
permutation of tapes from subject to subject. It does indicate that the
introduction to the test was reasonably satisfactory in that performance
settled down to a nearly uniform level after the "home town" tape.

Because the two-recorder test procedure allows a question to be asked
before the corresponding sentence was played, lack of success with a
subject in the normal mode (sentence followed by question) was thought
to justify swapping the order. It is difficult to tell how this in-
fluenced results, but it is unlikely that any errors were introduced in
this way.

In the scoring of answers it was hard, especially with the more di-
vergent dialects, to distinguish between good mimicking of the sentence
and true understanding of it. This could have yielded scores which were
too high (if a mimicked sentence was scored as a correctly understood
one) but since most subjects knew Nepali to some extent, a request for
translation of the sentence into Nepali revealed whether there had been
true understanding. Homonyms and semantic shifts caused special prob-
lems. For instance syO means both *'river'* and *'bell'* in most West vil-
lages but only *'bell'* in most East villages (where the loan word kholaa
is used for *'river'*). Thus if

2.4. S. The old women went to the river (syO).

Q. Where did the old women go?

was answered in Gurung as syO (meaning *'bell'* to eastern subjects but,
in the context, *'river'* to the investigator) it was scored as correct
until the fact of the semantic shift, and lack of understanding, came to
light, as through translation. There seems no way of avoiding occasional
trouble of this sort without discouraging unsophisticated subjects by
continual requests for translation into Nepali, but the problem can be
minimised as the investigator, fluent in one dialect, learns the par-
ticulars in which other dialects differ — relevant to the vocabulary of
the test sentences.

5.3.3. Comparison with lexicostatistical results

Both the intelligibility results and the lexicostatistical results
are subject to random errors and comparison of the two in Figure 6
shows a fair degree of scatter. If the intelligibility data are limited
to those where reciprocal results were obtained, and these averaged, a
slightly better correlation is apparent (Figure 7) but still a consider-
able scatter.

It is possible to use the "communications network" analysis on the
lexicostatistical data and the resultant Map 4 is included for comparison.
In Map 4 the restriction on possible communication centres has been made
the same as that applied to the intelligibility data in Map 3. The con-
tour numbers are not strictly comparable, but it is evident that the
same general pattern emerges of a major division between east and west.
There is a little more uncertainty in the subdivisions of the western
region, with Yangjakot (4) and the South group of Sirubari (6) and
Ghurung Khang (14) being separate from the remainder of the western area
up to a threshold of 21. This picture is actually more in accord with
local opinion on dialects (Section 1 above) than the subdivision of
dialects between Ghachok (2) and Ribang (12) shown in Map 3. As was
pointed out in Section 5.2., Ghachok (2) could well have been grouped
initially with Sirubari (6) instead of Siklis (3), in which case the
groupings based on intelligibility would resemble the lexicostatistical
groupings, and local opinion, even more closely.

6. CONCLUSIONS

To the questions "how many dialects of Gurung are there?" and "what
are their communicative centres?", the answer from the intelligibility
survey (Map 3, taking 75-85% intelligibility as the crucial threshold
range (Casad 1974:46)) is three, centred on Daduwa (East), Siklis
(Central), and Sirubari (West). (The question of one or more northern
dialects in Manang was not dealt with in the intelligibility survey.)
Local opinion does not speak of the Central dialect (Siklis-Yangjakot),
and in this particular we did learn something unexpected from the survey.
But the general resemblance between the conclusions of the intelligibil-
ity and the lexicostatistical studies provides the best substantiating
evidence for the dialect picture yielded and should be an encouragement
to those attempting similar surveys in the future.
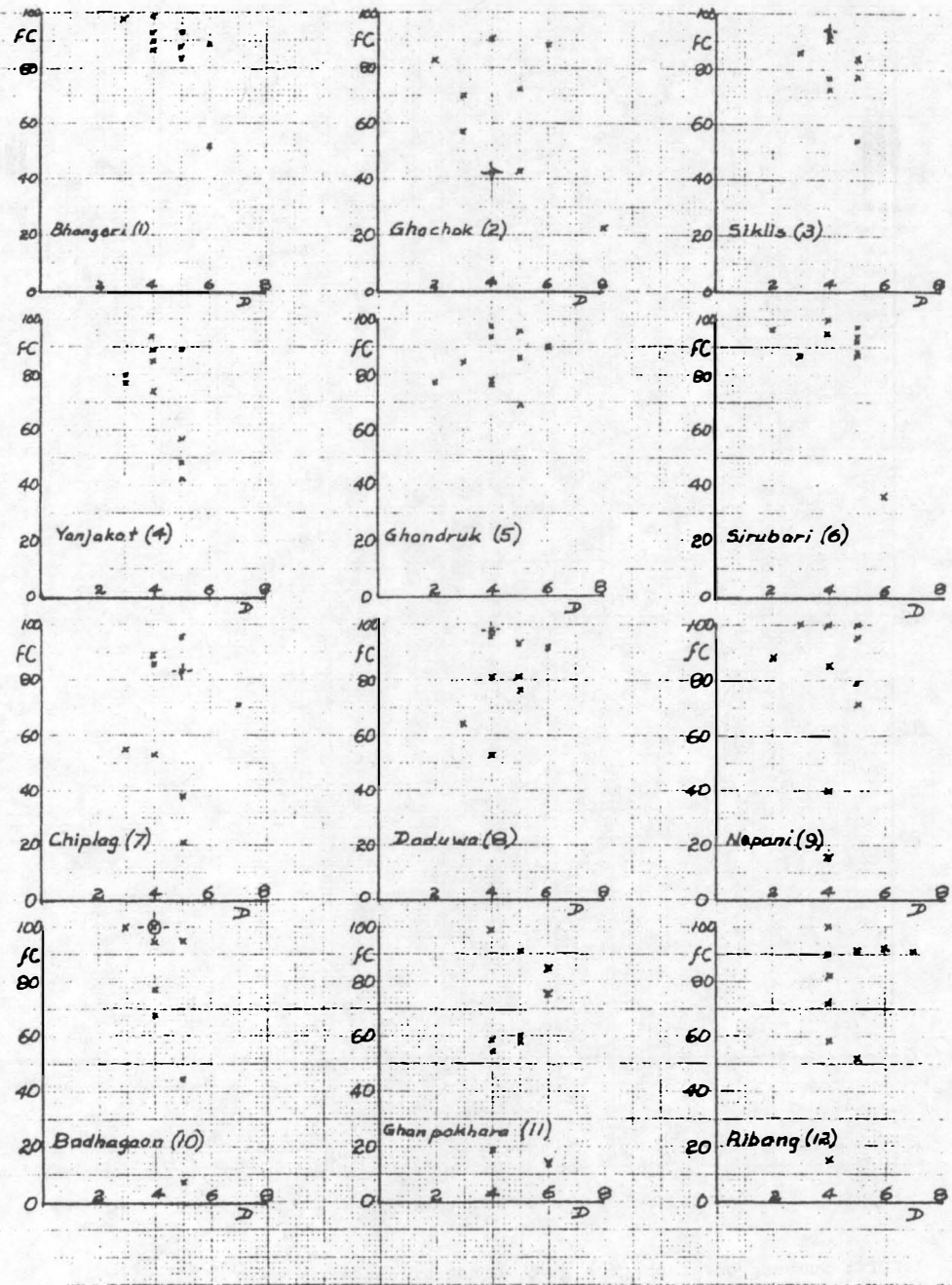
Figure 1. Question score (fC%) versus intrinsic difficulty (D) of particular sentence sets.
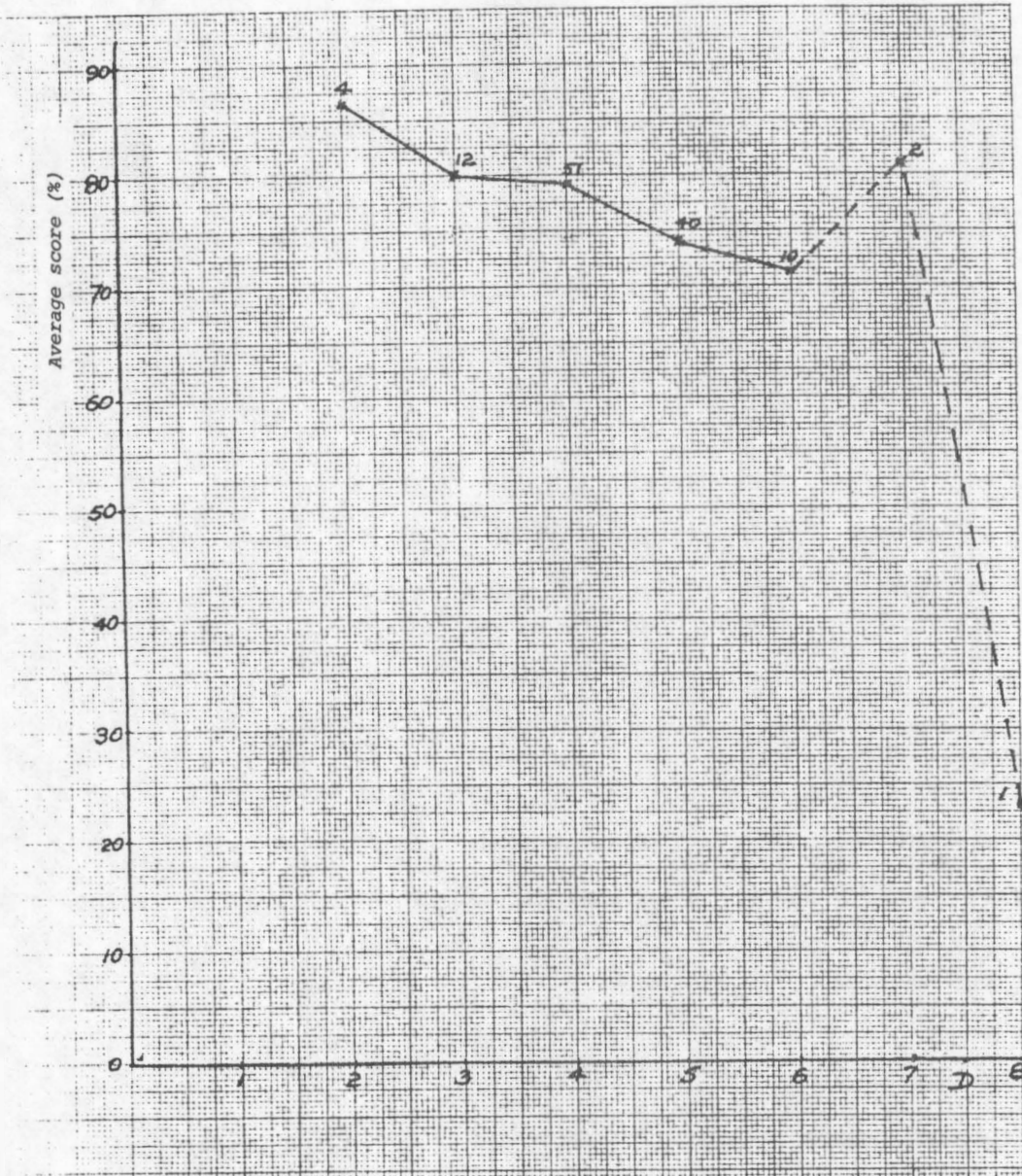
Figure 2. Average score versus question intrinsic difficulty.

NOTE: Numbers on graph (N_D) give number of sentences with difficulty D.
      Line is broken where N_D is less than 4.

Figure 4. Average scores of subjects in age ranges.

NOTE: Error bars show standard error assuming random sampling.

Figure 3. Sex and age of subjects.
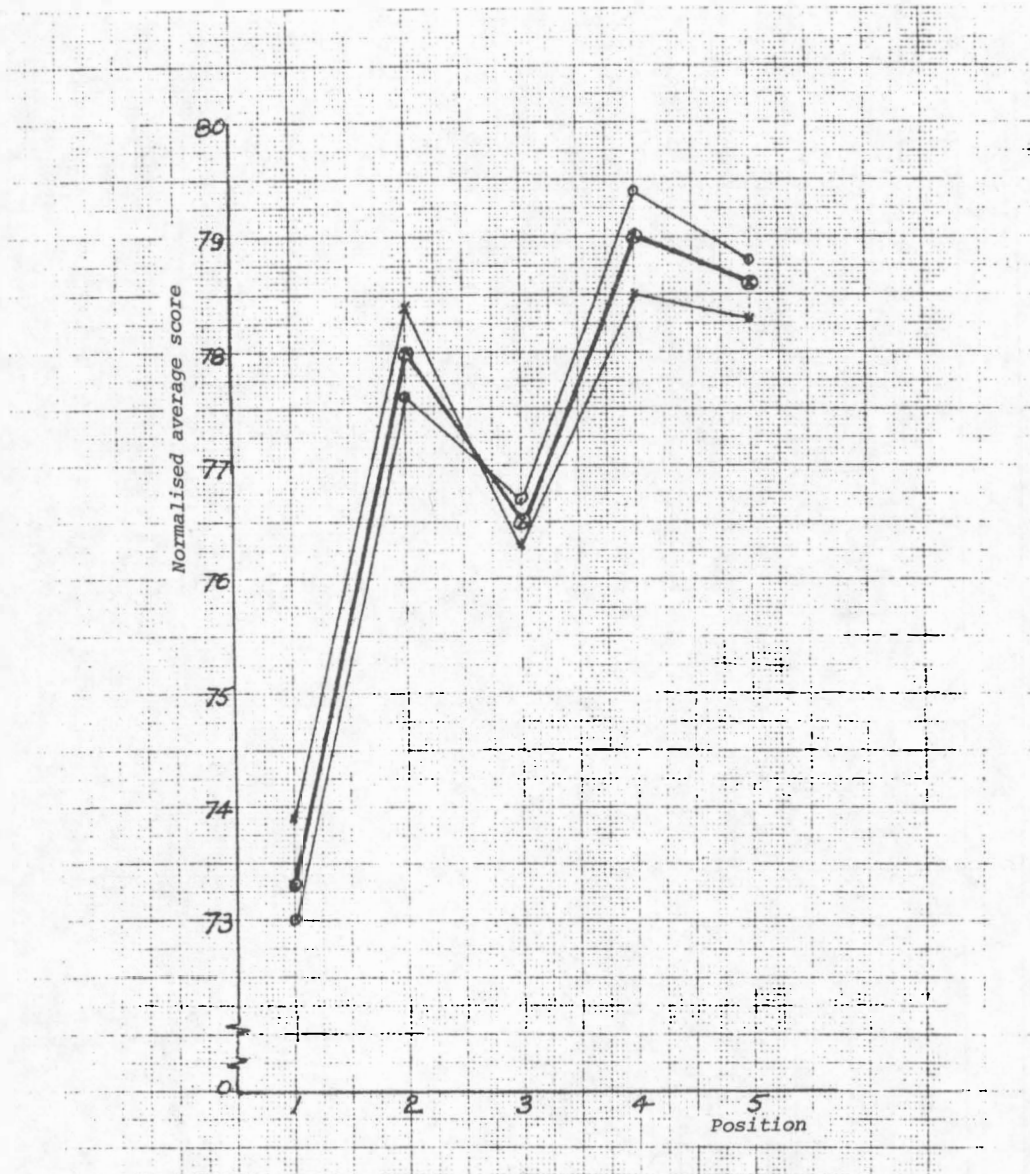
Figure 5. Normalised average scores for the five test positions.

     ⊙——⊙   tapes j = 1 to 6 only.

     X——X   tapes j = 7 to 12 only.

     ⊗——⊗   all tapes, j = 1 to 12.
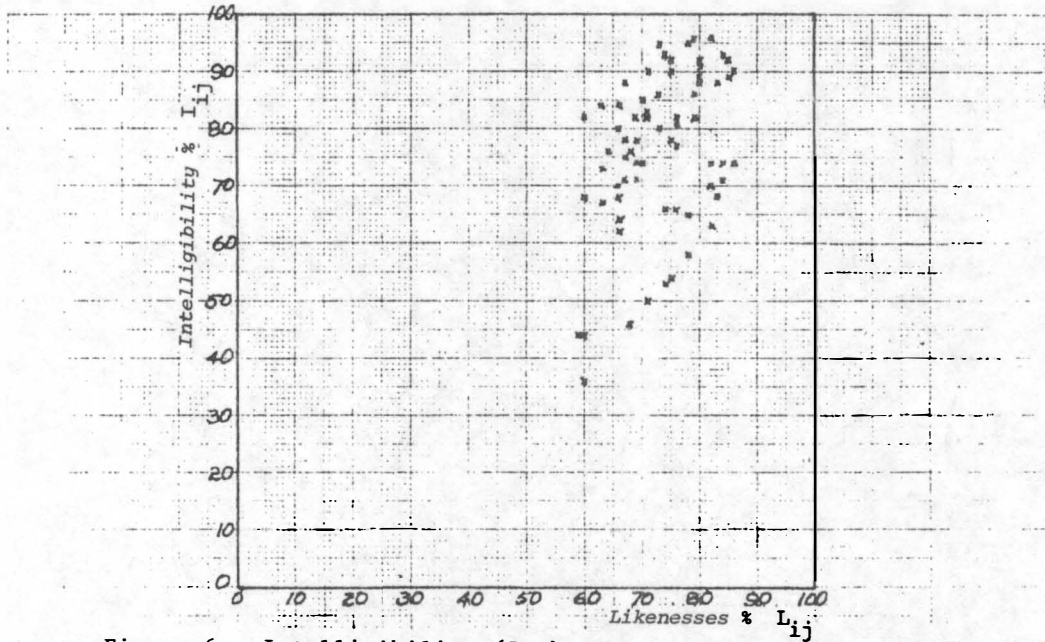
Figure 6.   Intelligibility (I_{ij}) versus likenesses (L_{ij}).
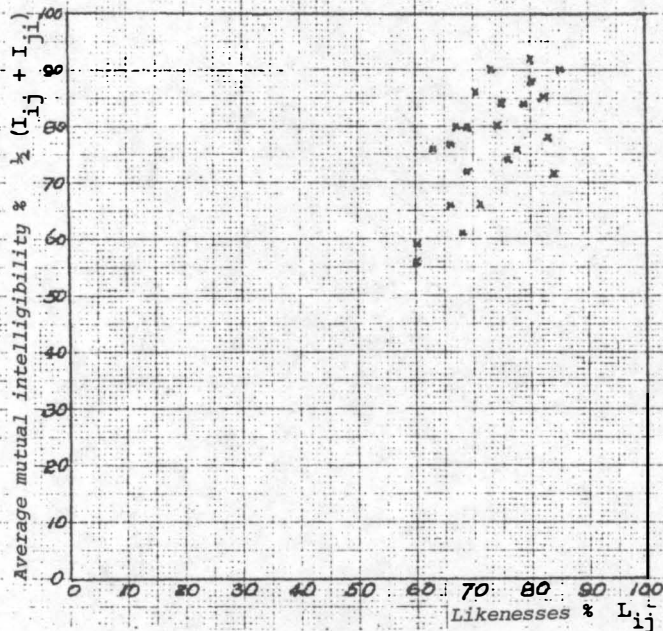
Figure 7.   Average mutual intelligibility $(I_{ij} + I_{ji})/2$
versus lexical likenesses ($L_{ij} = L_{ji}$).

MAP 1. GANDAKI ANCHAL

LEGEND:

KASKI	District name	─·─·─	Anchal boundary
O POKHARA	District centre	═══	Motor road
x 12	Test point	─ ─ ─	District boundary
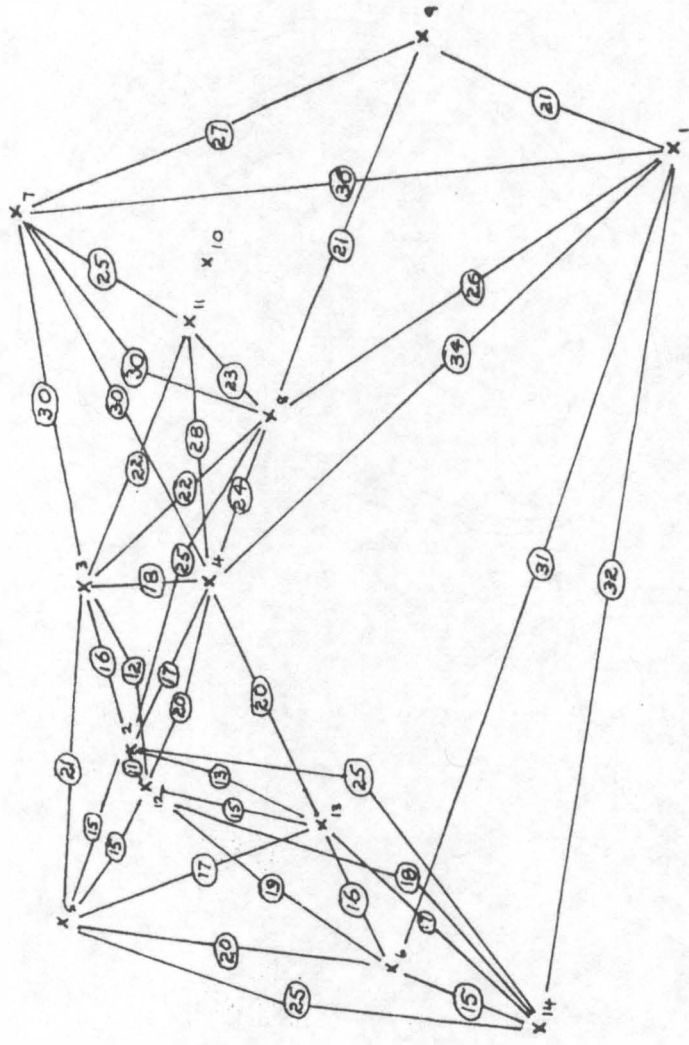
MAP 2. ISOGLOSS COUNTS.
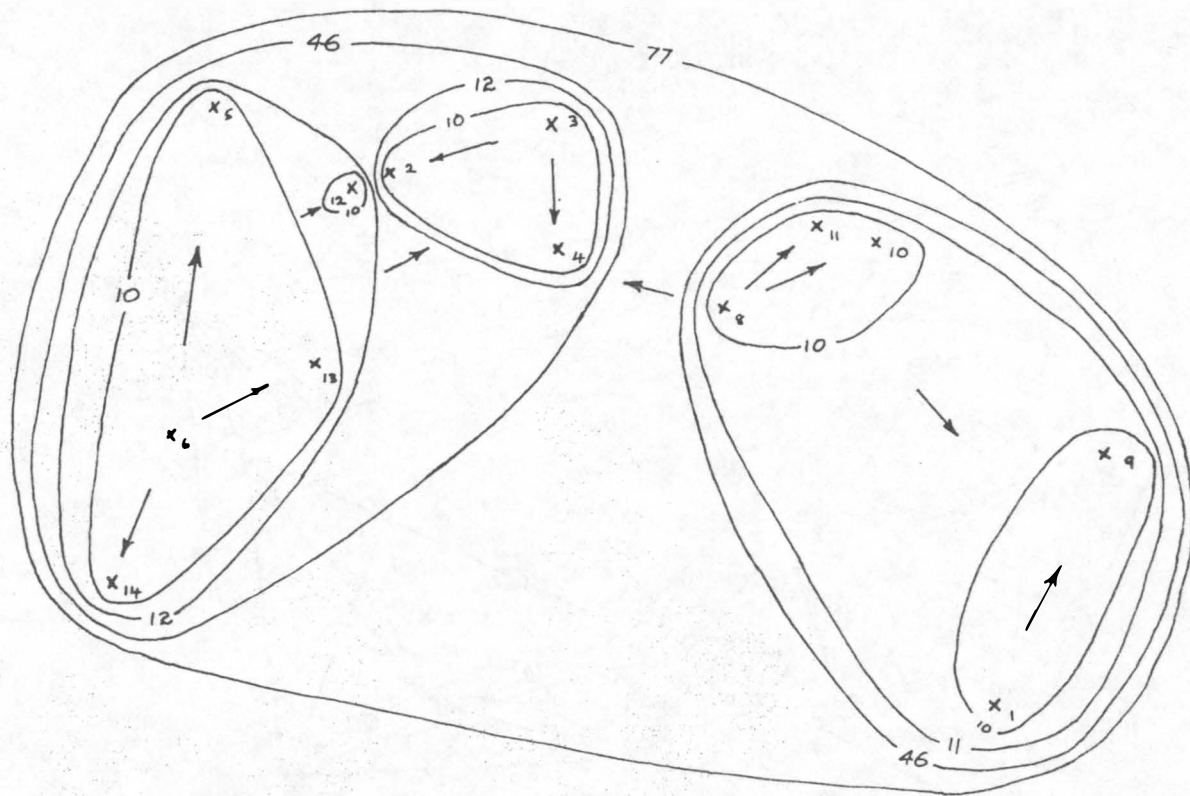
MAP 3. GROUPING TEST POINTS BY INTELLIGIBILITY.
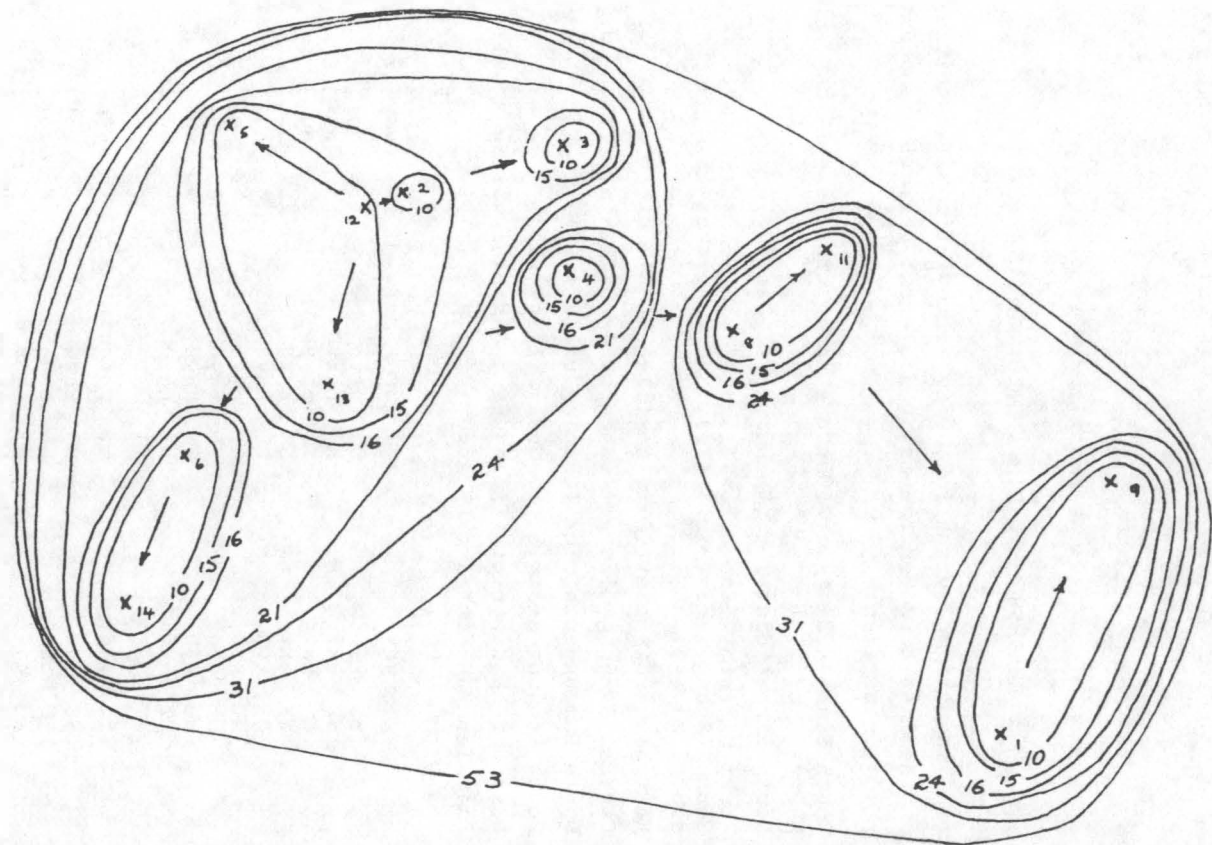
MAP 4. GROUPING OF TEST POINTS BY VOCABULARY LIKENESSES.

APPENDIX 1

SWADESH LIST IN GURUNG DIALECTS

Nine forms, identified by the following abbreviations, are cited for each item on the list to cover the major dialectal variation encountered in the over 40 lists taken:

SS South Syangja district (Ghurung Khang village - 14 on maps).

NP North Parbat district (Ghandruk village (5)).

K   Kaski district (Ghachok village (2), also Ribang (12), Torke (Syangja district) (13), and Yangjakot (Lamjung district) (4)).

EK East Kaski district (Siklis village (3)).

CL Central Lamjung district (Ghanpokhara village (11)).

NL North Lamjung district (Chiplag village (7)).

SL South Lamjung district (Daduwa village (8)).

WG West Gorkha district (Thalajung and Nepani villages (9)).

ET East Tanahun district (Bhangeri village (1)).

1. *I*		2. *you*		3. *we (incl.)*		*we (excl.)*	
SS	nga	SS	ki	SS	ngyo	SS	ngi
NP	nga	NP	kxi	NP	ngxyo	NP	ngi
K	nga	K	kxi	K	ngxyo	K	ngi
EK	ngga	EK	kxi	EK	ngy0	EK	nggi
CL	nga	CL	ky0	CL	ngy0	CL	ngi
NL	nga	NL	ky0	NL	ngyo	NL	ngi
SL	nga	SL	kyo	SL	ngy0	SL	ngi
WG	nga	WG	ky0	WG	ngy0	WG	ngi
ET	nga	ET	ky0	ET	ngy0	ET	ngy0

4. *this*		5. *that*		6. *which?*		7. *what?*	
SS	cu	SS	ca	SS	khae	SS	to
NP	cu	NP	ca	NP	khaaba	NP	to
K	cu	K	ca	K	khab	K	to
EK	cu	EK	ca	EK	khaau	EK	to
CL	cu	CL	ca	CL	su	CL	to
NL	cu	NL	ca	NL	su	NL	to
SL	cu	SL	ca	SL	khaba	SL	to
WG	cu	WG	ca	WG	khaiba/su	WG	ta
ET	cu	ET	ca	ET	su	ET	to

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8. *not*	9. *all*	10. *much, many*	11. *one*
SS aa-	SS jamman	SS sogo	SS krI
NP aa-	NP tAAnun	NP lxe	NP gxrI
K ax/aa-[1]	K tAAn/jammai[2]	K lxe/lxE[3]	K gxri
EK aa-	EK tAAn	EK lxe	EK khrI
CL aa-	CL daay0/jammai[2]	CL le	CL krI
NL aa-	NL swaattaI	NL le	NL ki
SL aa-	SL jammai/tAAi[2]	SL lE	SL gri
WG aa-	WG tAAI	WG lxEde/lxe	WG kakhrae/ kakhaE
ET aa-	ET jamma	ET lEnde	ET kaakhraE

[1]The breathy negative prefix ax- occurs only in Ghachok.

[2]The Nepali loan jammai (or variants of it) was given in Yangjakot and Torke, and as an alternate form in Ghanpokhara and Daduwa.

[3]The nasalised form lxE was given in Yangjakot.

12. *two*	13. *big*	14. *long*	*short*
SS ngyaki	SS thewai	SS xrIngyo	SS lUThe
NP ngxI	NP theba	NP xrIba	NP rInchI[1]
K ngxI	K thebaa	K xrIgyo[1]	K ranThi
EK ngI	EK thebaa	EK xrIba	EK rIba
CL nge	CL theba	CL xrIba	CL ThUDe
NL ngxyAUl0	NL theba	NL xrIba	NL rinThE
SL ngy0l0	SL ajaara/theyaale	SL xrEyaale	SL ---
WG ngyauglo	WG thabaale	WG xrIbaale	WG rInThe
ET ngyakal0	ET thablyaa	ET xrImlyaa	ET rInThya

[1]Yangjakot xrIba *'long'*, rIba *'short'*.

15. *small*	16. *woman*	17. *man*	18. *person*
SS cy0wai	SS mrIsyo	SS pyUmaE	SS mxi
NP cy0ba	NP cxamiri	NP aamyuyU	NP mxi
K cy0ba/ cyuguthiri	K camiri/ mrIsyo[1]	K aamuyU/ mardamaE[2]	K mxi
EK cy0ba	EK rImaE	EK mwImaE	EK mbxi
CL caj	CL rImaE	CL pyUmaE/ maimaE	CL mxi
NL cy0ba	NL mrImaE	NL pyUmaE	NL mi
SL cEna/ cyuuthiri	SL rimaE/ naimaE	SL daimaE/ phrEsImaE	SL mxi/mxI
WG cyune	WG rImaE/ mrImaE	WG pyUca/ muimaE	WG mxi
ET cyaUnya	ET mrIca	ET pyUca	ET mxi

[1]The two forms both occur in Ghachok and Ribang, but mrIsyo is less polite. The Torke form is cxamiri and Yangjakot rImaE.

[2]mardamaE is the Ribang form.

19. *fish*	20. *bird*	21. *dog*	22. *louse*
SS tang	SS namE	SS nakI	SS se
NP tAAnga	NP nemE	NP naIkI	NP se
K tAAga	K nEma/nemya[1]	K nagI	K se
EK tAAga	EK nemaa	EK ndaI	EK se
CL tAAga	CL namI	CL nagyu	CL se
SL tAAga	SL nEmE	SL nagyu	SL se
WG tAAga	WG namye, nemya	WG nayu/nagyu/	WG se
		nakyu	
ET tAAga	ET namya	ET nakyu	ET se

[1]Ghachok nEma, Ribang nemya, Torke nemE, Yangjakot nimI.

23. *tree*	24. *seed*	25. *leaf*	26. *root*
SS sI dxU	SS plu	SS la	SS jaraa
NP sI du	NP pIxu	NP pxo	NP ancha
K sI dxU/du[1]	K pIxu	K pxo/la[2]	K jara
EK sI du	EK plu	EK la	EK jar
CL sI du	CL plu	CL la	CL jaraa
NL sI du	NL plu	NL labo	NL jara
SL sI du	SL plu	SL la/la pxo	SL jara
WG sI du	WG plu	WG la	WG jaraa
ET sII du	ET plu	ET lapya	ET jaraa

[1]dxU occurs in Ghachok.

[2]Both forms occur separately and in combination (cf. NL and ET forms) and there is in Ribang a semantic distinction: pxo *'leaf on tree'*, la *'plucked leaf'*.

27. *bark*	28. *skin*	29. *flesh*	30. *blood*
SS phi	SS TxibI	SS se	SS ko
NP phi	NP TxipI	NP se	NP ko
K phi	K TxubI	K se/sya[1]	K ko
EK phi	EK TxibI	EK se	EK ko
CL phi	CL ThI/TxI	CL se	CL ko
NL phibi	NL TxI	NL se	NL ko
SL bokro/phibi	SL TxI/TxiblI	SL sya	SL ko
WG phibi	WG TxiblI	WG sya	WG ko
ET bokro	ET TxiplI	ET sya	ET ko

[1]sya occurs in Yangjakot.

31. *bone*	32. *fat, grease*	33. *egg*	34. *horn*
SS xrIp	SS chi	SS phU	SS ru
NP xripa	NP chiji	NP phU	NP ru
K xriba/	K chi	K phU	K ru
xrubi[1]			
EK xrIba	EK chi	EK phU	EK ru
CL nugri	CL chi	CL phU	CL ru
NL nugri	NL chi	NL phU	NL ru
SL nugri	SL chi	SL phU	SL rU
WG nauri	WG chi	WG phU	WG ru
ET haaD	ET chi	ET phU	ET ru

[1]xrubi occurs only in Yangjakot.

35. *tail*	36. *feather*	37. *hair (of head)*	*hair (body)*
SS mI	SS pxyaa	SS kra mwl	SS mwi
NP me	NP kO pxyaa	NP kra px0	NP mwi
K mi/me[1]	K pxyaa	K kra[2]	K mwl
EK mbi	EK pxyaa	EK kra	EK mbwi
CL me	CL phyaa	CL kra	CL mwl
NL me	NL pxyaa	NL kra	NL mwl
SL mya	SL pxyaa	SL kra	SL mwi
WG me/mera	WG kAApyaa	WG kra	WG mwl
ET me	ET kAApyaa	ET kra	ET mwi

[1]Only me is recorded for Ribang and Yangjakot, but both forms occur in Ghachok and Torke.

[2]Yangjakot records kra px0, and Ribang kra mwi.

38. *head*	39. *ear*	40. *eye*	41. *nose*
SS kra	SS nxapE	SS mI phu	SS nakhU
NP kra	NP nxa	NP mI	NP na
K kra	K nxa/nxemE	K mI/mxI[1]	K na/nakhU
EK kra	EK nxemE	EK mbl/mbI[2]	EK na.U
CL kra	CL nxabi	CL mI	CL nakhU
NL kra	NL nxapE	NL mi	NL na
SL kra	SL nxape	SL mI phU	SL nakhU
WG kra	WG nxabe	WG mI/mxI	WG naa khU
ET kraaplaa	ET naapyE	ET mxI phU	ET naakhU

[1]mxI occurs in Yangjakot.

[2]Siklis records mbi, but the neighbouring Tangting and Thak record the expected nasal form, mbI.

42. *mouth*	43. *tooth*	44. *tongue*	45. *fingernail*
SS sU	SS sa	SS le	SS yo chI
NP sU	NP sa	NP le	NP yo chI
K sU	K sa	K le	K yo sI/chI[1]
EK sU	EK sa	EK le	EK yo si/sI[2]
CL sU	CL sa	CL le	CL yo sI
NL sU	NL sa	NL le	NL ya e chI
SL sU	SL sa	SL lya	SL yo sI
WG sU	WG sa	WG lya	WG yo chI
ET sU	ET sa	ET lya	ET yo chI

[1]Torke records yo chI.

[2]Siklis records yo si, but Tangting and Thak yo sI.

46. *foot*	47. *knee*	48. *hand*	49. *belly*
SS pali	SS cxi	SS yo	SS pho
NP pxali	NP cxi	NP yo	NP pho
K pxali/pxale[1]	K cxl	K yo	K pho
EK pxala	EK cxidu	EK yo	EK pha
CL phaii	CL chiga	CL yo	CL pho
NL pxali	NL cxi	NL ya	NL pho
SL pxale	SL cxiglAA	SL yo	SL pho
WG pxale	WG cxIphu	WG yo	WG pho
ET pale	ET ghUDo	ET yo	ET bxUdi

[1]Ghachok and Torke pxali, Ribang and Yangjakot pxale.

50. *neck*		*throat*		51. *breast*		52. *heart*	
SS	kharji	SS	mI0gu	SS	ngxe	SS	tI
NP	gardan			NP	ngxe	NP	tI
K	gardan	K	khari	K	ngxe	K	tI
EK	khari	EK	khari	EK	nggxe	EK	tI
CL	khare			CL	ngxe	CL	tI
NL	kharje	NL	mIx0ku	NL	ngxe	NL	tI
SL	khari			SL	ngya	SL	tI
WG	kharji	WG	kharji	WG	ngxyaa	WG	tI
ET	khari	ET	gxaaTi	ET	nyathun	ET	chaati

53. *liver*		54. *drink*		55. *eat*		56. *bite*	
SS	ngI	SS	thU-	SS	ca-	SS	cxi-
NP	oeTa	NP	thU-	NP	ca-	NP	cxi-
K	uiDaa/oeDa[1]	K	thU-	K	ca-	K	cxi-
EK	tI[2]	EK	thU-	EK	ca-	EK	cxi-
CL	oeDa	CL	thU-	CL	ca-	CL	che-
NL	oeDa	NL	thU-	NL	ca-	NL	cxe-
SL	oeDa	SL	thU-	SL	ca-	SL	cxi-
WG	oeTa	WG	thU-	WG	ca-	WG	choe-/che-
ET	oitaa	ET	thU-	ET	ca-	ET	chi-/thwi-

[1]Ghachok uiDaa, Ribang oeDa, Torke and Yangjakot oeTa.

[2]Siklis and Tangting reported tI (same as *'heart'*), but Thak reported ngge (cf. SS form).

57. *see*		*look*		58. *hear*		59. *know a person*	
SS	mr0-	SS	ngxyo-	SS	thi-	SS	ngo se-
NP	mr0-	NP	ngxyo-	NP	thee-	NP	se-
K	mr0-	K	ngxyo-	K	thee-	K	ngo se-
EK	mr0-	EK	nggxyo-	EK	thi-	EK	nggo se-
CL	mr0-	CL	ngyu-	CL	nge-	CL	se-
NL	mr0-	NL	cyo-	NL	ngE-	NL	se-
SL	mr0-	SL	ngxyo-	SL	thee-	SL	ngo se-
WG	mr0-	WG	cyo-	WG	thee-/ngE-	WG	se-
ET	mr0-	ET	cyo-	ET	the-	ET	ngo se-

60. *sleep*		61. *die*		62. *kill*		63. *swim*	
SS	nxar yu-	SS	sI-	SS	sae-	SS	baTa-
NP	nxaru yu-	NP	sI-	NP	sae-	NP	ngwaal-[2]
K	nxaru yu-/[1] kha-/cxwi-	K	sI-	K	sae-	K	kywaala-[2]
EK	ndur kha-	EK	sI-	EK	sae-	EK	pauri kI0-
CL	nxaru yu-/ cxwi-	CL	sI-	CL	sae-	CL	polo-
NL	nur kha-	NL	sI-	NL	sae-	NL	pokhor kI0-
SL	nxar kha-	SL	sI-	SL	sae-	SL	pauri kI0-
WG	nxar kha-	WG	sI-	WG	sae-	WG	pauDi kI0-
ET	ro-	ET	sya-	ET	se-/sae-	ET	podi khya-

[1]nxaru *'weariness'* occurs with either verb kha- *'come'* or yu- *'come down'* to mean *'be tired'*. nxaru cxwi- is specifically *'fall asleep'*.

[2]Ghachok kywaala-, Ribang pohordi-, Torke pokhori kI0-, Yangjakot pauDi kI0-.

64. *fly*	65. *walk*	66. *come down*	*come* (other)
SS pxira-	SS pra	SS yu-	SS kha-
NP pxir-	NP prxa-	NP yu-	NP kha-
K pxiri-[1]	K prxa-/pra-[2]	K yu-/kha-[2]	K kha-
EK pxur-	EK pra-	EK yu-	EK kha-
CL phur-	CL pra-	CL yu-	CL kha-
NL pxi-	NL pra-	NL yu-	NL kha-
SL pxyura-	SL pra-	SL yu-	SL kha-
WG pxura-/	WG prxa-	WG yu-/kha-	WG kha-
pxira-			
ET peera-	ET pra-	ET ---	ET kha-

[1]Ghachok pxiri-, Ribang and Torke pxira-, Yangjakot pxura.

[2]pra- occurs in Yangjakot, as does kha- *'come down'*.

67. *lie down*	68. *sit*	69. *be standing*	70. *give*
SS ro-	SS Ti-	SS raa-	SS bxI-
NP ro-	NP kU-/Ti-	NP raa-	NP pI-
K ro-	K kU-	K raa-	K pI-
EK ro-	EK kxU-	EK raa-	EK pI-
CL ro-	CL Ti-	CL raa-	CL phi-/pi
NL ro-	NL kxU-	NL raa-	NL pI-
SL ro-	SL Ti-	SL raa-	SL pI-
WG ro-	WG Ti-	WG raa-	WG pI-
ET ro-	ET Ti-	ET raa-	ET pI-

71. *say*	72. *sun*	73. *moon*	74. *star*
SS bi-	SS txI	SS laI	SS saar
NP bi-	NP txini	NP lini	NP musaara
K bi-	K txiyAA/txI/	K layAA/laII	K musaara
	txayAA		
EK pxi-	EK txI	EK IE	EK saara
CL bi-	CL thina	CL langi	CL saaraa
NL bi-	NL txini	NL langI	NL saa
SL bi-	SL txa.I	SL la.I	SL taara
WG bi-	WG txinxi	WG lanxi	WG saar/taaraa
ET bi-	ET txinxi	ET laanxi	ET saaraa

75. *water*	76. *rain*	77. *stone*	78. *sand*
SS kyu	SS nAA	SS yup	SS balutaa
NP kyu	NP nAA	NP yuma	NP balu
K kyu	K nAA	K yuma	K balwaa/balo
EK kyu	EK nAA	EK yuma	EK sabi
CL kyu	CL nAA	CL yU	CL sabi
NL kyu	NL nAA	NL yU	NL baluwaa
SL kyu	SL nAA	SL yUma	SL baluwaa
WG kyu	WG nAA	WG yUmaa/	WG baloDa/
		ngyumaa	balwaa
ET kyu	ET nAA	ET nyimaa	ET baaluwaa

79. *earth*		80. *cloud*		81. *smoke*		82. *fire*	
SS	sa	SS	mxace	SS	mekhu	SS	me
NP	sa	NP	mogaE	NP	mekhu	NP	me
K	sa	K	nxAAmjyo/ mxasy0[1]	K	migu/mekhu[2]	K	mi/me[3]
EK	sa	EK	nxAAsyo	EK	mbigu/mi.u[4]	EK	mi/mbi[5]
CL	sa	CL	mxo/nausyo	CL	migu	CL	mi
NL	sabro	NL	nxamsyo	NL	migu	NL	mi
SL	sa	SL	baadal/mxaaje	SL	mikhu	SL	mi
WG	sa	WG	naamsyo	WG	mikhu	WG	mi
ET	sa	ET	baadal/naamsyo	ET	mikhu	ET	mi

[1] Ghachok nxAAmjyo; Torke mxase; Yangjakot mxasy0; Ribang nxaamsyo *'cloud'*, mxosyo *'mist'*.

[2] Ghachok and Yangjakot migu, Torke and Ribang mekhu.

[3] Ghachok and Yangjakot mi, Torke and Ribang me.

[4] Siklis mi.u, Tangting mbigu, Thak mikhu.

[5] Siklis and Thak mi, Tangting mbi.

83. *ash*		84. *burn (single)*		85. *road*		86. *mountain*	
SS	mebro	SS	khr0-	SS	kyAA	SS	klI
NP	mebro	NP	khr0-	NP	gxyAA	NP	kataasU
K	mebro/ myauro[1]	K	khr0-	K	gxyAA/kyAA[2]	K	kadaasU/klI[3]
EK	meuro/ mbiuro[4]	EK	khr0-	EK	gxyAA	EK	klI
CL	mibro	CL	khr0-	CL	kyAA	CL	klI culi
NL	mebro	NL	khr0-	NL	kyAA	NL	klI culi
SL	mebro	SL	khr0-	SL	kyAA	SL	klI DAADa
WG	mebro/mepro	WG	khr0-	WG	kyAA	WG	klI/hiUculi
ET	miipro	ET	khro-	ET	kyA	ET	himaal

[1] myauro recorded only for Yangjakot.

[2] Ghachok and Ribang gxyAA, Torke and Yangjakot kyAA.

[3] Ghachok kadaasU, Ribang klI/kadaasU, Torke himculi, Yangjakot klI kAA.

[4] Siklis meuro, Tangting mbiuro, Thak mebro.

87. *red*		88. *green*		89. *yellow*		90. *white*	
SS	olgyaa	SS	pIgyaa	SS	urgyaa	SS	taargyaa
NP	olgyaa	NP	pInggyaa	NP	urgyaa	NP	taargyaa
K	olgyaa	K	pInggyaa	K	urgyaa	K	taargyaa
EK	olgyaa	EK	pInggyaa	EK	urgyaa	EK	taargyaa
CL	olgyaa	CL	pIgya	CL	urgyaa	CL	taargyaa
NL	olkhe	NL	pInkhya	NL	urkhe	NL	taarkhe
SL	olgyaa	SL	pInggyaa	SL	urgyaa	SL	taargyaa
WG	olke/olgya	WG	hariyo/pIgya	WG	urke/urgya/ urge	WG	taarke/ taargya
ET	olkyaa	ET	pIIkyaa	ET	urkyaa	ET	taarkyaa

91. *black*	92. *night (falls)*	93. *hot (water)*	94. *cold (water)*
SS ml0n.gyaa	SS mxuis ta-	SS laa kyu	SS ngyUwai kyu
NP ml0n.gyaa[1]	NP mxwIs ta-	NP kyu laa	NP kyu ngyUba
K mlonggyaa	K mxuIs ta-	K lala kyu	K ngyUba kyu[2]
EK ml0gya	EK mxwIs ta-	EK kyu laa	EK ngyUba kyu
CL ml0kya	CL naa ri-/	CL kyu laa	CL kyu sI
	mxuis ta-		
NL ml0khe	NL nxa ri-	NL kyu laala	NL kyu sI
SL ml0nggyaa	SL mxuIsa	SL taato	SL sI
WG ml0ke/	WG mxuis ta-/	WG taato kyu	WG ciso kyu
ml0gya	naa ri-		
ET ml0kyaa	ET mwEsar	ET taato	ET ciso

[1]Ghachok mlonggyaa, Torke, Ribang, and Yangjakot ml0gyaa.

[2]Tangting and Thak kyu sI.

95. *full (to be)*	96. *new*	97. *good*	98. *round*
SS plE-	SS nayAA	SS chyAAu	SS Dallo
NP plI-	NP chaara	NP chyAAba	NP kyukyurta
K plI-/nele mu-	K chaara	K chyAAba	K Dal[1]
EK plI-	EK chaara	EK chyAAba	EK Dalla
CL plI-	CL chaara	CL chyAAba	CL Dal
NL Dyamai	NL nayAA	NL chyAAba	NL Dalla
SL tikho/ne	SL chaara	SL chyAAba	SL Dalla
WG togyaE/tiko	WG chaara	WG chyAAba	WG Dallo
ET plI-	ET nayAA	ET chyAUlya	ET Dalyaa

[1]Ghachok ralbu, Ribang Dal/phU, Torke and Yangjakot Dallo.

99. *dry*	100. *name*	101. *past tense*	102. *perfect tense*
SS kaarau	SS mI	SS -i	SS -sim
NP kaaraba	NP mI	NP -ji	NP -imu
K kaariba/	K mII	K -i/-di/-ji	K -ngngyU[1]
kaaraba			
EK kaariba	EK mI	EK -i	EK -imu
CL kaariba	CL mI	CL -ji	CL -ji
NL krAAba	NL mI	NL -jai	NL -syo.o
SL kaaraba	SL mII	SL ---	SL ---
WG kaariba	WG mI	WG -i	WG -sim
ET kaareyolyaa	ET mI	ET -i	ET -sim

[1]Ghachok -ngngyU, Ribang -imyu, Torke -semu, Yangjakot -la.

103. *present continuous*

SS -sim
NP -syonmu
K -inamu/-rimu
EK -inamu
CL -dimU
NL -senmu
SL ---
WG -risim
ET -m

APPENDIX 2

TEST SENTENCES

ABBREVIATIONS:

SS	Sentence set
SN	Sentence number
ASR	Answer suggestion rating
AP	Answer parts
A	adjectival
B	body part
C	cause
E	event
K	kinship term
L	locative
T	temporal

SS.SN	Sentence and question	Type	ASR	AP
1 1	Purna Bahadur went home. Where did Purna go?	L	3	1
1 2	Hasta Lal's back hurt all night. What hurt all night?	B	3	2
1 3	That is a very fine buffalo. What kind of a buffalo is it?	A	3	2
1 4	The old man fell ill and died. What happened to the old man?	E	3	2
1 5	My eldest brother killed a snake. Who killed the snake?	K	3	1
1 6	Mainli went to Pokhara to buy salt. Why did Mainli go to Pokhara?	C	2	2
1 7	Sainla lost his knife in the forest. What did Sainla do?	E	3	3
1 8	While the man was returning home it began to rain. When did it begin to rain?	T	3	3

SS.SN	Sentence and question	Type.ASR.AP		
1 9	Because it was raining he stayed at home. Why did he stay at home?	C	2	1
1 10	My wife has just bought an expensive sari. What kind of sari has she bought?	A	3	1
2 1	After Indra had cut the wood he sat down. When did Indra sit down?	T	3	3
2 2	The man went to sleep because he was tired. Why did the man go to sleep?	C	1	1
2 3	Surje's plough is broken. What has happened to Surje's plough?	A	2	1
2 4	The old women went to the river. Where did the old women go?	L	3	1
2 5	The cow kicked mother in the shoulder. Where did the cow kick mother?	B	3	1
2 6	My friend arrived wearing a dirty shirt. What kind of shirt was my friend wearing?	A	3	1
2 7	My son fell into the river recently. What happened to my son recently?	E	3	2
2 8	Her husband makes fine mats. Who makes fine mats?	K	3	2
2 9	I didn't have an umbrella so I got wet. Why did I get wet?	C	2	1
2 10	Uncle found my axe in his house. What did Uncle do?	E	3	5
3 1	Our dog bit Dil Maya our granddaughter. Whom did our dog bite?	K	3	2
3 2	Since Indra's stomach hurt she ate medicine. Why did Indra eat medicine?	C	2	2
3 3	When the men left mother started cooking. What happened when the men left?	E	3	2
3 4	Indra started work, rising in the night. When did Indra start work?	T	3	1
3 5	It was full moon so they did not plough the oxen. Why did they not plough the oxen?	C	2	1
3 6	Yesterday Indra was eating an unripe suntala. What kind of suntala was Indra eating?	A	3	1
3 7	My friend went to the forest. Where did my friend go?	L	3	1
3 8	Ram cut his foot with a sickle. What did Ram cut?	B	3	1
3 9	Yesterday I saw a yellow snake. What colour was the snake?	A	3	1
3 10	There are two birds in that tree. What is in that tree?	E	3	2
4 1	Father fell down and bumped his head. What did Father bump?	B	2	1

SS.SN	Sentence and question	Type.ASR.AP		
4 2	Last night Sainli saw a bright star. What kind of star did Sainli see?	A	3	1
4 3	The woman is sweeping the house. What is the woman doing?	E	3	2
4 4	Grandmother has been ill for three years. Who has been ill for three years?	K	3	1
4 5	Because his arm was broken he couldn't enlist. Why couldn't he enlist?	C	3	2
4 6	It was cold so Father sat down by the fire. What did Father do?	E	2	2
4 7	While my wife was away I fell ill. When did I fall ill?	T	3	2
4 8	Being hungry he returned home to eat. Why did he return home?	C	2	1
4 9	Uncle (Kaancha baa) does not like very sweet tea. What kind of tea does uncle not like?	A	3	2
4 10	My son went to the (unirrigated) field (baari). Where did my son go?	L	3	1
5 1	The man became angry and shouted a lot. Why did the man shout a lot?	C	2	1
5 2	This chicken lays small eggs. What kind of eggs does the chicken lay?	A	3	1
5 3	The youths went to the next village. Where did the youths go?	L	3	2
5 4	He fell over the cliff and broke his ankle. What did he break?	B	3	1
5 5	Because the wood was dry the fire burned well. How did the fire burn?	A	1	1
5 6	The chickens ate up all the rice. What did the chickens do?	E	3	3
5 7	Surje's mother made bread to go to her home. Who made bread?	K	3	1
5 8	Because their buffalo died they had no milk. Why did they have no milk?	C	3	2
5 9	While I was working my sister was playing and ate. What was my sister doing?	E	3	2
5 10	During Dasain Uncle (Thulo baabu) stayed with me. When did uncle stay with me?	T	3	1
6 1	Hari Prasad bought a field to plant maize. Why did Hari Prasad buy the field?	C	3	2
6 2	In the middle of the night the dog barked. What happened in the middle of the night?	E	3	2
6 3	While his (oldest) sister was asleep Purna went out. When did Purna go out?	T	3	3
6 4	Because it was sunny he sat in the shade. Why did he sit in the shade?	C	2	1

SS.SN	Sentence and question	Type.ASR.AP

SS.SN	Sentence and question	Type	ASR	AP
6 5	I need some strong rope. What kind of rope do I need?	A	3	1
6 6	The cat climbed on the roof. Where did the cat climb?	L	3	1
6 7	That girl washed her hands before eating. What did that girl wash?	B	1	1
6 8	My mother-in-law is very talkative. What kind of person is my mother-in-law?	A	3	2
6 9	Tomorrow there is a large festival. What is happening tomorrow?	E	3	2
6 10	Purna's wife makes good tarkari. Who makes good tarkari?	K	3	2
7 1	Jackals have sharp teeth. What kind of teeth do jackals have?	A	2	1
7 2	The young men are building a house. What are the young men doing?	E	3	2
7 3	Ram's aunt (phupu) has much gold. Who has much gold?	K	3	2
7 4	They went to buy rice for the feast. Why did they buy rice?	C	3	1
7 5	During the evening the goat ate all the radishes. What happened during the evening?	E	3	4
7 6	Last month Nani's father went to Pokhara. When did Nani's father go to Pokhara?	T	3	1
7 7	Sita woke up because the dog barked. Why did Sita wake up?	C	3	2
7 8	Nani picked a bunch of red flowers. What colour were the flowers?	A	3	1
7 9	The chicken went under the house. Where did the chicken go?	L	3	2
7 10	Grandfather has lost all his teeth. What has Grandfather lost?	B	3	2
8 1	That veranda is supported by thick posts. What kind of veranda posts are they?	A	3	1
8 2	The dog slept on the veranda. Where did the dog sleep?	L	3	1
8 3	The doctor put medicine on my finger. Where did the doctor put medicine?	B	3	2
8 4	Purna was cutting rice with a blunt sickle. What kind of sickle was Purna using?	A	3	1
8 5	Krishna bought five hens in the market. What did Krishna do in the market?	E	3	3
8 6	Indra gave the money to his uncle (maamaa). To whom did Indra give the money?	K	3	1
8 7	Since the rains have failed there will be no harvest this year. Why will there be no harvest?	C	2	2

SS.SN	Sentence and question	Type.ASR.AP		
8 8	In the morning the cattle ate grass. What did the cattle do in the morning?	E	3	2
8 9	While walking along the path the old woman fell over. When did the old woman fall over?	T	3	2
8 10	It was Tihar so they gambled all night. Why did they gamble all night?	C	2	1
9 1	All day long Indra worked in his fields (khet). What did Indra do all day long?	E	3	2
9 2	When Mainla runs his legs ache. When do Mainla's legs ache?	T	3	1
9 3	Being thirsty, I asked for water. Why did I ask for water?	C	1	1
9 4	Father enjoys eating spicy food. What kind of food does Father like?	A	3	1
9 5	The jackal came into the corn field. Where did the jackal come?	L	3	2
9 6	That woman wore gold in her ear. Where did she wear gold?	B	2	1
9 7	She arrived carrying a heavy water pot. What kind of water pot was she carrying?	A	3	1
9 8	The cat killed a mouse last night. What did the cat do last night?	E	3	2
9 9	Sita's youngest son is very tall. Who is very tall?	K	3	2
9 10	The sun has come out so we are drying millet. Why are we drying millet?	C	3	1
10 1	When they heard the news they started to cry. What did they do when they heard the news?	E	3	1
10 2	Uncle (maamaa) was killed in the war. Who was killed in the war?	E	3	1
10 3	I didn't have any money so I couldn't buy a chicken. Why couldn't I buy a chicken?	C	2	1
10 4	My friend was chased by a bear. What happened to my friend?	E	3	2
10 5	Grandfather sells eggs when the Tibetans come. When does Grandfather sell eggs?	T	3	1
10 6	The woman got fed up and went away. Why did the woman go away?	C	3	1
10 7	Mother was cleaning pots vigorously. How was Mother cleaning pots?	A	3	1
10 8	Sita hid behind the tree. Where did Sita hide?	L	3	2
10 9	He put the namlo round his chest. Where did he put the namlo?	B	4	1
10 10	Grandmother has become deaf recently. What has happened to Grandmother recently?	A	3	1

SS.SN	Sentence and question	Type.ASR.AP		
11 1	Grandfather sat down in the middle of an ants' nest. Where did Grandfather sit down?	L	3	3
11 2	A small branch hit Krishna on the nose as he walked. Where did Krishna get hit?	B	3	1
11 3	The young man came carrying a brightly coloured umbrella. What kind of umbrella was he carrying?	A	3	1
11 4	Last night three guests ate at our house. What happened at our house?	E	3	3
11 5	My sister-in-law (bhaauju) gave birth to a son. Who had a son?	K	3	1
11 6	My mother went to her friend's house to borrow oil. Why did my mother go to her friend's house?	C	3	2
11 7	The cat dropped the bones he had stolen and ran away. What did the cat do?	E	3	3
11 8	After Nani gets married we will buy another cow. When will we buy another cow?	T	3	2
11 9	Ram swam across the lake to meet his friend. Why did Ram swim across the lake?	C	3	2
11 10	That tree has poisonous leaves. What kind of leaves does that tree have?	A	3	1
12 1	While walking the men heard the sound of a stream. When did the men hear the sound of the stream?	T	3	2
12 2	Mother-in-law pretended to be deaf and didn't speak. Why did mother-in-law not speak?	C	3	1
12 3	The teashop manageress is very stingy. What is the teashop manageress like?	A	3	1
12 4	The small children dropped stones into the cooking pot. Where did the small children drop stones?	L	3	1
12 5	The lunatic cut off his eyelashes with a khukuri. What did the lunatic cut off?	B	3	1
12 6	Butterflies have fragile wings. What kind of wings do butterflies have?	A	3	1
12 7	Early this morning the women got up and plastered the threshold. What did the women do?	E	3	2
12 8	I went to my father-in-law and bought that ox. From whom did I buy the ox?	K	3	1
12 9	We are repairing our roof as it was damaged by a hailstorm recently. Why are we repairing our roof?	C	3	3
12 10	Younger brother Kancha caught eight fish with his net. What did Kancha do?	E	3	4

NOTES

1. The dialect survey was carried out in March and April 1975. We wish
to express gratitude to officials at both district and village level for
their assistance in obtaining maps of the districts and in carrying out
testing in each village visited, where we were normally guests of the
pradhan pancha or other leader in the village; to Deu Bahadur Gurung,
of Ghachok, for his assistance in gathering word lists; to Miss Heather
Kilgour for her work in plotting maps; and to Mr Phil Mathieson for
building test equipment. Glover is responsible for the Gurung forms
recorded and for the lexical analysis, and Landon for the design and
analysis of the intelligibility tests.

2. Information on Ghale was provided by Mr Larry Seaward for a number
of villages in northeast Gorkha, including Barpak, Uiya, and Laprak,
and we also obtained a list from a Gurung from Thodneri, considerably
further south.

3. Gurung terms are spelt in Roman script according to the following
transcription: p, t, T, c, k, and b, d, D, j, g are respectively the
voiceless and voiced stops (or affricates, in the case of c and j) at
the bilabial, dental, retroflexed, apico-alveolar, and velar points of
articulation. Before i and e, the consonants s, c, and j are lamino-
alveolar (sy, cy, jy) in pronunciation. h represents aspiration of the
voiceless series or, when not following a stop, a voiceless glottal
spirant (occurring only in a few loanwords from Nepali). In Gurung
aspiration of a voiced stop or affricate is phonemically breathiness on
the following vowel, and this latter is marked by x preceding the vowel.
The departure from the traditional bh, dh, etc., for voiced aspirated
stops is necessitated by the contrast existing in Gurung between aspira-
tion and breathiness following voiceless stops: pxi *'carrying basket'*,
phi *'bark, peel'*. Once x is used to mark breathiness thus following
voiceless stops consistency dictates use of the same symbol for breathi-
ness in the environment following voiced stops. The remaining conso-
nants are m, n, ng, l, r, w, y, and s. Vowels are i, e, a, o, and u,

which have their normal phonetic values except that the normally low
central a has, in the speech of educated bilinguals, a mid central
variant, probably due to the influence of Nepali. The a vowel is fre-
quently phonemically long, written aa, and is always low central in
articulation when lengthened: labaa' *to do*, laabaa' *to heat*; cha'ba
to be hot, chaa'ba *to peel*. Phonemic length has been observed, in
Ghachok dialect, on other vowels in very few cases: thebaa' *big*,
theebaa' *to hear*. The length contrast is very hard to hear in word-
final position (although it does appear to mark different tone classes
of verbs in this position), and the phonemic contrast is probably either
neutralised or overridden phonetically by intonation patterns. Vowel
nasalisation is represented by upper case I, E, A, O, or U. And accent,
infrequently marked in this paper, is shown by apostrophe (') following
the accented syllable. Further phonetic detail, but different transcrip-
tion schemes, are given in Glover (1969,1974). Where Nepali terms are
cited as such a similar transcription, but without x or ', is used ex-
cept that in the spelling of village names in English we have followed
the traditional Roman Gurkhali conventions of ignoring the a//aa and
t//T contrasts, and of writing the c as ch: Yangjakot (yaangjakoT),
Ghachok (ghaacok), Chiplag (ciplaag), Pokhara (pokharaa), Ghurung Khang
(ghurung khAA).

4. There is diversity in West Gurung, as will be detailed below.
Doherty (1974) cites forms, including mum *mother's brother* (285) and
cḥyŏ *youngest (daughter)* (in contrast with cyŏ *youngest (son)*) (295)
which are unknown in Ghachok and which we have not encountered any-
where. Likewise his use of huri *work party* (291): Pignède's term
nogar from Mohoriya (Parbat jilla) is the common term in Ghachok (Kaski)
and also, according to Brot Coburn (personal communication), in Kolmo
(east Syangja). The phonological analysis implied by Doherty's use of
ḥ *for an aspiration which assumes the character of a high tone in
syllable-final position* (299) also appears to differ from Ghachok
Gurung (Glover 1974:xix-xxiii) where the second element of compound
words does not appear to control the tone-class of the compound. Thus
Doherty's au moḥ *father's sister's husband* and pha neḥ *father's
sister* (285) are simply aumo and phaane in Ghachok. Doherty cites
these terms as Western Gurung, and it would be interesting to know from
what actual villages came the speakers who supplied these forms.

5. The only direct evidence we were able to collect from Manang was a
very short word list, which indeed showed some unusual forms: yumaa
bird (Ghale ya/yo Ghachok nEmaa Chiplag ngyamaa); iju to *that*
(Ghachok/Chiplag ca); kyar *this* (Ghachok/Chiplag cu); tU *tree*

(Tamang 'tohngpo Ghale tangbo Ghachok dxU Chiplag du); tAA *'root'*
(Tamang Tã: Ghachok/Chiplag jara (from Nepali)). The list shows closest
affinity among the other Gurung lists with Chiplag, as would be expected
from geographical proximity, as in saat0 *'all'* (Chiplag swaataaI Ghachok
tAAn), and in general is more closely related to the other East Gurung
lists than to West or South.

6.   Bloomfield described similar complexities as being usual. Even for
the major High/Low cleavage in German, where in many words p, t, k in
Low (north) German correspond to f, s, ch in High (south) German, 'since
the various isoglosses do not coincide, the distinction can be sharply
drawn only if one resorts to an arbitrary definition' (1933:58).

7.   Chandra Prasad Gurung, who comes from Siklis and has lived some
years in Pokhara, spoke of a Pokhara dialect of Gurung used by students
from different villages (in the West Gurung area) for communication
among themselves. Chandra Prasad described a change in attitude to use
of the Gurung language over recent years - that whereas previously
Gurung educated young people were ashamed to use their own language they
have recently begun to do so, partly emulating the Newar community in
Pokhara which has a very definite linguistic independence. He described
the "Pokhara dialect" as a composite of various village dialects, them-
selves mutually unintelligible (personal communication). It is diffi-
cult to predict the development of language use, but such a common
educated dialect, if it gained increasing use in Pokhara town, would
appear a strong candidate to become a standard form of Gurung used in
literature. The present authors have unfortunately been so far unable
to study samples of this Pokhara dialect.

8.   In this section parenthesised Gurung forms represent the Ghachok
Gurung form unless specified otherwise. Forms from other villages are
identified by Tk (Thak), Tn (Tangting), or the index numbers, e.g. 3
(Siklis), 7 (Chiplag), 8 (Daduwa).

9.   nemaa and nxemE are doubtful, as a vowel preceding a nasal in
Gurung usually takes on a noncontrastive nasal quality. We are in-
debted to Dr Austin Hale who first suggested to us the correlation with
vowel quality. The occurrence of a postnasal stop is caused by early
closing of the velic, and it would seem that the Siklis dialect gives
increased phonetic difference to the nasal/oral contrast of vowels fol-
lowing nasal consonants (normally a difficult contrast to hear) by
early timing of the velic closure in the case of oral vowels.

10.   However, contrary to this guess, one girl from Siklis rejected the m in favour of b in writing mbxi *'person'* and mbi *'eye'* in the Deva-nagari script (Jessie Glover, personal communication).

11.   Chen & Wang (1975) marshal evidence from Chinese, English, and Swedish to support the concept of lexical diffusion, arguing it to be incompatible in principle with accepted views of linguistic change in both structuralist and generative frameworks.

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CASE AND ROLE IN NEWARI[1]

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This brief paper represents an attempt to answer just one question: What are the major pairings of semantic role and morphological case in the clause structure of Newari? The same question could be asked differently. What deep structure relationships are signalled by each of the various case endings and in which contexts do these occur? How are the roles of deep or conceptual structure mapped onto the morphological cases of surface structure in Newari?

In Section 1 we introduce the six morphological cases which are of primary importance in the study of semantic role. In Section 2 we examine the pairings of case and role that occur within the actor complex. In Section 3 we consider those of the site complex and in Section 4 we look at those pairings which belong to the undergoer complex. We presuppose an acquaintance with the system of roles presented in Chapter 8 of Grimes (1975) and with the system of role complexes presented in Hale, 1973.

1. Any analysis of clause structure in Newari must deal in one way or another with six morphological cases. We use the term, case, to refer to the morphological forms of noun phrases.[2] Following Grimes (1975) we reserve the term, role, for the deeper semantic relations which Fillmore and others refer to as case relations.

The cases of Newari which are central to the description of the clause are the following: the *nominative* (consisting of the uninflected stem), the *ergative* (consisting either of the uninflected stem followed by nąą or of the oblique stem followed by or ending in a long nasal vowel), the *dative* (consisting of the uninflected stem followed by

yāta), the *comitative* (consisting of the uninflected stem followed by
yāke), the *locative* (consisting of the oblique stem followed by -e or
of the oblique stem with a lengthened final i), and the *genitive* (con-
sisting of the uninflected stem followed by yā). These case names will
be used exclusively with reference to specific morphological forms. A
sample of the morphological forms to which these labels refer is given
in Figure 1.

    The ergative and locative forms often preserve stem final consonants
which have been lost in the nominative form, though even these conso-
nants may soon be lost. The ergative form, celąą, for example is on its
way to obsolescence and is being replaced by cyaa nąą. The form mą̄ą̄ nąą
now occurs alongside the ergative, māmąą. The all-purpose ergative,
nąą, is paralleled by the locative, lae (or khae in Bhaktapur) for
those speakers who have lost the oblique stem forms of various nouns.
For further details on noun morphology see Hale, 1971.

	child	*slave*	*mother*	*I*	*he*
Nominative	macā	cyaa	mą̄ą̄	ji	wa
Ergative	macą̄ą̄	cyaa nąą	māmąą	jįį	wąą
Dative	macā yāta	cyaa yāta	mą̄ą̄ jāta	jitaa	waita
Comitative	macā yāke	cyaa yāke	mą̄ą̄ yāke	jike	waike
Locative	---	---	---	---	---
Genitive	macā yā	cyaa yā	mą̄ą̄ yā	ji	wayā

	shop	*book*	*water*	*shoe*	*insect*
Nominative	pasaa	saphuu	laa	lāką̄ą̄	kii
Ergative	pasaląą	saphulįį	lakhąą	lākāmąą	kiląą
Dative	pasaa yāta	saphuu yāta	laa yāta	lāką̄ą̄ yāta	kii yāta
Comitative	---	---	---	---	kii yāke
Locative	pasalae	saphulii	lakhae	lākāmae	---
Genitive	pasaa yā	saphuu yā	laa yā	lāką̄ą̄ yā	kii yā

Figure 1.   SAMPLES OF MORPHOLOGICAL CASE FORMS IN NEWARI

    2. These six case forms operate within three functional complexes
in surface structure. We distinguish an *actor* complex, a *site* complex,
and an *undergoer* complex. Consider first the actor complex.

    Within the actor complex we distinguish three distinct roles, *agent*,
instrument, and *patient* (experiencer). The only roles in Newari that
have agreement patterns with the verb are the agent and patient roles
of the actor complex.[3]

The form of the agent is determined not only by its underlying role but also by the clause type in which it occurs. Agents are nominative in intransitive and semitransitive clauses.[4]

    (1) wa dana   *He got up.*

    (2) wa thana wala   *He came here.*

But are ergative in transitive and bitransitive clauses:

    (3) wąą jā nala   *He ate rice.*

    (4) wąą jitaa saphuu bila   *He gave me a book.*

Instruments are relatively limited in their occurrence but are ergative wherever they do occur.[5]

    (5) wąą lhāātįį nala   *He ate with (his) hands.*

    (6) wąą tutįį cula   *He stood on (his) legs.*

    (7) wąą mikhāā khana   *He saw with (his) eyes.*

Patients within the actor complex are even more limited than instruments, occurring only with a relatively small number of verbs of sense or cognition in which the actor is an experiencer. Such patients are also ergative. A number of these verbs are impersonal.

    (8) jįį wa khą sila   *I came to know that fact.*

    (9) jįį saa tāla   *I heard the sound.*

    (10) jįį karma khana   *I underwent the rituals incumbent*
                               upon a man during his lifetime.

Where an actor is simultaneously cast as an experiencer or as one who chooses to have the experience of performing a given act, the genitive form replaces the nominative or ergative form.

    (11) wąą jitaa khicā kena   *He showed me the dog.*

         wayā jitaa khicā kena *He was quite happy to show me the*
                               dog.

    (12) wa khwala   *He wept.*

         wayā khwala   *He chose to weep.*

    (13) wa simāe gala   *He sat up in the tree.*

         wayā simāe gala   *He chose to have the experience of*
                               sitting in a tree.

Agents differ from both patient and instruments within the actor complex in that agents can be cast as genitive experiencers but patients and instruments cannot.

    Agents and patients of the actor complex, but not instruments, can appear in the dative form when they occur in embedded structures which induce double function.

(14) wạạ jā nala   *He ate rice.*
      wayā māmạạ <u>waita</u> jā   *His mother fed him with rice (caused*
         nakala   *him to eat rice).*

(15) wạạ nagu khana   *He saw the star.*
      <u>waita</u> jịị nagu khankā   *I made him see the star.*

(16) wạạ jigu khạ sila   *He came to know my secret.*
      jịị <u>waita</u> jigu khạ siikā *I made my secret known to him.*

In Example 14, waita is a dative form in double function. It is both a
site with respect to the causative construction and an actor with respect
to the verb, nala *'eat'*.

The choice of case forms within the actor complex may be summarised
as in Figure 2.

Role   *Case*   *Conditions on the choice of case*

                  Nominative   In intransitive and semitransi-
                                     tive clause types.

                  Ergative   In transitive and bitransitive
                                     clause types.
Agent
                  Genitive   In choice-experiencer derivat-
                                     ives.

                  Dative   In certain embeddings.

                  Ergative   In transitive (stative) clause
                                     types.
Patient
                  Dative   In certain embeddings.

Instrument ──── Ergative
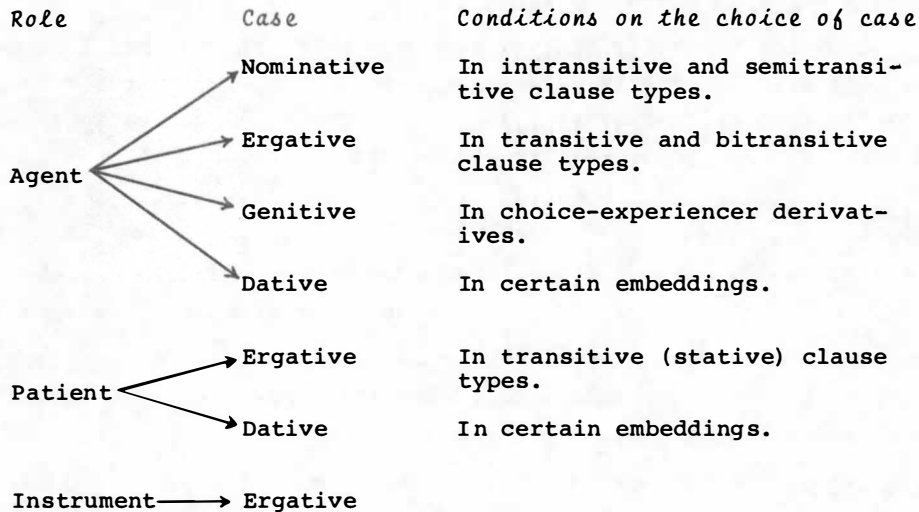
Figure 2. PAIRINGS OF ROLES AND CASES WITHIN THE NEWARI ACTOR
           COMPLEX

3. Consider now the site complex. The site complex consists of
constituents which in other languages have been called indirect objects
and inner locatives.[6] We consider here only those sites which are
marked by the six primary morphological cases listed above. Though many
other forms occur, the major kinds of site are represented by the
primary morphological cases.

Within the site complex we distinguish three kinds of roles. There
are sources to which we assign the role, *former*. There are goals to

which we assign the role, *latter*. There are locations or limits of ex-
tent to which we assign the role, *range*. Each of these roles is real-
ised in terms of two morphological cases, one for sentient beings and
the other for insentient beings. The site complex differs from the
actor complex in that the choice of case forms is dictated mostly in
terms of clause function and only to a limited extent in terms of con-
structional constraints which stem from a choice of clause types.

Sentient latters (goals) appear in the dative case in Newari.

(17) waa <u>jitaa</u> saphuu bila	*He gave a book <u>to me</u>.*
(18) waa <u>jitaa</u> cithi cwala	*He wrote a letter <u>to me</u>.*
(19) <u>waita</u> jwar wala	*He got a high fever (a high fever came <u>to him</u>).*

Sentient ranges (limit of extent, effect) likewise appear in the dative.

(20) <u>jitaa</u> laa gāā	*The water is sufficient <u>for me</u>.*
(21) <u>waita</u> jyā du	*There is work <u>for him</u>.*
(22) <u>waita</u> thwa saphuu jyuu	*The book is suitable <u>for him</u>.*
(23) <u>waita</u> thwa saphuu jhyātu	*The book is heavy <u>for him</u>.*

Sentient latters (goals) and ranges (limit of extent, effect) appear in
the genitive case when they double as experiencers or possessors, but
only in clause types which lack actors.

(24) <u>wayā</u> laa gāā	*He has enough water.*
(25) <u>wayā</u> jyā du	*He has work.*
(26) <u>wayā</u> thwa saphuu jyuu hạ	*He says the book is suitable.*
(27) <u>wayā</u> thwa saphuu jhyatu hạ	*He says the book is heavy.*
(28) <u>wayā</u> jwar wala	*He suffered an attack of fever.*

With certain verbs there are sentient ranges (limit of effect) which
appear in the genitive (and not in the dative) due to their inherent
experiencer or possessor relationship with the verb.

(29) <u>Mirā yā</u> jyā thāku hạ	*Mira says the work is difficult.*
(30) <u>Mirā yā</u> tyānhula	*Mira became tired.*
(31) <u>wayā</u> kāe chamha du	*He has a son.*

Ranges which are sentient locations and formers which are sentient
sources are both marked by the comitative case.

(32) wạạ <u>like</u> saphuu nyāta	*He bought a book <u>from me</u>.*
(33) wạạ <u>like</u> thwa khạ nena	*He asked <u>me</u> about this matter.*
(34) wạạ <u>like</u> dhebā phwana	*He begged money <u>from me</u>.*
(35) wạạ <u>like</u> dhebā kāla	*He took money <u>from me</u>.*

(36) jike saphuu du   *I possess some books.*

(37) waa jike dhebā khana   *He saw money in my possession.*

Formers which are insentient sources are marked by ergative case forms.

(38) waa dhampaa laa thila   *He got water from the jar.*

(39) waa jitaa chee pitina   *He chased me out of the house.*

(40) wa simaa kwa beāta   *He jumped down from the tree.*

(41) wayā mikhaa khwabi wala   *Tears came from his eyes.*

Ranges which are insentient locations and latters which are insentient goals are both marked by the locative case form.

(42) wayā mikhāe picaa wala   *A secretion came into his eye.*

(43) waa jitaa lhaātae dāla   *He struck me on the arm.*

(44) waa darājae saphuu tala   *He put the book on the shelf.*

(45) kebae khicā chamha du   *There is a dog in the garden.*

With certain verbs, ranges which are insentient locations and latters which are insentient goals are expressed by the locative when physical location is to be made prominent and by the nominative where the action as a whole is more prominent than the physical location involved.

(46) wa chee wana   *He went home (locative).*

     wa che wana   *He went home (nominative).*

Benefactives which appear as sentient goal sites with the benefactive auxiliary, bila, are marked by the dative case form.

(47) waa jitaa paenaa biyā   *He did me the service of financing*
     bila.   *my wedding.*

The choice of case forms within the site complex is summarised in Figure 3. An alternative representation in matrix form in which the columns are headed by role names and the rows by the features, sentient effect, sentient location, and insentient location is given in Figure 4.

4. Consider finally the undergoer complex. The undergoer complex consists of constituents which have been grouped together in other languages under the heading of direct object. The undergoer complex includes nominative patients which are physically affected such as the following:

(48) waa jike macā kāla   *He took the child from me.*

(49) waa jitaa saphuu bila   *He gave me the book.*

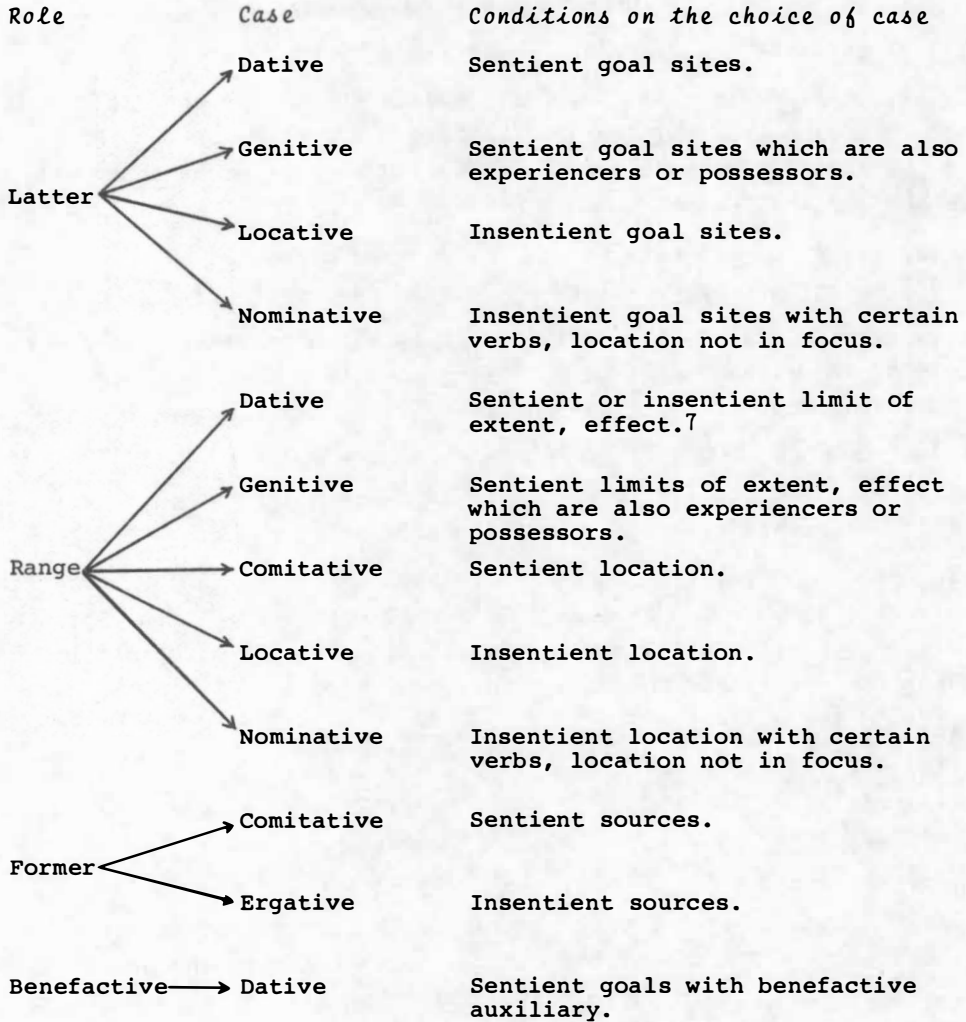(50) waa jigu jhirkā daa pula   *He paid me my ten rupees.*

Role   *Case*   *Conditions on the choice of case*

                Dative   Sentient goal sites.

                Genitive   Sentient goal sites which are also
                                  experiencers or possessors.

Latter   Locative   Insentient goal sites.

                Nominative   Insentient goal sites with certain
                                  verbs, location not in focus.

                Dative   Sentient or insentient limit of
                                  extent, effect.[7]

                Genitive   Sentient limits of extent, effect
                                  which are also experiencers or
                                  possessors.

Range   Comitative   Sentient location.

                Locative   Insentient location.

                Nominative   Insentient location with certain
                                  verbs, location not in focus.

                Comitative   Sentient sources.

Former   Ergative   Insentient sources.

Benefactive ⟶ Dative   Sentient goals with benefactive
                                  auxiliary.

Figure 3.   PAIRINGS OF ROLES AND CASES WITHIN THE NEWARI
            SITE COMPLEX

	Latter	Range	Former
Sentient effect	Genitive		
Sentient location	Dative	Comitative	
Insentient location	Locative / Nominative		Ergative

Figure 4.   MATRIX REPRESENTATION OF THE RELATION BETWEEN CASE AND
            ROLE WITHIN THE NEWARI SITE COMPLEX

(51) wąą jitaa jā̱ thula   *She cooked me some rice.*
(52) wąą jitaa ci̱thi cwala   *He wrote me a letter.*

The undergoer complex also includes patients which are abnormal, and which thus cannot be physically affected, but rather are brought into force, or into existence in some sense, and are therefore abstractly or metaphorically affected.

(53) wąą jitaa ba̱ą tala   *He imposed a fine on me.*
(54) wąą jitaa chaguu kẖą kana   *He told me something.*

The undergoer complex also includes ranges which contrast with the ranges of the site complex in not being locational and which contrast with the patients of the undergoer complex in that they are neither physically nor metaphorically affected.

(55) wąą jike dhebā̱ khana   *He saw some money in my possession.*
(56) wąą bā̱khą̱ą nena   *He listened to the story.*

There is a contrast in surface form between patient and range of the undergoer complex which relates to personal pronouns. In the absence of dative sites, personal pronouns which are patients of transitive set clauses can occur only in the dative.

(57) wąą ji̱taa dā̱la   *He beat me.*
(58) wąą ji̱taa bwaa bila   *He scolded me.*
(59) wąą ji̱taa heekala   *He deceived me / humoured me.*
(60) wąą ji̱taa thwana   *He cheated me.*
(61) wąą ji̱taa sena   *He instructed me.*

Personal pronouns which are ranges can occur in either the dative or the nominative. The use of the dative serves to bring the pronoun into focal prominence within the clause. The nominative form is nonfocal.

(62) wąą ji̱taa lumankala   *He remembered me (focal).*
(63) wąą ji̱ lumankala   *He remembered me (nonfocal).*
(64) wąą ji̱taa lwaamankala   *He forgot me (focal).*
(65) wąą ji̱ lwaamankala   *He forgot me (nonfocal).*
(66) wąą ji̱taa khana   *He saw me (focal).*
(67) wąą ji̱ khana   *He caught sight of me (nonfocal).*

The choice of case forms for patients within the undergoer complex which are not personal pronouns may be described as follows. If there is no dative site, if the undergoer is sentient and focal, and if it occurs in a clause type of the transitive or stative set, then the undergoer is dative. Otherwise it is nominative.

For a patient to occur in the dative case it must be sentient, focal, and an undergoer of a bitransitive, transitive, or stative clause type

which has no dative goal-site. In the following clauses, the choice of the dative or the nominative form for the patient depends upon the degree to which the subjugation of a patient to an action or state is prominent or focal.

(68) wąą <u>sala</u> gala — *He rode <u>the horse</u> (neutral focus upon the act as a whole).*

(69) wąą <u>sala</u> <u>yāta</u> gala — *He rode <u>the horse</u> (subjected him to being ridden, patient relation is focal).*

(70) <u>khā</u> khyā! — *Scare <u>the hens</u> away (focus is upon the act as a whole or perhaps even upon some grain that the hens are not to eat)!*

(71) <u>khā</u> <u>yāta</u> khyā! — *Scare <u>the hens</u> away (patient relation is focal)!*

Patients which occur in receptive, bireceptive, attributive, or bi-attributive clause types can be nominative but not dative.

(72) <u>wa</u> sita — *He died.*

(73) wayā <u>macā</u> bula — *She delivered <u>a child</u>.*

(Example 73 is ambiguous. It could also be glossed, *'His (or her) child was born.'*)

Patients which are insentient can be nominative but not dative. It is not possible to make the patient relation of insentient undergoers prominent by use of the dative.

(74) wąą <u>lāsā</u> dāla — *He beat <u>the mattress</u>.*

Insentient objects appear in the dative only within the range role of the site complex (limit of extent, effect).

(75) <u>thuki</u> <u>yāta</u> jĮĮ dhebā bii dhuna — *I have already paid money <u>for this</u>.*

(76) <u>thuki</u> <u>yāta</u> chu yāe tenā? — *What are you going to do about <u>this matter</u>?*

With certain verbs a certain amount of prominence can be gained by substituting a locative range of the site complex for a nominative insentient patient of the undergoer complex.

(77) wąą <u>lāsāe</u> dāla — *He beat <u>upon</u> <u>the mattress</u>.*

The choice of case forms within the undergoer complex is summarised in Figure 5.

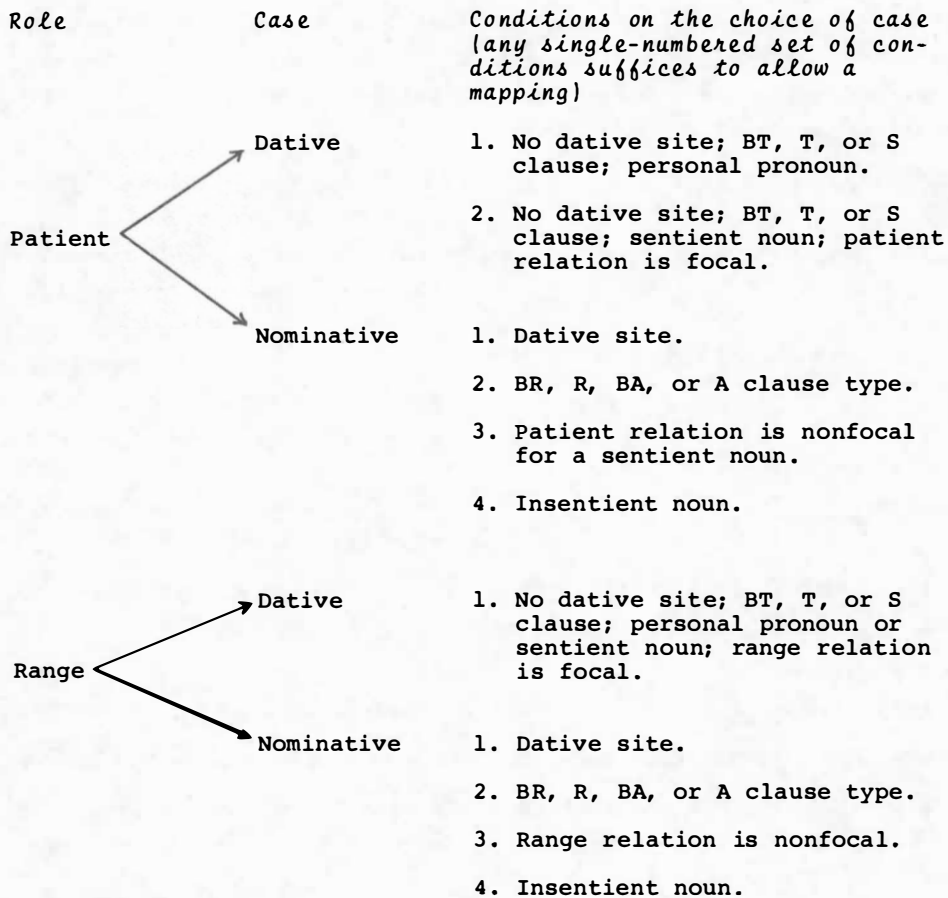| Role	Case	Conditions on the choice of case (any single-numbered set of conditions suffices to allow a mapping)
Patient	Dative	1. No dative site; BT, T, or S clause; personal pronoun.
		2. No dative site; BT, T, or S clause; sentient noun; patient relation is focal.
	Nominative	1. Dative site.
		2. BR, R, BA, or A clause type.
		3. Patient relation is nonfocal for a sentient noun.
		4. Insentient noun.
Range	Dative	1. No dative site; BT, T, or S clause; personal pronoun or sentient noun; range relation is focal.
	Nominative	1. Dative site.
		2. BR, R, BA, or A clause type.
		3. Range relation is nonfocal.
		4. Insentient noun.

Figure 5.   PAIRINGS OF ROLES AND CASES WITHIN THE NEWARI
           UNDERGOER COMPLEX

In Figure 6 we summarise the relationships of semantic role to sur-
face case in Newari. Figure 6 has the names of the various cases as the
headings of its columns, the names of the semantic roles as the headings
of its rows, and an indication of the sememic complex and function in
the cells. Empty cells represent pairings which have not been found
and which presumably do not belong to the system. The relevance of the
three functional complexes, actor, undergoer, and site, should not be
difficult to see, given the rather complex mapping relations between
role and case in Newari that are pictured here.

	Nominative	Ergative	Genitive	Dative	Comitative	Locative
Agent	Actor ST, I (1, 2)	Actor BT, T (3, 4)	Actor-Experiencer T-Set (11, 12, 13)	Actor-embedded Site (14)		
Instrument		Actor peripheral (5, 6, 7)				
Patient	Undergoer non-focal (48-54)	Statant S (8-10)		Patient-embedded Site (15, 16) Undergoer focal (57-61)		
Former		Site insentient Source (38-41)			Site sentient Source (32-35)	
Range	Site non-focal Location (46) Undergoer non-focal (55,56,63, 65, 67, 68, 70)		Site-Experiencer (24-27, 29-31)	Site Goal unaffected/ limit (20-23) Undergoer unaffected (62, 64, 66, 69, 71, 75, 76)	Site sentient Location (36, 37)	Site insentient Location (45, 46, 77)
Latter	Site Goal insentient/ non-focal (74)		Site-Experiencer (28)	Site Goal sentient (17, 18, 19)		Site Goal insentient focal (42-44)
Benefactive				Site Goal benefactive auxiliary (47)		

Figure 6. PAIRINGS OF SEMANTIC ROLE WITH MORPHOLOGICAL CASE WITH-
         IN THE CLAUSE IN NEWARI.
         Numbers in the cells refer to examples given in the
         text above.

NOTES

1. Newari is a Tibeto-Burman language spoken by approximately 400,000, over half of whom live in Kathmandu Valley. The theoretical framework of this paper incorporates both the deep structure roles of Grimes 1975 and the role complexes of Hale 1973. The transcription scheme for Newari consonants here employed uses 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, ṅ [ŋ]; the liquids, l, lh, r, rh; the fricatives, s, h; and the glides w, and y. The vocalic nuclei of Newari include the short vowels, i, e, ā, a, and u; the long vowels, ii, ee, āā, aa, and uu; the complex nuclei ae [ɛ] and āe [æ]; and the diphthongs, āi, āu, ai, au, and ui. For each of the oral nuclei listed here there is a corresponding nasal nucleus. Nasality is indicated by a subscript hook: į, ę, etc.

2.   The case marker constitutes the last element of the noun phrase in
Newari. It may follow the noun directly as in saphuu *'book'*, saphulii
'in the book', saphulįį *'from the book'*. If a quantifier follows the
noun, the case marker will follow the quantifier as in saphuu cha-guu
'one book' saphuu cha-gulii *'in one book'* saphuu cha-gulįį *'from one
book'*. The case marker will attach to a pronoun, a determiner, or even
an adjective provided only that the element in question occurs at the
end of the noun phrase. For this reason we refer to case as a morpho-
logical form of a noun phrase rather than as the morphological form
of a noun or pronoun. The case labels, nominative, ergative, dative,
comitative, locative, and genitive used in this paper correspond re-
spectively to the terms, unmarked, agent-marked, goal-marked,
associative, locative, and genitive used in Hale 1973.

3.   There are two possible agreement patterns, a conjunct pattern in
which the actor is inflectionally identified in the verb as the speaker
in indicative sentences:

    jı ana <u>wanā</u>   *I <u>went</u> there.*

or as the hearer in the interrogative:

    cha gana <u>wanā</u>   *Where <u>did you go</u>?*

and a disjunct pattern in which the actor is viewed as distinct from the
speaker in indicative sentences:

    wa ana <u>wana</u>   *He <u>went</u> there.*

    wa gana <u>wana</u>?   *Where <u>did he go</u>?*

Where the actor is not viewed as identical with either the first person
of the indicative or with the second person of the interrogative, only
the disjunct inflection can occur in the finite verb of a simple clause.
With first person actors in the indicative, however, either a conjunct
or a disjunct form can occur depending upon whether the speaker wishes
to identify himself as the conscious actor as he would in

    jı ana <u>wanā</u>   *I <u>went</u> there.*

or as an unconscious or involuntary actor viewed by the speaker temporar-
ily as having the status of a third person as in

    jı ana <u>wana</u>   *I <u>went</u> there (inadvertently or as a
                                         third person).*

In questions, this kind of shift in agreement pattern is used to mark a
rhetorical question.

    jı ana <u>wanā</u> lā? Ma wanā rae!   *<u>Did</u> I <u>go</u> there? Certainly not!*

It should also be mentioned that there are impersonal verbs which can
occur only in the disjunct form as the finite verb of a simple clause.

4. The names for the various clause types are taken from Hale 1973.
In that work, clause types are defined in terms of the predicate cate-
gories, state and event, and in terms of the role complexes, actor,
undergoer, and site. Bitransitive (BT) clauses have actors, undergoers,
and sites and are events. Transitive clauses (T) have actors and under-
goers and are events. Semitransitive (ST) clauses have actors and
sites and are events. Intransitive (I) clauses have actors and are
events. These four clause types constitute the *transitive set* (T-set)
of clause types. Parallel to this are three other sets of clause types,
the *receptive set* (R-set) consisting of the types, bireceptive (BR)
(undergoer, site, event), receptive (R) (undergoer, event), semirecept-
ive (SR) (site, event), and eventive (E) (event); the *stative set*
(S-set) consisting of the types, bistative (BS) (statant, undergoer,
site, state), stative (S) (statant, undergoer, state), semistative (SS)
(statant, site, state); and descriptive (D) (statant, state); and the
attributive set (A-set) consisting of the types, biattributive (BA)
(undergoer, site, state), attributive (A) (undergoer, state), semi-
attributive (SA) (site, state), and circumstantial (state).

5. The instrumental role is somewhat marginal in Newari. It is
certainly by no means the case that instruments can be used naturally
wherever an agent can occur. There seem to be relatively few in-
stances in which an instrument surfaces as an ergative noun phrase
within an independent clause. We do have examples such as those given
here but the more general pattern for the expression of the instru-
mental is that of the conjunctive clause.

wą̄ą bepā̄ār yā̄nā̄ā dhebā muna   *He accumulated money by doing*
                                        business.
jhangaa papu sankā̄ā bwala   *The bird flew by moving its wings.*

6. The terms, indirect object and inner locative, are here viewed as
names of grammatical functions in contrast to the term, site, which is
viewed as the name of a sememic function. Similarly, the terms,
subject and object, are grammatical functions in contrast to the terms,
actor and undergoer, which are sememic functions. Languages differ ac-
cording to whether grammatical function or sememic function is more
accessible to beginning analysis. In Newari, sememic function is much
easier to work with than grammatical function at early stages of the
analysis.

7. For an illustration of an insentient range (limit of extent, effect)
which is dative, see Examples 75 and 76 below.

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PERSON MARKERS:
FINITE CONJUNCT AND DISJUNCT VERB FORMS IN NEWARI[1]

AUSTIN HALE

1. THE PROBLEM

Anyone who attempts to learn Newari soon becomes aware that in certain declarative clauses there is one form of the verb (the conjunct form) that normally occurs with first person actors and that there is another form of the verb (the disjunct form) that normally occurs with non-first person actors.[2] Thus, with the verb, wane *'to go'*, we get the following forms in the past tense:

1. Ji ana wanā.   *I went there (conjunct).*
2. Cha ana wana.   *You went there (disjunct).*
3. Wa ana wana.   *He went there (disjunct).*

One might be tempted simply to consider wanā to be the first person form except for the fact that in questions this is the normal second person form,

4. Cha ana wanā lā?   *Did you go there (conjunct)?*

and for the fact that the conjunct form can be a normal third person form in certain embeddings, as, for example, in Sentence 5:

5. Wąą wa ana wanā dhakāā   *He said that he went there (him-*
   dhāla.   *self).*[3]

In this context the disjunct form also occurs but with a different meaning:

6. Wąą wa ana wana dhakāā   *He said that he (someone else) went*
   dhāla.   *there.*

Sentence 6 could in fact be an example of direct quotation where Sentence 5 could only be an indirect quotation.[4] As a direct quotation Sentence 5 would have to be recast as follows:

7. Waa "Ji ana wanā," dhakāā   *He said, "I went there."*
   dhāla.

To complicate matters still further, one soon discovers that there are impersonal verbs which have no finite conjunct forms at all.[5]

8. Jįį wa khạ sila.   *I came to know that fact (disjunct).*

    Chạạ wa khạ sila.   *You came to know that fact (disjunct).*

    Wạạ wa khạ sila.   *He came to know that fact (disjunct).*

9. Jįį wa saa tāla.   *I heard that noise (disjunct).*

    Chạạ wa saa tāla.   *You heard that noise (disjunct).*

    Wạạ wa saa tāla.   *He heard that noise (disjunct).*

The problem to which this paper is addressed, then, is that of determining what it is that controls the use of finite conjunct and disjunct forms of the verb.

2. CONJUNCT, DISJUNCT, AND THE TRUE INSTIGATOR

The problem regarding impersonal verbs points up a very central fact about the conjunct-disjunct pattern in Newari. Finite conjunct forms are appropriate only where the actor of the clause is portrayed as a true instigator, one responsible for an intentional act. Even with personal verbs disjunct forms replace conjunct forms where the actor is not portrayed as true instigator. Thus the cerb palā in Example 10 is conjunct,

10. Jįį lā palā.   *I cut the meat (intentionally).*

whereas in Example 11 pala is disjunct:

11. Jįį lā pala — cha khana   *I cut the meat (quite by accident) —*
     makhu lā?   *you saw me didn't you?*

The same distinction is made in questions. As shown in Example 4 a conjunct form will normally accompany a second person question which has a personal verb. Thus Sentence 12 has a conjunct verb as one would normally expect:

12. Cha danā lā?   *Did you get up (voluntarily)?*

Thakurlal Manandhar has pointed out, however, that where the action is portrayed as involuntary and the actor for this reason does not figure as a true instigator, the disjunct form will occur, as it does in Example 13:

13. Cha dana lā?   *Did you get up (involuntarily)?*

The reason that impersonal verbs have no finite conjunct forms is thus quite clear. They have no actors that qualify as true instigators. So, while tāye *'to hear'* is impersonal and has no finite conjunct form, nene *'to listen'* does have a finite conjunct form since it also can have a true instigator. Similarly, dune *'to collapse'* is impersonal but thune *'to raze to the ground'* is personal. Significantly, those

verbs which lack personal conjunct forms also lack normal imperatives. The few impersonal verbs, such as siye *'to die'* that do occasionally occur in the imperative have rather special semantic interpretations in this usage.[6] They are not thought of as commands in the ordinary sense.

3. QUOTES, QUOTE FRAMES, AND CO-REFERENTIAL ACTORS[7]

Consider again the following sentences:

1. Ji ana wanā. *I went there.*
5. Wąą <u>wa ana wanā</u> dhakāā dhāla. *He said that <u>he went there</u> (himself).*
7. Wąą "<u>Ji ana wanā</u>" dhakāā dhāla. *He said "<u>I went there.</u>"*

Let us refer to the underlined clauses in Sentences 5 and 7 as *quotes* and to the non-underlined portions as *quote frames*. In 5 the actor of the quote frame, wąą *'he (agentive form)'* refers to the same individual as the actor of the quote, wa *'he'*. In Example 7 the actors wąą *'he'* and ji *'I'* both refer to the same person. In both 5 and 7 the verb of the quote, wanā *'went'*, is conjunct in form. This correlation suggests that the use of conjunct forms is not related to the person of the actor as such but is related rather to co-reference of actors. If the actor of the quote refers to the same individual as the actor of the quote frame, then the verb of the quote is conjunct in form.

Can this observation be extended to account for the conjunct forms in unembedded clauses such as Sentence 1? If we follow Saddock, 1974, in positing an abstract performative for all such sentences then there appears to be quite a natural extension of this observation which accounts for the conjunct form of wanā *'went'* in Sentence 1 as well as for the disjunct form of dhāla *'said'* in Sentences 5 and 7. From this general point of view we can look at Sentence 1 as a quote within a quote frame where the quote frame is a verbalisation of the speech act. For a declarative sentence such as Example 1 the quote frame could be supplied as follows:

1a. [Jįį chita] "<u>Ji ana wanā</u>"   [*I say to you*] "<u>I went there.</u>"
      [dhayā].

An implicit quote frame of this sort constitutes an abstract performative in Saddock's view. Once such a quote frame is supplied it is easy to see how the account of conjunct and disjunct forms that has been suggested above for the verbs of embedded quotes can be naturally extended to account for unembedded clauses as well. Sentence 1 has the conjunct form, wanā *'went'*, because its actor, ji *'I'*, refers to the actor of the implicit quote frame. Sentences 5 and 7 have the disjunct

form, dhāla *'said'*, because in each case the actor, wąą *'he'*, does not
refer to the same individual as the actor of the implicit quote frame,
namely the speaker. This also explains why the conjunct form is as-
sociated with first person actors in independent declarative clauses.

Direct quotes involve the same pattern of verb forms as unembedded
clauses. Where the quote has a first person actor it also has a con-
junct main verb regardless of the form of the quote frame subject.

14. Jįį "Ji ana <u>wanā</u>" dhakāā   *I said "I went there."*
    <u>dhayā</u>.

15. Chąą "Ji ana <u>wanā</u>" dhakāā   *You said "I went there."*
    dhāla.

16. Wąą "Ji ana <u>wanā</u>" dhakāā   *He said "I went there."*
    dhāla.

17. Jįį "Cha ana wana" dhakāā   *I said "You went there."*
    <u>dhayā</u>.

18. Chąą "Cha ana wana" dhakāā   *You said "You went there."*
    dhāla.

19. Wąą "Cha ana wana" dhakāā   *He said "You went there."*
    dhāla.

20. Jįį "Wa ana wana" dhakāā   *I said "He went there."*
    <u>dhayā</u>.

21. Chąą "Wa ana wana" dhakāā   *You said "He went there."*
    dhāla.

22. Wąą "Wa ana wana" dhakāā   *He said "He went there."*
    dhāla.

In Sentences 14 through 22 the conjunct forms are underlined. For every
conjunct form there is a first person actor. In 14, 15, and 16 the
actor of the quote refers to the same individual as the actor of the
quote frame. In 14, 17, and 20 the actor of the quote frame refers to
the same individual as the actor of the implicit quote frame, namely
the speaker.

4. QUESTIONS AND THE CO-REFERENCE RULE

Consider now Examples 2 and 4.

2. Cha ana wana. *You went there (disjunct).*

4. Cha ana wanā lā? *Did you go there (conjunct)?*

To this point we have seen that the disjunct form in Example 2 can be
explained on the basis of the fact that even though cha *'you'* is
portrayed as true instigator it does not refer to the same individual
as the actor of the implicit quote frame, namely the speaker. What
explanation, then, can be offered for the fact that the verb in

Example 4 is conjunct? Two possible lines of explanation can be given
which are very nearly equivalent. One is that in true questions the
conjunct-disjunct pattern is determined by the form anticipated in the
answer. Thus, Example 4 anticipates some reduced form of Example 1 as
an answer.

    1. Ji ana wanā.   *I went there (conjunct).*
Similarly, Examples 12 and 13 also have verb forms which differ in their
expected responses, 12 expecting 12a:

    12a. Ji danā.   *I got up (voluntarily).*
and 13 expecting 13a:

    13a. Ji dana.   *I got up (involuntarily).*
Another way of accounting for these examples is to say that the conjunct
form is required in true questions whenever the actor-instigator of the
verb refers to the same individual as the *goal* of its quote frame,
whether stated or implicit. The norm is illustrated by the following
paradigm.

    23. Wạạ jitaa "Cha ana <u>wanā</u>   *He asked me "Did you go there?"*
        lā?" dhakāā dhāla.

    24. Wạạ chanta "Cha ana <u>wanā</u>   *He asked you "Did you go there?"*
        lā?" dhakāā dhāla.

    25. Wạạ waita "Cha ana <u>wanā</u>   *He asked him "Did you go there?"*
        lā?" dhakāā dhāla.

    26. Wạạ jitaa "Wa ana wana   *He asked me "Did he go there?"*
        lā?" dhakāā dhāla.

    27. Wạạ chanta "Wa ana wana   *He asked you "Did he go there?"*
        lā?" dhakāā dhāla.

    28. Wạạ waita "Wa ana wana   *He asked him "Did he go there?"*
        lā?" dhakāā dhāla.

The conjunct forms in 23-28 are underlined.

    One might say, then, that in statements the instigative or perform-
ative focus is upon the speaker but that in true questions the focus is
upon the hearer. Alternatively one might say that the conjunct-
disjunct form of a true question anticipates that of its answer.

5. TRUE QUESTIONS, RHETORICAL QUESTIONS, AND THE FIRST PERSON

    The paradigm given in Examples 23 through 28 contains no first person
questions, no rhetorical questions, and no questions that portray the
action as involuntary. The lack of first person questions in this
paradigm is not an oversight. First person questions are tricky. If a
question is a true request for information, the questioner professes
not to know the answer. In a first person question, however, the

speaker cannot ask a true question about an action in which he portrays himself as a voluntary instigator. Either he was the voluntary instigator and knows perfectly well what he did or else he performed the act unwittingly and was not the voluntary instigator. Newari grammar allows no other options. It is possible to have a true question such as 29-B in which the speaker has forgotten the act in question.

> 29. A: Chąą nhāca ipịị lwāāgu   *Did you see them fighting some time*
>   khą lā?   *back?*
>
>   B: Ji ugu ilae ana wana   '*Did I go there at that time (I don't*
>   lā?   *recall)?*
>
>   A: Cha du thąę cwąą.   *It seems that you were there.*

But even here the speaker can be an instigator only from someone else's point of view. For true first person questions, then, it is the impersonal pattern that is followed. There is no personal interrogative form for true first person questions. The gap in the paradigm is real.

Of course not all questions are true questions. The question in 30-B is a rhetorical question used as an emphatic denial.

> 30. A: Cha nąą ana wana.   *You went there too.*
>
>   B: Ji ana wanā lā?   *Did I go there? (I most certainly*
>   *did not!)*

Sentence 31 would be the second person form of such an emphatic denial.

> 31. Cha wala lā?   *Did you come? (Most certainly not!)*

Rhetorical questions are different from true questions both in form and in interpretation. As far as conjunct and disjunct forms of the verb are concerned they follow the declarative pattern. Neither 30-B nor 31 expect an answer. They are not requests for information. The interrogative particle, lā has a strong negative interpretation in these examples and both of the actors, ji and cha figure as voluntary instigators.

Interestingly enough, Example 30-B could also be used as a test question in a situation in which the speaker knows the answer. Test questions do expect answers but they are not requests for information.[8]

6. SUMMARY OF THE FINITE CONJUNCT-DISJUNCT PATTERNS

There are three major patterns of finite conjunct and disjunct forms: an impersonal pattern, a declarative pattern, and an interrogative pattern. In the declarative pattern the conjunct form is used with finite verbs whose actor-instigator refers to the same individual as the actor of the quote frame (the speaker), whether expressed or implicit. In the interrogative pattern the conjunct form is used where the proposed actor-instigator of the verb refers to the same individual as the goal

of the quote frame (the hearer). Otherwise, disjunct forms are used.
These patterns are summarised in Figure 1. The numbers in the cells
refer to the examples cited above.

Actor is co-referential with:	(Actor is Instigator)		(Actor is not Instigator)
	Declarative Pattern	Interrogative Pattern	Impersonal Pattern
Quote Frame Actor (Speaker)	Conjunct (1, 5, 7, 10, 14-16, 12a, 30-B)	(Gap)	Disjunct (8, 9, 11, 13a)
Quote Frame Goal (Hearer)	Disjunct (2, 17-19, 31)	Conjunct (4, 12, 23-25)	Disjunct (8, 9, 13, 29-B)
Other	Disjunct (3, 6, 20-22)	Disjunct (26-28)	Disjunct (8, 9)

Figure 1.   SUMMARY OF FINITE CONJUNCT-DISJUNCT PATTERNS IN
            NEWARI VERBS

1. This paper is a revised version of a paper written in 1971 and
circulated in mimeographed form. The analysis of the 1971 paper was
restated and incorporated in Sresthacharya, Maskey, and Hale 1971,
pp.99-100. The writer wishes to express appreciation to Mr Thakurlal
Manandhar, Mr Punya Ratna Bajracharya, Mr Iswaranand Sresthacharya,
Mr Tej Ratna Kansakar, and Mr Jagan Nath Maskey for their help in
approaching this problem.

   The transcription used in this paper is a phonemic representation of
spoken Kathmandu Newari. The transcription distinguishes five short
vowels: i, e, $\bar{a}$, a, and u; seven long vowels: ii, ee, $\bar{a}\bar{a}$, aa, uu, ae,
and $\bar{a}$e; and five diphthongs: $\bar{a}$i, $\bar{a}$u, ai, au, and ui. The sequences, wa
and waa could alternatively have been interpreted as the vowels o and
oo respectively. The nasalisation of vowels is contrastive and is re-
presented by a subscript hook (į, ąą, etc.). All oral vowels have
nasal counterparts. For a discussion of the phonetic variants of Newari
vowels see Friedman, Kansakar, Tuladhar, and Hale, forthcoming. For a
statement of the relationship of this transcription to the Devanagari
representation see Hale and Hale 1976.

   As for consonants, the transcription distinguishes four major series
of consonants, a voiceless series: p, t, c, k, s; a voiced series: b,
d, j, g, m, n, ṅ [ŋ], l, r, w, y; an aspirated series: ph, th, ch, kh;
and a breathy series: bh, dh, jh, gh, mh, nh, lh, rh, and h.

2. Conjunct and disjunct forms are distinguished both in the past and
future tenses of the verb. Past disjunct forms end in a, past conjunct
forms in $\bar{a}$, and future disjunct forms in i. Future conjunct forms end
in e except following w and i where e becomes i. Thus the verb wane
'to go' has four forms (past disjunct: wana; past conjunct: wan$\bar{a}$;
future disjunct: wani; and future conjunct: wane) whereas a verb such as
biye *'to give'* in normal speech has but three (past disjunct: bila;

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past conjunct: biyā; future disjunct: bii; future conjunct: bii).
For a fuller treatment see Hale 1971c; Sresthacharya, Maskey, and Hale
1971, pp. 79ff.; Hale 1973; and Sresthacharya 1976. For a discussion
of Newari tenses see Bendix 1974.

3. dhakāā is invariant and cannot be negated. For this reason it is
better to view it as a quotative complementiser than as the irregular
causative absolute form of dhāye *to say*. It is optional and may be
omitted, though in natural speech it is normally present. With other
verbs of saying its omission is even less natural. Other verbs that
take the quotative complement include tāye *to hear*, nene *to ask, to
listen*, kane *to tell*, siye *to know*, cwane *to be under the impres-
sion that, to seem that*, gyāye *to be afraid (thinking) that*, and
many others.
    wąą in Sentence 5 is the agentive form of wa *he, she, it*. For a
fuller account of Newari noun inflection and classification see Hale
1971b; Hale and Manandhar 1973 (reprinted in this volume, pp. 79-93)
and especially the very valuable work of Kölver and Kölver 1975.

4. Direct quotation in Newari is entirely natural and exhibits the
full range of forms. Indirect quotation is somewhat less natural.
Speakers with whom I have checked generally reject indirect quotation
of questions as well as indirect quotations of statements which involve
first person actors in construction with disjunct verbs. Thus, a
sentence such as
    Wąą ji wala dhakāā dhala. *He said that I came.*
is normally disallowed as an indirect quotation, though it would be
acceptable as a direct quotation, *'He said "I came (involuntarily)."'*

5. Impersonal verbs do, of course, have non-finite conjunct forms in
constructions such as the following:
    Jįį wa saa tāyā cwana. *I was hearing that noise.*
where tāyā is conjunct in form due to its occurrence with the continu-
ous auxiliary, cwane. The auxiliary is the finite form in this example.

6. Impersonal verbs comprise a significant set of verbs in Newari.
Of the four sets of clause types distinguished by Manandhar and Hale
(MS) only one set has actors. The verbs of actorless clause types are
all impersonal. Included here are verbs such as dhune *to be finished*,
chine *to be comfortable*, ballāye *to be strong, durable*, dune *to
collapse*, buye *to be well cooked*, and sāye *to taste good*.

7. In the 1971 version of this paper the term, sentential matrix, is
used in place of the term quote frame. The term, sentential matrix, is

also to be found in Schöttelndreyer, 'Person Markers in Sherpa', in the same sense as the term, quote frame, in this paper. Schöttelndreyer's paper is to be found in this volume, pp. 125-30.

8. Such questions, which test the hearer's knowledge, may pose problems parallel to those mentioned above for true questions with first person actors. When one is asked whether or not he did something and is cast as the instigator of the act, he is then presumed to know the answer. If both the speaker and the hearer know the answer and if the speaker *presumes* that the hearer knows the answer, it is pointless even to ask a test question. Test questions thus appear to have a second person gap parallel to the first person gap which exists for true questions.

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GLIDES IN SHERPA

BURKHARD SCHÖTTELNDREYER

I. THE PROBLEM

The low front and back vowels in Sherpa have been a problem in the phonemic interpretation.

Kent Gordon in 'Sherpa Phonemic Summary' 1969, introduced six vowels /i, e, a, ɑ, o, u/ and the co-vowels /y/ and /w/. In combining /y/ and /w/ with the two central vowels /a/ and /ɑ/, which he labelled assimilating, the vowels were grouped as follows:

/ya/   [æ·]   [æ]   [ɛ·]   [ɛ^ə]

/yɑ/   [ɛ]   [ɛ']

/wa/   [ɒ·]   [ɔ^ə]   [ɔ·]

/wɑ/   [ɒ]

This solution, however, created some problems in that palatalisation of the initial consonant and the co-vowel /y/ preceding /a/ and /ɑ/ in some instances were not easily readable.[1]

In order to overcome this problem an eight vowel system was introduced tentatively. The two additional phonemes were: /æ/ and /ɔ/.[2]

Further research resulted in a third solution consisting of six vowels without co-vowels.[3] This, however, was possible only by interpreting the low back vowel, for instance, by a trigraph: [ʷɔ·^ə] /owɑ/, as in /'lówɑ/ 'liver'.[4]

When this solution was set forth relatively few examples containing this vowel had been found. Since then we concentrated our work on the verbal system of Sherpa and a number of verb stems containing the low back vowel appeared. Most verbs in Sherpa are monosyllabic. Therefore representing the vowel slot of a monosyllabic verb stem by a trigraph

tends to obscure the structure of the verbal system. For that reason
again an alternative was sought.

II. A PROPOSAL

Here we suggest a solution proposing the six vowel phonemes /i, e,
a, ɑ, o, u/ and co-vowels /y/ and /w/. The co-vowels, however, will
not co-occur with the central vowels /a/ and /ɑ/, as was suggested
earlier, but with the mid front and mid back vowels /e/ and /o/.

The two co-vowels then, will *lower* the mid front and mid back
vowels:

   /ye/   [ɛ·]   [æ·]

   /wo/   [ɔᶿ]   [ɒᶿ]

In order to account for the variants of /y/ and /w/ the following
environments are relevant.

   a.   After /h/ and before /u/ and /o/
   b.   Elsewhere after /h/
   c.   Word-initial before /u/ and /o/
   d.   Intervocalic, adjacent to /i/ and /u/

	'norm'	a	b	c	d
/y/	1. [y]	2. [ẅ]	3. [ʸ]	4. [ẅ]	5. [i]
/w/	6. [w]				7. [u]

The numbers of the chart above refer to the examples that follow.

   1. [y] voiced high front unrounded glide:

           /"yàku/   [yᵻku]   'brother-in-law'

           /'gyàmu/   [gʸᵻ·mu]   'fat'

           /"gyʌ̀p/   [gʸʌpꞌ]   'back side'

   2. [ẅ] voiceless high front rounded glide:

           /"rhyú/   [ʂ̌ẅuˆ]   'monkey'

   3. [ʸ] voiceless high front unrounded glide:

           /"khyyéni/   [k̪̂ʸæ̂n̪i]   'having frozen'

   4. [ẅ] voiced high front rounded glide:

           /"yul/   [ẅy̰i̊]   'village'

   5. [i] voiced high front unrounded vocoid:

           /'péyi/   [peꞌiˆ]   '(I) opened (it)'

6. [w] voiced high back rounded glide:

    /"wòk/   [wɔk̚]   *'under'*

    /'kɩ̀wi/   [kɩ̞wi]   *'do (Present/Future disjunct)*

7. [u] voiced high back closed rounded vocoid:

    /'kɩ̀wu/   [kɩ̞u / kʸʉ·]   *'did (you) do (it)?'*

The examples above show that the variants of /e/ and /o/ following the co-vowels /y/ and /w/ respectively are lengthened.

There are a few cases of /ye/ that do not have lengthened variants, but rather a short one which is followed by an optional glottal stop.

/"gyè/   [gʸɛ?]   *'eight'*

/"wyè/   [wæ?]   *'there is'*

/"myè/   [mɛ?]   *'there isn't'*

The variants of /a/ by definition are inherently longer than variants of /ɑ/ following a postconsonantal /y/. (See example 1 above.)

The stops p, t, d, g tend to be optionally palatalised preceding front vowels, especially /e/. This type of palatalisation, however, is subphonemic and therefore not reflected in the phonemic orthography. Consider the following examples:

/'gèken/   [gʸɛ̞ken̞ / gɛ̞ken̞]   *'teacher'*

/'dyè/   [dʸæ̞· / dæ̞·]   *'here'*

/'pyè/   [pʸæ̞· / pæ̞·]   *'rat'*

/'pé/   [pʸeˆ / peˆ]   *'open'*

/"tyè/   [ʈʸæ̞· / ʈæ̞·]   *'there'*

A single /y/ following /n/ always indicates palatalisation of /n/. (Formerly we had phonemicised [ñ] by /ngy/ which will be /ny/ henceforth.) If two /y/ occur postconsonantally the first one will indicate palatalisation of the consonant, the second acts as a co-vowel. Thereby we differentiate the following pair:

/'nyè/   [ñɛ̞·]   *'my'*

/"nyyékyok/   [ñæ̂ˆkʸɔk̚]   *'pot, vessel'*

A single /y/ preceding /e/ after consonants other than /n/ may be regarded a co-vowel. If two /y/ occur the first one will signal palatalisation and the second one acts as a co-vowel.

/'lyèmu/   [l̂æ·mu]   *'nice'*

/'kyéplaa/   [kæ̂ˆp̚ la]   *'for giving birth'*

/"khyyéni/   [k̞ʸæ̂ˆn̞i]   *'having frozen'*

III. INITIAL CLUSTERING WITH /y/ AND /w/

The chart below demonstrates syllable initial clustering with /y/.

1. py	2. ty	3. ṭy	4. cy		5. ky
			6. čhy		7. khy
	8. dy		9. ɉy	10. gy
	11. sy		12. šy	
			13. ny	
	14. ly			
	15. lhy			
	16. ry			
	17. rhy			
18. wy					

The numbers of the chart above refer to the examples below.

1. /'pyè/   [pæ· / pʸæ·]   'rat'
2. /"tyè/   [ṭʸ̭æ· / ṭ̭æ·]   'there'
3. /"ṭyèp/   [ṭ̭æ·pꞌ]   'to ask'
4. /'cyép/   [tsæ̂pꞌ]   'to play'
5. /'kyép/   [ḵæ̂pꞌ]   'to give birth'
6. /"čhyè/   [tš̭ɛ̭æ̭·]   'great (man)'
7. /"khyyéni/   [ḵʸ̭æ̂ṋl]   'having frozen'
8. /'dyè/   [ḓʸæ· / dæ·]   'here'
9. /'ɉyèp/   [ɉæ·p]   'to change'
10. /'gyèmu/   [gʸæ·mu]   'reddish-brown colour'
11. /'syè/   [sæ·]   'mane'
12. /"zyép/   [šæ̂pꞌ]   'to die'
13. /'nyè/   [n̂æ̭·]   'my'
14. /'lyèmu/   [l̂æ·mu]   'nice'
15. /'lhyé/   [l̂ɛ̭æ̭·]   'navel'
16. /"ryù/   [ẑ̈ʷɏ·]   'puppy'
17. /"rhyú/   [ẑ̈ʷû·]   'monkey'
18. /"wyè/   [wæʔ]   'there is'

The following chart gives syllable initial clustering with /w/.

						1. kyw
2. pw		3. ṭw	4. cw	5. čw		6. kw
	7. thw	8. ṭhw		9. čhw		10. khw
11. bw	12. dw	13. ḍw	14. jw			15. gyw
	16. sw				17. šw	
					18. nyw	19. ŋw
	20. lw					
	21. lhw					
	22. rw					
23. ww						

The numbers in the chart above refer to the following examples.

1. /"kywò/   [k̯ʸ‿ᵊ]   'bend (it)!'

2. /"pwó/   [pʷɔᵊˆ]   'dip!'

3. /"ṭwo/   [ṭʷ‿ᵊ]   'tie (it)!'

4. /'cwó/   [tsʷɔᵊˆ]   'strain (it)!'

5. /'čwó/   [tšʷɔᵊˆ]   'sweep!'

6. /'kwó/   [kʷɔᵊˆ]   'split (it)!'

7. /"thwóplaa/   [ṭˀɔᵊˆpˀ la]   'in order to pick'

8. /'ṭhwo/   [ṭˀɔᵊˆ]   'snap it (away)!'

9. /'čhwó/   [tšˀɔᵊˆ]   'decorate!'

10. /'khwónl/   [kˀɒᵊˆn̯i]   'having brought'

11. /'bwò/   [bʷ‿ᵊ]   'hide (it)!'

12. /'dwòp/   [dʷ‿ᵊpˀ]   'to put on ornaments'

13. /"ḍwòp/   [ḍʷ‿ᵊpˀ]   'to go'

14. /'jwò/   [dzʷ‿ᵊ]   'k.o. game'

15. /"gywò/   [gʸ‿ᵊ]   'to expand'

16. /'swò/   [sʷ‿ᵊ]   'collect (it)!'

17. /'zwó/   [šʷɔᵊˆ]   'cross (it)!'

18. /"nywóp/   [ɲɔᵊˆpˀ]   'mad'

19. /'ngwó/   [ŋʷɔᵊˆ]   'cut crops!'

20. /'lwó/   [ɣɔᵊˆ]   'liver'

21. /'lhwó/   [ɣˀɔᵊˆ]   'hunger'

22. /'rwò/   [ɼ‿ᵊ]   'study (silently)!'

23. /'wwòsung/   [w‿ᵊsuŋ]   '(he) came'

NOTES

1. For detailed review of these problems see 'A Note on Sherpa Vowels' by Burkhard Schöttelndreyer and Austin Hale in *Tone Systems of Tibeto-Burman Languages of Nepal*, in: Hale and Pike, *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics*, vol.3. Part I (1970). Urbana: University of Illinois.

2. See 'Sherpa Word List' and 'Sherpa Texts' in *Tone Systems of Tibeto-Burman Languages of Nepal*, parts II and IV.

3. See 'Sherpa Segmental Synopsis' in *Tone Systems of Tibeto-Burman Languages of Nepal*, part I.

4. Sherpa words have four contrastive pitch contours, arising from the intersection of two tones, High (marked by ′ on initial vowel) and Low (ˋ), with two contours, Rising (marked by ' initial) and Falling (" initial). For a note on phonetic realisation of the contours see footnote 5 to the following article, pp. 122-3.

VOWEL AND TONE PATTERNS IN THE SHERPA VERB[1]

BURKHARD SCHÖTTELNDREYER

This brief discussion of Sherpa vowel and tone patterns may be used
to accompany a dictionary to enable the reader to handle the problem of
vowel and tone changes that may occur within a given Sherpa verbal
paradigm.

Since this paper deals exclusively with vowel and tone patterns, the
rules for final consonant deletion and the derivation of verb forms are
not included here.

I. THE BASE FORM

The base form of a verb in Sherpa is here viewed as an abstract
representation from which all forms of the verb may be derived by a
set of rules. Verbs will be entered in the dictionary according to
their base forms. The purpose of this section is to introduce the
reader to certain conventions used in spelling base forms.

The vowel of the verbal base may either be stable or unstable.
Stable vowels remain the same in all forms of the verb and are repre-
sented by means of lower case characters in the verbal base. The fol-
lowing stable vowels occur in Sherpa verbal bases:[2]

i, e, o, u, aa

Unstable vowels participate in various vowel shift patterns within
their paradigms and are represented by means of upper case characters
in the verbal base. The following unstable vowels occur in Sherpa
verbal bases:[3]

E, A, O, AA, wO

All verbal bases end in consonants. The final consonant of a base
may either be stable or transient. Stable consonants occur in every

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form of the verb and are represented by an unparenthesised character.
The following base-final stable consonants occur in Sherpa verbs:

<center>p, k, l, r, m, n, ng</center>

Transient consonants occur in certain forms of the verb but are
elided in other forms. The following transient consonants occur in
Sherpa verbal bases:

<center>(p), (t), (k), (r), (w), (n), (ng)</center>

The table below indicates which consonants occur only as stable con-
sonants, which occur only as transient consonants, and which occur as
stable consonants in certain verbs and as transient consonants in others.

function of consonant	base form final consonant								
	p	t	k	l	r	m	n	ng	w
stable			x		x				
transient		x							x
stable and/or transient	x		x		x		x	x	

<center>Table 1. STEM FINAL CONSONANTS IN SHERPA</center>

In the following sections we will see that the base final consonant
plays an important role in predicting the pattern of tone shifts and
vowel shifts which a given verb follows.

II. PRINCIPAL PARTS AND VOWEL PATTERNS

To account for the vowel patterns that occur we have set up seven
principal parts in the Sherpa verb. These parts reflect all contrastive
vowel shifts.

<div style="margin-left:2em">

FIs   Present/Future Impersonal

Fcj   Present/Future conjunct[4]

Fdj   Present/Future disjunct

PIs   Past Impersonal

Pcj   Past conjunct

Pdj   Past disjunct

Imp   Imperative

</div>

Given these seven principal parts all possible forms of a verb may be
derived.

We have said above that the base final consonant plays an important role in determining the pattern of tone shifts and vowel shifts which a given verb follows. For the purpose of determining vowel shifts, we may distinguish four classes of final consonants as follows.

Class	Final Consonant
c	k, l, r, m, n, ng
p	p
(p)	(p)
(c)	(t), (k), (w), (r), (n), (ng)

Each class marks a different pattern of vowel shifts, as is indicated in the following table.

vowel of base and final cons.		Principal Parts						
		FIs	Fcj	Fdj	PIs	Pcj	Pdj	Imp
E	c	e	e	e	e	e	aa	o
	p	e	e	e	aa	aa	aa	o
	(c)	e	e	e	aa	aa	aa	wo
A	c	a	a	a	a	a	aa	o
	p	a	a	a	aa	aa	aa	o
	(c)	a	a	a	aa	aa	aa	wo
O	c	o	o	o	a	a	aa	o
	p	o	o	o	aa	aa	aa	o
	(c)	o	o	o	aa	aa	aa	wo
AA	(p)	aa	a	e	aa	aa	aa	o
wO	(p)	wo	wo	e	o	o	o	o

Table 2. VOWEL PATTERNS OF SINGLE-BASE VERBS

There are also verbs in Sherpa that have two stems. These will be referred to as *twin-base* forms. One stem, having a voiced initial stop or voiced affricate, will occur in the *Present/Future* tense (FIs, Fcj, Fdj). The other stem, having the voiceless stop or affricate counterpart will occur in the *Past* (PIs, Pcj, Pdj) and *Imperative* - the P-base.

We may distinguish two kinds of twin-base verbs: those which have an upper case vowel in the P-base and those that have a lower case vowel in the P-base.

For example:

'bok / pokq *'to take from fire'*

has a lower case vowel in the P-base and

    Del / TAlq   *'to separate'*

has an upper case vowel in its P-base.

    There are no twin-base verbs with upper case vowels in the first
base. The shifts manifested by the second stem of a twin-base verb are
slightly different from the corresponding shifts manifested by a single-
base verb. These shifts are summarised in Table 3.

P-base vowel and final consonant	vowel of			
	PIs	Pcj	Pdj	Imp
A c /m, l/	a	a	aa	o
A p	a	a	a	o
AA (w)	aa	aa	aa	wo

Table 3. VOWEL PATTERNS IN TWIN-BASE VERBS

III. TONE PATTERNS

    Every base form is marked for tone.[5] Most bases, however, manifest
a shift of tone in the past disjunctive. The final consonant of the
base indicates whether or not the base participates in a tone shift.
It also indicates which tone shift occurs. Table 4 shows how the base
final consonant correlates with tone shifts in the past disjunctive for
bases with the vowels i, e, o, and u.

base final consonant	vowel of base	
	i, e	u, o
c, (w) /l, r, m, n/	4	4
k	s	s
(c) H	3	3
L	4	4
(t)	s	4

Table 4. TONE PATTERNS OF SINGLE-BASE VERBS

The table above may be read as follows:
a) A verb with a final consonant c and the vowel i has pitch contour 4
   in the past disjunctive form.
b) A verb with a final consonant k and the vowel o has the "same" (s)
   pitch contour in the past disjunctive form as the base.

Table 5 gives the tone shifts for bases with vowels E, A, O, AA, and
wO in past disjunctive:

base final consonant	E	A	O	AA	wO
c, (w) /l,r,m/	4	4	4	4	
p	4	4	H3 / L4		
(c) (p) H	3	3	3	3*	3
(c) (p) L	4	4	4	-	4
k			s		

Table 5. TONE PATTERNS OF SINGLE-BASE VERBS

*In this category pitch contour type 3 has been ob-
served for all past forms.

The tone patterns for *twin-base* verbs are different from the ones
discussed above. Consider Table 6, which gives the tone shifts in past
disjunctive. The other past forms and imperative have the same tone as
the P-base.

final consonant of P-base	P-base	past disjunctive
p, (t)	3 (')	2
c, (w) /l,m/	2 (q)	3
k, (t)	2 (q)	2
(p)	4 (ø)	3

Table 6. TONE PATTERNS OF TWIN-BASE VERBS

IV. DERIVATION PROCEDURE

HOW TO DETERMINE THE VOWEL PATTERN FOR A GIVEN VERB

Does the dictionary entry give *one* or *two* base forms? If *one* base
form is given, follow directions under A below.

If *two* base forms are given, follow directions under B below.

A. What kind of vowel do you find in the base?
1. lower case vowel: *no* vowel change.
2. upper case vowel (E, A, O, AA, wO):

look at Table 2.
Find the vowel and the final consonant of that verb and then
look at the adjacent row of vowels to find the shifts.

B.   What kind of vowel do you find in each of the base forms?
      1.   if *both* forms give lower case vowels, there is no vowel change.
      2.   if the *second* base form has an upper case vowel: look at
           Table 3.
           Determine vowel and final consonant of the second base form,
           find the equivalents in Table 3, and there obtain the vowel
           changes.

HOW TO DETERMINE THE TONE PATTERNS FOR A GIVEN VERB

Does the dictionary entry give *one* or *two* base forms? If *one* form is
given, determine the kind of vowel of that entry.
     For *lower* case vowels follow directions under C below.
     For *upper* case vowels follow directions under D below.
     If *two* base forms are given in the dictionary follow directions
under E below.

C.   1.   Determine the vowel and final consonant of the base form and
           look at Table 4. The table gives the tone shift of the past
           disjunctive form of the verb.

      2.   If the base-final consonant is (c) also determine the tone of
           the base. If the base is marked by 'q', look under H (which
           means high tone). If it is *not* marked by 'q' look under L
           (which means low tone) of Table 4.

D.   1.   Determine the vowel and final consonant and look at Table 5.

      2.   If the vowel is 0 and the final consonant p, also determine the
           tone of the base form in the dictionary. For high tone, marked
           by 'q' look under H. For low tone, which is unmarked, look
           under L of Table 5.

      3.   If the final consonant of the base form is a (c) or (p) also
           determine the tone of base and then look at Table 5.

E.   1.   For twin-base verbs determine the final consonant and the tone
           of the *second* base form given in the dictionary. Look at
           Table 6 and find tone shifts of the past disjunctive form of
           the verb.

V. SAMPLE DERIVATION

To illustrate the use of the tables and the derivation procedures we will exemplify some vowel and tone patterns. In this paper we are concerned with vowel and tone patterns. Therefore the rules that are needed to derive the principal parts from the base form, and the rules for final consonant deletion are not included here.

A. VOWEL PATTERNS

The seven principal parts are given here in the order suggested on page 114. We will derive the tone patterns for the following verbs under B. TONE PATTERNS.

'de(t) *'to stay'* This dictionary entry is a single base form. The base form has a lower case vowel, which indicates that this verb does not undergo vowel shifts. We then have the following seven principal parts: 'detup 'detiN 'dekiwi 'detup 'deti 'desung 'de

sO(k) *'to collect'* This base form has the upper case vowel O and a final parenthesised (k). The transient final (k) is grouped under (c). We look at Table 2 and obtain the principal parts: sokup sokiN sokiwi saawup saayi saasung swo

'lhAA(p)q *'to see'* This is a single-base form with the upper case vowel AA and a verb final parenthesised (p). Looking at Table 2 we obtain the following vowel shift: 'lhaapq 'lhayiNq 'lhewiq 'lhaawup 'lhaayi 'lhaasung 'lhoq

'be(t) / 'pe(t) *'to open'* This is a twin-base verb. Both forms have the lower case vowel e which signals that there will be no vowel shift. The seven principal parts are: 'betup 'betiN 'bekiwi 'petup 'peyi pesungq 'pe

gem / kAmq *'to dry'* This is a twin-base form. The first base having the lower case vowel e does not undergo vowel shift. The second base form, which is the past base, has the upper case vowel A and therefore will participate in vowel shift in past and imperative. The final consonant is m, which has been grouped under c. The forms of the present/future are: gembup gemiN gemgiwi Looking at Table 3 we obtain: kambupq kamiq 'kaamsung komq

B. TONE PATTERNS

Since the tone shifts of all three Tables 4, 5, and 6 apply to past disjunctive (note one exception in Table 5) we will give all examples below in the past disjunctive form only. For all other forms of the verb the tone is that of the base.

'de(t) *'to stay'*   This is a single-base form with the lower case
vowel e and a final parenthesised (t). Looking at Table 4 we obtain 's'
which means *'same'*. In this case the tone is stable. 'desung

'dze(k) *'to climb'*   This is a single-base form with the lower case
vowel e and a parenthesised final (k). The base is not marked by 'q',
which indicates that we have to look under L of Table 4.   For the past
disjunctive we thus obtain: 4. dzesung

z0rq *'to drive cattle'*   This is a single-base form with the upper
case vowel 0 and a final r which is grouped under c. Looking at Table 5
we obtain for the past disjunctive: 4. zaarsung

10pq *'to study'*   This is a single-base form with the upper case
vowel 0 and a final consonant p. The base also is marked by 'q' (high
tone). From Table 5 line p looking at H we obtain: 3. 'laapsung

s0(k) *'to collect'*   This is a single-base form with an upper case
vowel, 0, and a final parenthesised (k), which is grouped under (c).
The base is not marked for tone, thereby indicating low tone (L).
Entering Table 5 at line (c) and looking at L we obtain: 4. saasung

'be(t) / 'pe(t) *'to open'*   This is a twin-base form. The second
base form has a final parenthesised (t) and is not marked by 'q'. This
indicates that it has a pitch contour 3. Looking at Table 6, line 1, we
obtain 2 for the past disjunctive form and 3 for the other past and
imperative forms.
    pesungq (past disjunctive)
    'petup 'peyi 'pe

BASE FORMS OF SOME SHERPA VERBS:

'bA(k)	*to hide*
'be(t) / 'pe(t)	*to open*
'bok / pokq	*to take from fire*
'cak (irreg.)	*to break*
'chaa(w)	*to become solid, freeze*
chAmq	*to dance*
'ji(t) / 'ci(t)	*to put into*
'curq	*to climb*
dAm	*to tie*
'de(t)	*to stay, sit*
dep / 'tAp	*to winnow*
'd0r	*to clean*
dwo(p) / 'tAA(w)	*to put on ornaments*

'du(ng)	to beat
'dze(k)	to climb
Daa(w)	to have eaten enough
Del / TAlq	to separate
gem / kAmq	to dry
'hip	to hide
'jAr	to stir
'jOk	to put
kA(k)q	to split
khAA(p)q	to smell
konq	to wear
'kwO(p)q	to dig
ku(t)q	to apply
'kyElq	to hand over
kyAlq	to set right
'kyu(k)q	to vomit
'lA(k)	to lick
lA(ng)q	to take
'lhAA(p)q	to look
lOpq	to study
'lum	to fall
nenq	to press on
'ngwO(p)q	to count
phak (irreg.)	to strike
'phAp	to land
phirq	to jump
'phu(t)	to blow
pu(ng)q	to pour
'rek	to touch
rhe(k)q	to burn
'rO(k)	to study silently
tAp	to measure
thAlq	to cross
'tOngq	to send
tshOlq	to search
tsi(k)q	to pile
'TA(k)	to tie
'Thil	to wrap
'yu(k)	to walk
'ze(w)	to know
zOrq	to drive cattle

NOTES

1. I am indebted to Austin Hale for valuable suggestions in approaching this problem.

   Also I wish to thank Mr Ang Nyima Lama, Mr Kunga Jangbu Sherpa, Mr Ang Gelbu Lama and Miss Ang Kandi Sherpa for their help in gathering the material.

2. We found two verbs with the vowel a. These verbs, however, break rules in two ways, and therefore we regard them as being irregular.

   1. The vowel a characteristically occurs as A, that is it occurs generally with verbs that undergo vowel changes. In this case, a is stable.

   2. The base final k ordinarily requires the same type of pitch contour throughout the paradigm. These two verbs, however, have a raised pitch contour which is different from the expected contour.

3. Since 0 following w patterns differently, it is listed here separately.

4. The meaning of the terms 'conjunct' and 'disjunct' are not given in terms of first, second, and third person subjects. The conjunct form signals referential conjunction of its subject with the matrix focus. The disjunct form signals referential disjunction of its subject and the matrix focus.

   See papers in this volume on person markers in Newari by Hale (pp. 95-106), and in Sherpa by the present author (pp. 125-30).

5. Sherpa may be described as having two tones or four contrastive types of pitch contours:

	basically rising *pitch contour*				*basically falling* *pitch contour*
tone 1	C̅ V̅ C V	1	2		C̅ V̅ C̲ V̲
tone 2	C V C̅ V̅	3	4		C V C̲ V̲

In the tone 2 basically falling contour the pitch is basically
level, but may drop a little on the second syllable.

tone 1 (also high tone: H) includes pitch contour types
      1 and 2.

tone 2 (also low tone: L) includes pitch contour types
      3 and 4.

Pitch contour 1 is symbolised by '...q
      2   "   "   "   ...q
      3   "   "   " '...
      4   ... (unmarked)

This symbolisation of the contours is simplified somewhat for text
orthography (in this and the following article) as compared with the
phonemic orthography used in the preceding article. For example:

	Contour	Phonemic	Text
1	High Rising	'cúr	'curq
2	High Falling	"chám	chamq
3	Low Rising	'càk	'cak
4	Low Falling	"dèp	dep

PERSON MARKERS IN SHERPA

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(The work which led to the writing of this paper was stimulated by Austin Hale's 1971 paper, 'Person Markers: Conjunctive and Disjunctive Verb Forms'. Although his paper dealt exclusively with Newari, the analysis presented seems to fit Sherpa equally well. In order to highlight the parallels between Newari and Sherpa, we will follow the organisation and terminology of Hale's paper in presenting the Sherpa materials. A revised version of Hale's paper is included in this volume, pp. 95-106.)

I. THE PROBLEM[1]

Before our attention had been called to the problems involved, we had viewed the person markers in Sherpa in much the same way as Hale had viewed person markers in Newari. In the declarative we had basically two markers, one marking first person subject, the other marking non-first person subject.

1. nga   lepiq.   *I arrived.*
2. 'khyorang lepsungq.   *You arrived.*
3. 'ti   lepsungq.   *He arrived.*

In the interrogative we also find two markers, one marking verbs with second person subjects, and another marking verbs with first or third person subjects. The shift of pattern is similar to that found in Newari except that the second person marker is phonologically different from the first person marker of the declarative.

4. nga   lepsungq?   *Did I arrive?*
5. 'khyorang lepupq?   *Did you arrive?*
6. 'ti   lepsungq?   *Did he arrive?*

With Sherpa also the data may be looked at and explained as a discourse oriented set of person markers.

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II. MATRIX FOCUS AND THE PERFORMATIVE

(For detailed discussion of this section see Hale, p. 96ff. in this volume.)

The following two examples make it clear that our previously chosen labels, first person and non-first person are rather misleading.

7. 'tiki, 'ti lepiq,   *He said that he (himself) arrived.*
   'sikyaasung.

8. 'tiki, 'ti lepsungq,   *He said that he (someone else)*
   'sikyaasung.   *arrived.*

If we unite the declarative 'first person' marker with the interrogative 'second person' marker, calling both of these conjunct forms, then the examples above show that conjunct forms occur with subjects of all three persons. We may view the declarative 'non-first person' marker and its identical interrogative 'non-second person' counterpart as disjunct forms. If we do, the examples above show that subjects of all three persons also occur with disjunct forms.

The meaning of the terms 'conjunct' and 'disjunct' are thus not given in terms of first, second, and third person subjects. The conjunct form signals referential conjunction of its subject with the matrix focus.[2] Thus the verb form lepiq in example (7) is conjunct thereby signalling that 'ti and 'tiki both refer to the same individual. The disjunct form signals referential disjunction of its subject and the matrix focus. Thus the verb form lepsungq in example (8) is disjunct thereby signalling that 'ti and 'tiki refer to different individuals.

In declarative sentences the matrix focus will be on the speaker. In interrogative sentences the matrix focus is on the hearer.

III. DIRECT QUOTATION

The following table is a modified version of the rule proposed by Hale for Newari. The interrogative portion of the rule for Newari identifies matrix focus with the object since the hearer of a direct quotation is marked as the object. In Sherpa the hearer is marked as the indirect object. Hence matrix focus for interrogative questions in Sherpa is upon the indirect object.

	Disjunct	Conjunct
Declarative	Subject of the verb has a different referent from the subject of its matrix.	Subject of the verb has the same referent as the subject of its matrix.
Interrogative	Subject of the verb has a different referent from the indirect object of its matrix.	Subject of the verb has the same referent as the indirect object of its matrix.

9. nye "nga lepiq" 'sikyaayi.   *I said "I arrived".*

10. 'khyoro "nga lepiq"   *You said "I arrived".*
    'sikyaasung.

11. 'tiki "nga lepiq"   *He said "I arrived".*
    'sikyaasung.

12. nye "'khyorang lepsungq"   *I said "You arrived".*
    'sikyaayi.

13. 'khyoro "'khyorang   *You said "You arrived".*
    lepsungq" 'sikyaasung.

14. 'tiki "'khyorang   *He said "You arrived".*
    lepsungq" 'sikyaasung.

15. nye "'ti lepsungq"   *I said "He arrived".*
    'sikyaayi.

16. 'khyoro "'ti lepsungq"   *You said "He arrived".*
    'sikyaasung.

17. 'tiki "'ti lepsungq"   *He said "He arrived".*
    'sikyaasung.

We have said that in declarative sentences the matrix focus will be on the speaker. The above declarative examples, according to the theory, call for conjunct forms of the verb when the subject of the sentence refers to the subject of the matrix.

In sentences (9), (12), and (15) the form 'sikyaayi is conjunct. It signals that its subject nye is identical with the speaker, who may be called Jangbu.

Also lepiq in sentence (9) is a conjunct form. It signals that its subject nga refers to the same person as the matrix subject nye, who is Jangbu.

In sentence (10) 'sikyaasung is a disjunct form signalling that its subject 'khyoro is not identical with the performative subject, the speaker.

The conjunct form lepiq indicates that its subject nga is identical with the matrix subject, 'khyoro.

The disjunct form of lepsungq in sentences (12) to (17) indicates that its subject is different from its matrix subject.

The disjunct form of 'sikyaasung in sentences (13), (14), (16), and (17) signals that its subject is not the speaker.

In applying the proposed theory to interrogative quotations we will expect a conjunct form when the subject of the quoted verb is identical with the indirect object of the matrix verb.

18. 'tiki ngalaa "nga   *He asked me "Did I arrive?"*
    lepsungq?" Tisung.

19. 'tiki 'khyoranglaa "nga   *He asked you "Did I arrive?"*
    lepsungq?" Tisung.

20. 'tiki 'tilaa "nga   *He asked him "Did I arrive?"*
    lepsungq?" Tisung.

21. 'tiki ngalaa "'khyorang   *He asked me "Did you arrive?"*
    lepupq?" Tisung.

22. 'tiki 'khyoranglaa   *He asked you "Did you arrive?"*
    "'khyorang lepupq?" Tisung.

23. 'tiki 'tilaa "'khyorang   *He asked him "Did you arrive?"*
    lepupq?" Tisung.

24. 'tiki ngalaa "'ti lepsungq?"   *He asked me "Did he arrive?"*
    Tisung.

25. 'tiki 'khyoranglaa "'ti   *He asked you "Did he arrive?"*
    lepsungq?" Tisung.

26. 'tiki 'tilaa "'ti lepsungq?"   *He asked him "Did he arrive?"*
    Tisung.

In sentences (21), (22), and (23) only we find the interrogative
conjunct form lepupq, indicating that 'khyorang and the addressee in
these sentences are the same person.

IV. INDIRECT QUOTATION

    "In direct quotation the directly quoted first person refers
    to the person who *originally* uttered the quoted material,
    and a directly quoted second person refers to the person who
    was originally addressed as hearer. In indirect quotation
    the indirectly quoted first person refers to the *actual* or
    quoting speaker and the second person to the *actual* hearer."[3]

27. nye, nga lepiq, 'sikyaayi.   *I said that I arrived.*

28. nye, 'khyorang lepsungq,   *I said that you arrived.*
    'sikyaayi.

29. nye, 'ti lepsungq, 'sikyaayi.   *I said that he arrived.*

30. 'khyoro, nga lepsungq,   *You said that I arrived.*
    'sikyaasung.

31. 'khyoro, 'khyorang lepiq,   *You said that you arrived.*
    'sikyaasung.

32. 'khyoro, 'khyorang lepsungq,   *You said that you arrived.*
    'sikyaasung.

33. 'khyoro, 'ti lepsungq,   *You said that he arrived.*
    'sikyaasung.

34. 'tiki, nga lepsungq,   *He said that I arrived.*
    'sikyaasung.

35. 'tiki, 'khyorang lepsungq, *He said that you arrived.*
    'sikyaasung.

 7. 'tiki, 'ti lepiq,   *He said that he arrived.*
    'sikyaasung.

 8. 'tiki, 'ti lepsungq,   *He said that he arrived.*
    'sikyaasung.

The conjunct form in (27) indicates that nga and nye refer to the same person.

A more explicit translation for sentence (31) may be: *'You, Jangbu, said that you (Jangbu) arrived.'* We have a conjunct form lepiq, referring to the same person. For sentence (32) assume two hearers, *'You, Jangbu, said that you, Lhakpaaq, arrived.'* The disjunct form lepsungq indicates different persons.

Indirect quotation of questions is not natural in Sherpa. Hale has also discovered that in Newari indirect quotation of questions is highly unnatural, and that examples (42)-(46) of his 1971 paper are rejected in favour of their more natural direct quotations by most of his informants. Informants agree that they are grammatical, but not natural, not used.[4]

V. RHETORICAL QUESTION

Unlike the ordinary question the rhetorical question does not call for an answer. Thus a change of speaker is not expected, the matrix focus does not seem to be on the hearer, but on the speaker. It will be expected then that the rhetorical question will be differently marked from the ordinary one. Consider the following example:

36. 'tiki 'tilaa "'khyorang   *He asked him "Did you go?"*
    'gaalnok iN?" Tisung.

The intonation of sentence (36) is that of a question, however, the verb 'gaalnok represents a disjunctive form, which will make the sentence a declarative one.

NOTES

1. I wish to express my sincere thanks to Mr Ang Nyima Lama, Mr Kunga Jangbu Sherpa and Mr Ang Gelbu Sherpa for their help in approaching this problem.

2. Hale gives the following definition:

> "The element which is compared with the subject of the verb in determining whether the verb is to be a conjunct form or a disjunct form will be referred to as the *matrix focus*. Stated differently, when the verb occurs in the conjunct form it signals that both its subject and the matrix focus designate the same individual. When the verb occurs in the disjunct form, it signals that its subject and the matrix focus designate different individuals."

3. Hale, Austin, 1971 Person Markers: Conjunctive and Disjunctive Verb Forms. MS. S.I.L.

4. Hale, personal communication.