GURUNG DIALECTS

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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 approaching the task of communication across dialects, and it is in this context that the older "static" methods of lexical comparison are powerfully supplemented by "dynamic" studies of interdialectal intelligibility. 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 overseas. 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 differences. 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 regarded as impermissible and the criteria relaxed sufficiently in individual 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 dialectal 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*	kï	kxï (+3,4)	kyo/kyO (+8)
3.	*we (exc.)*	ngyo	ngxyo (+4)	ngyo/ngyO (+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*	nakï (+5)	nagï (+4, -5)	nagyu/nakyu (+8)
24.	*seed*	plu	plxu (+4)	plu (+3,8)
31.	*bone*	xrïp	xrïba (+3,4)	nugrï (+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 thirteen villages were plotted on maps and isoglosses drawn. (For some 30 of the items there was no appreciable variation across the whole thirteen lists. These items thus represent a lexical core which can be taken as defining the Gurung language.) The result was rather bewildering. 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 significantly (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, including 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, although 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 sequence of events. The point is that the erratic distribution of the -ya forms, or the -l 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 completely 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 representative 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. Basically, 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%)

TEST POINTS, i		1	2	3	4	5	6	7	8	9	10	11	12	13	14
							SENTENCE SETS, j								
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 relation 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 "difficulty". 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 average 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 "intrinsic difficulty" of the sentences is not a primary source of difficulty 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 sy0 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 (sy0).
           Q. Where did the old women go?
was answered in Gurung as sy0 (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.
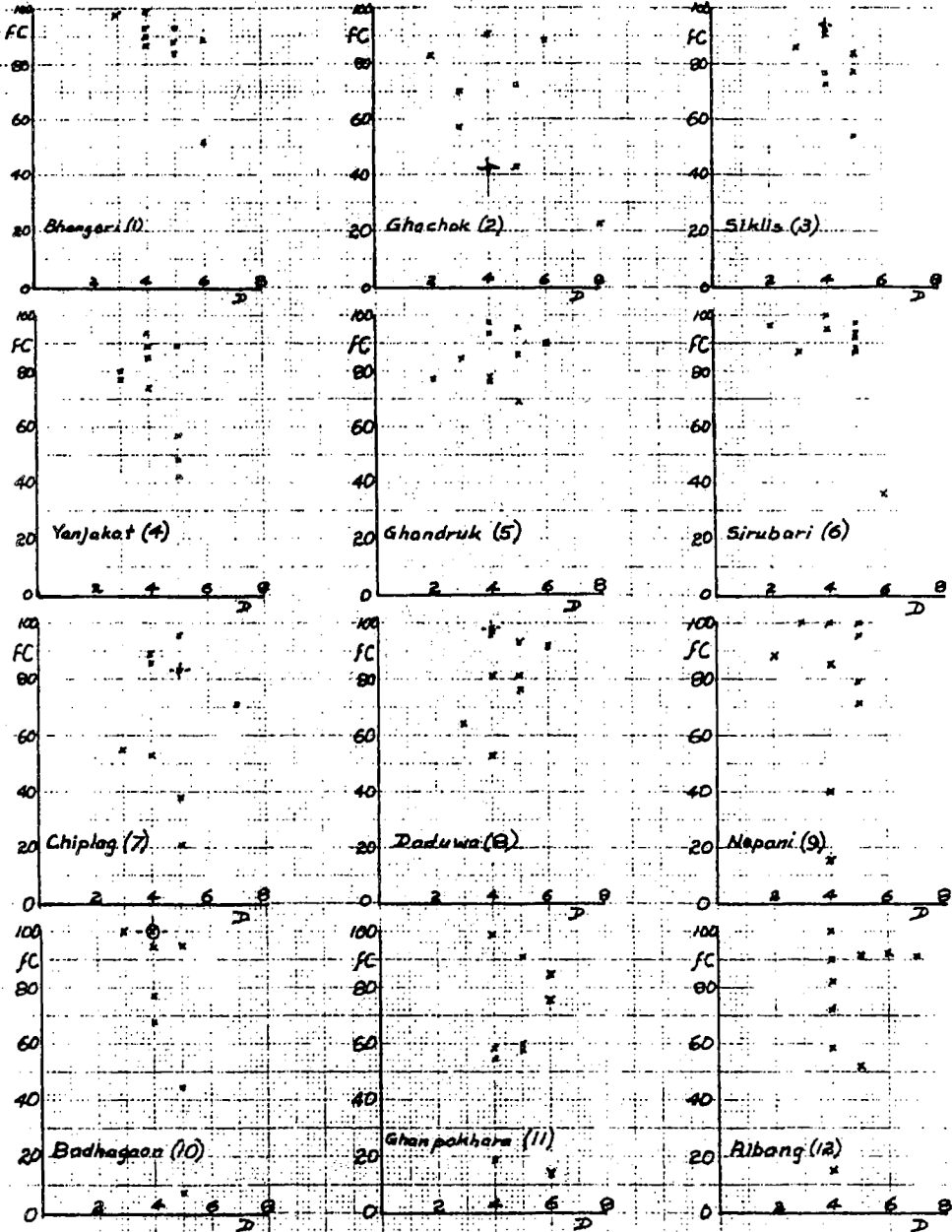
Figure 1. Question score (fC%) versus intrinsic difficulty (D) of particular sentence sets.
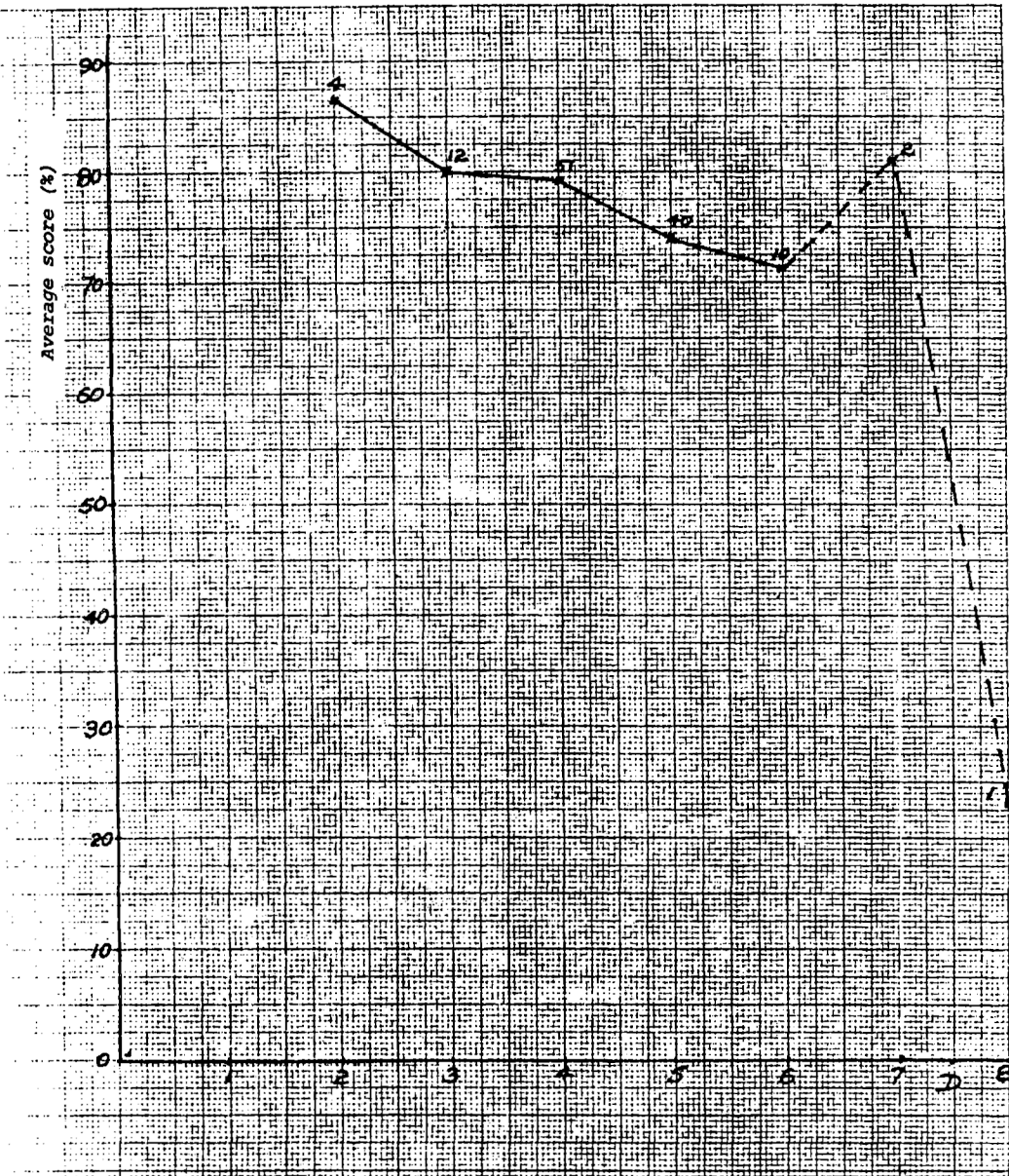
Figure 2.   Average score versus question intrinsic difficulty.

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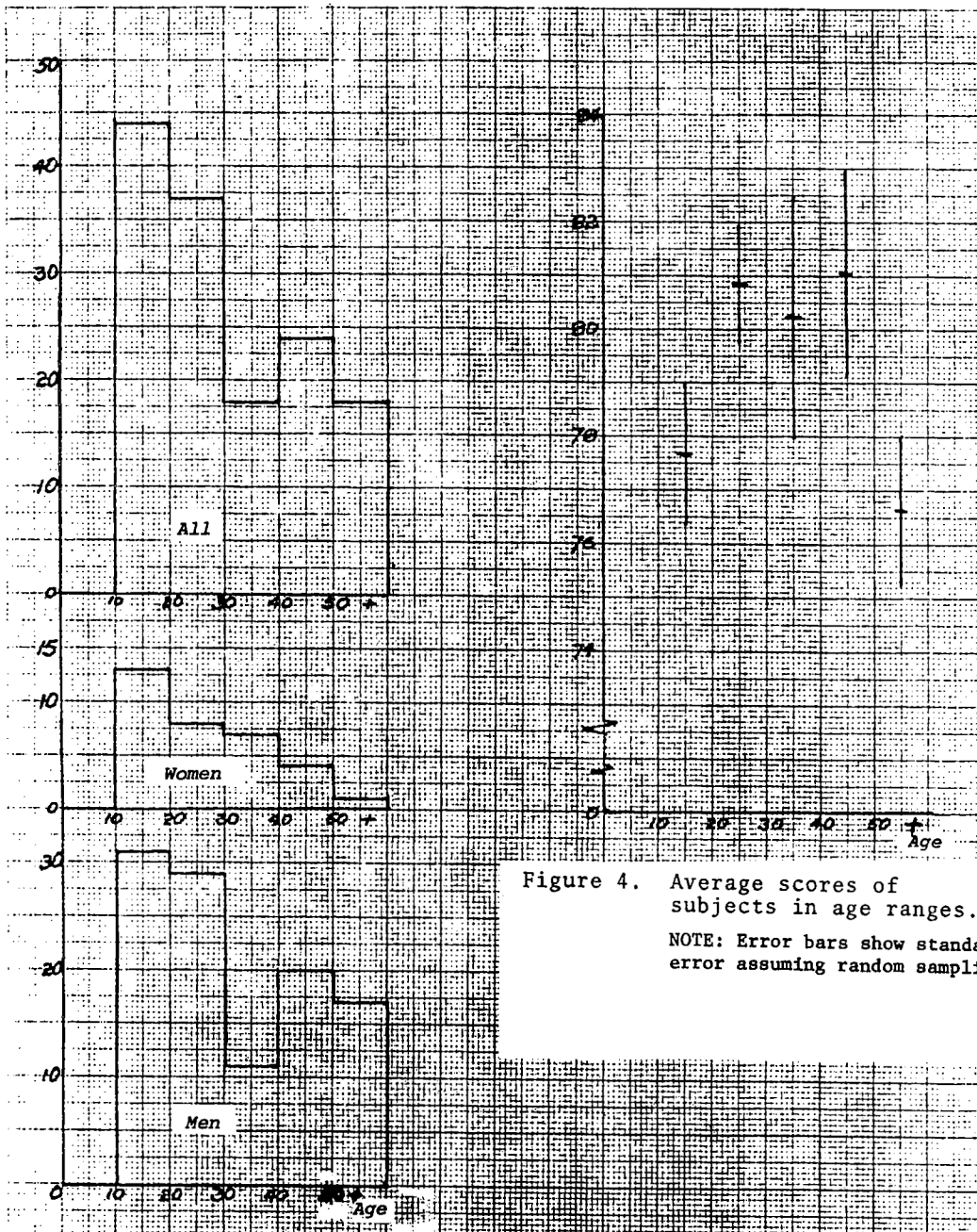
Figure 3.   Sex and age of subjects.
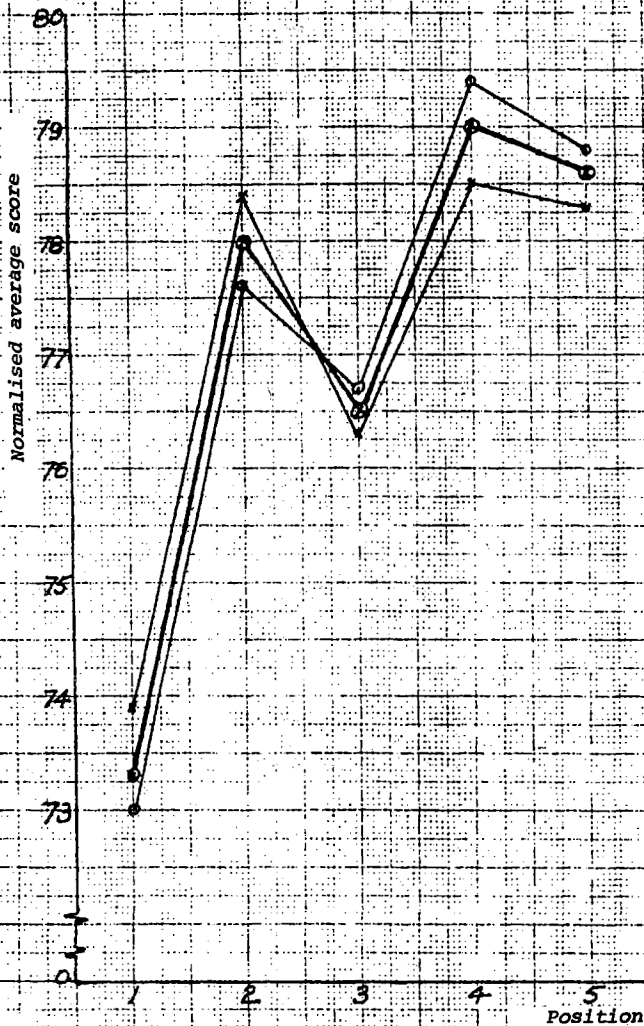
Figure 5.   Normalised average scores for the five test positions.

⊙——⊙   tapes j = 1 to 6 only.

X——X   tapes j = 7 to 12 only.

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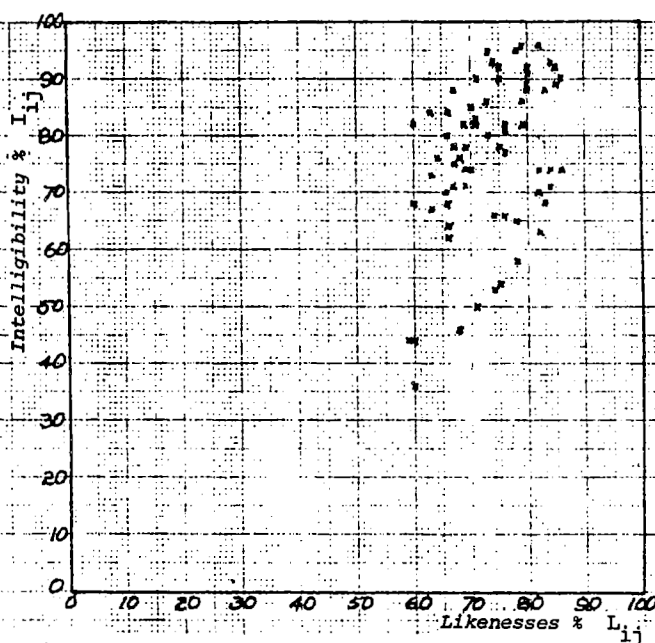
Figure 6.   Intelligibility (I_{ij}) versus likenesses (L_{ij}).
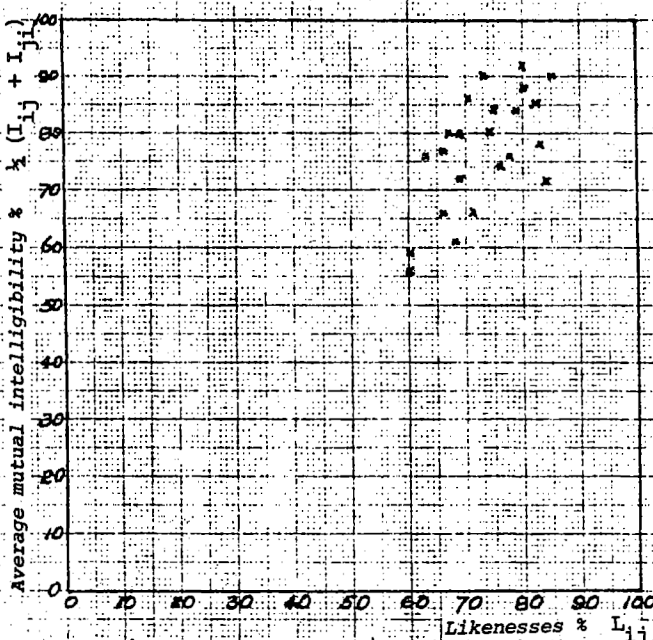
Figure 7.   Average mutual intelligibility $(I_{ij} + I_{ji})/2$
versus lexical likenesses ($L_{ij} = L_{ji}$).

MAP 1. GANDAKI ANCHAL
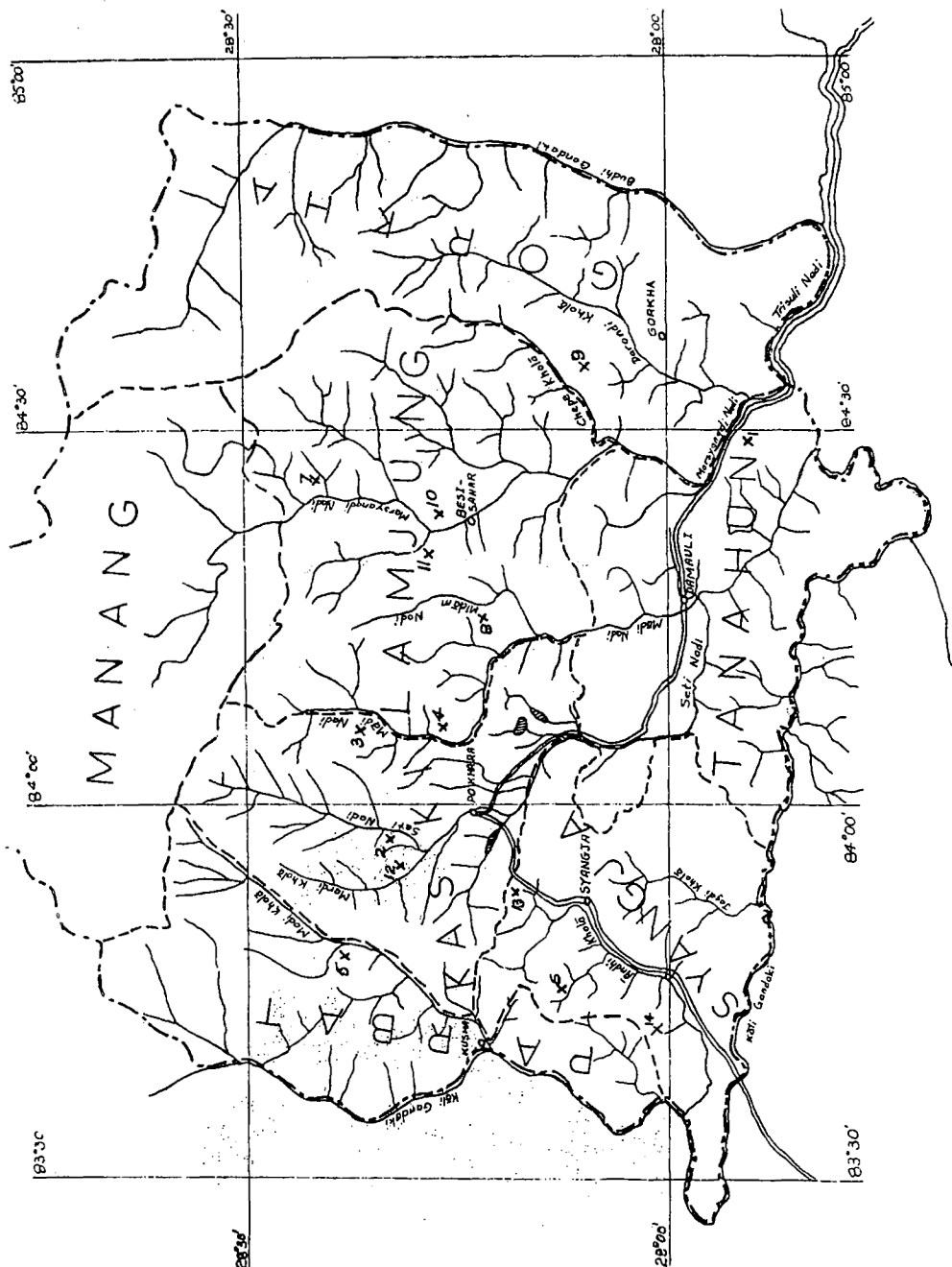
LEGEND:

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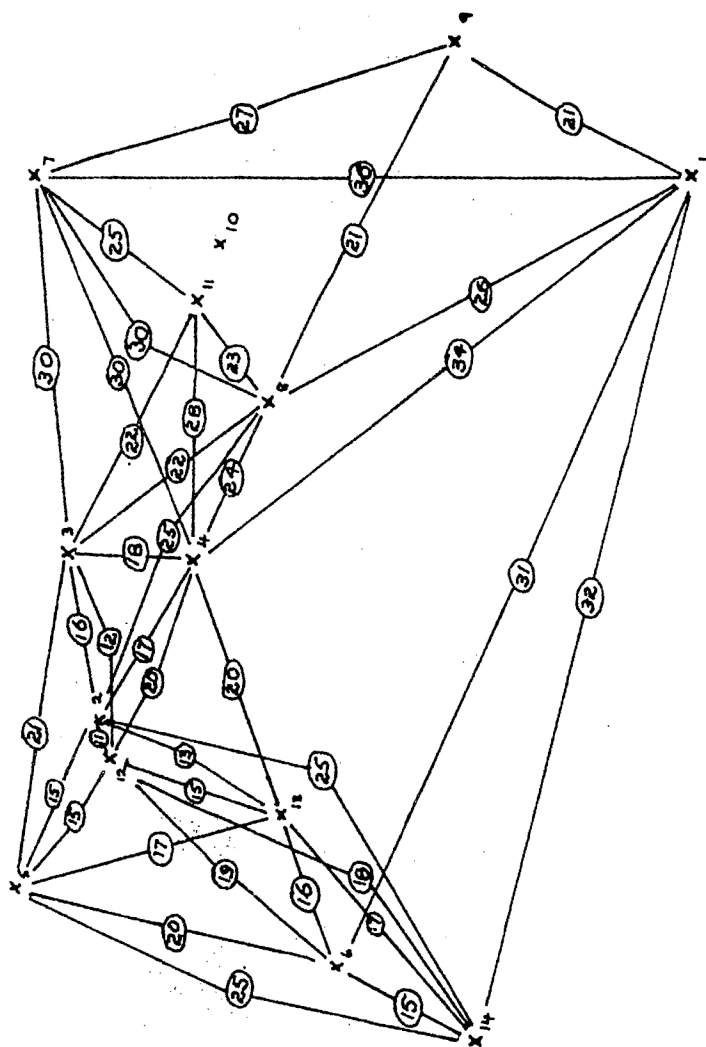
MAP 2. ISOGLOSS COUNTS.
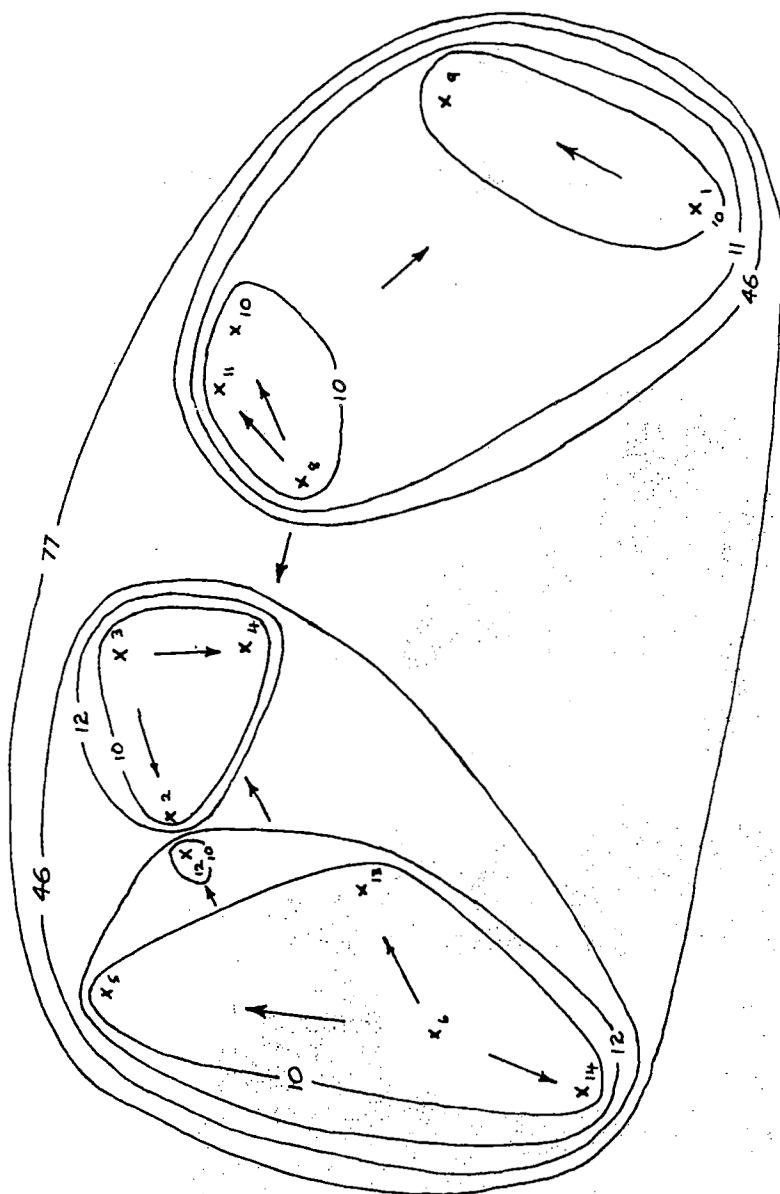
MAP 3.   GROUPING TEST POINTS BY INTELLIGIBILITY.
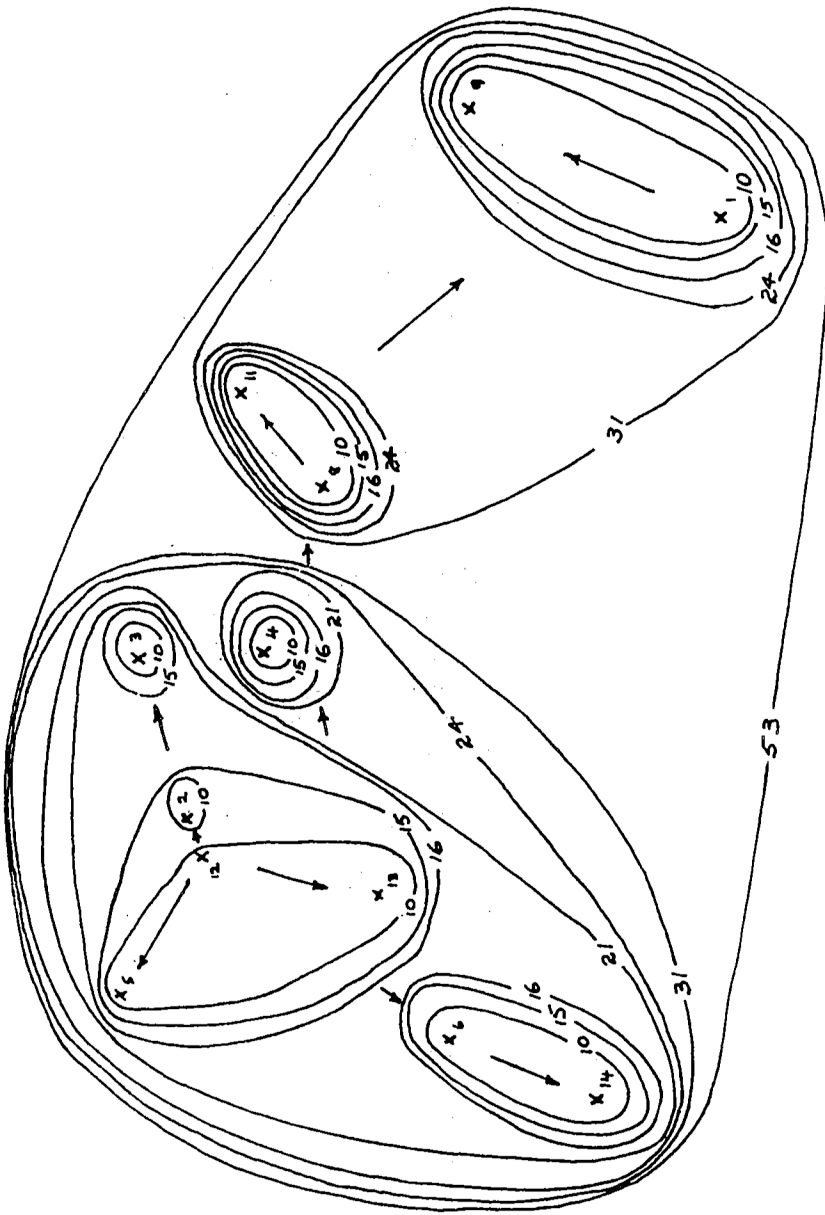
MAP 4. GROUPING OF TEST POINTS BY VOCABULARY LIKENESSES.

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	ngxy0	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

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	daayO/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[1]
EK	ngI	EK	thebaa	EK	xrIba	EK	rIba
CL	nge	CL	theba	CL	xrIba	CL	ThUDe
NL	ngxyAUlO	NL	theba	NL	xrIba	NL	rinThE
SL	ngyOlO	SL	ajaara/theyaale	SL	xrEyaale	SL	---
WG	ngyauglo	WG	thabaale	WG	xrIbaale	WG	rInThe
ET	ngyakalO	ET	thablyaa	ET	xrImlyaa	ET	rInThya

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

15. *small*		16. *woman*		17. *man*		18. *person*	
SS	cyOwaI	SS	mrIsyo	SS	pyUmaE	SS	mxI
NP	cyOba	NP	cxamIrI	NP	aamyuyU	NP	mxI
K	cyOba/ cyuguthirI	K	camIrI/ mrIsyo[1]	K	aamuyU/ mardamaE[2]	K	mxI
EK	cyOba	EK	rImaE	EK	mwImaE	EK	mbxI
CL	caj	CL	rImaE	CL	pyUmaE/ maImaE	CL	mxI
NL	cyOba	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/ nakyu	WG se
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 plxu	NP pxo	NP ancha
K sI dxU/du[1]	K plxu	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/TxIbII	SL sya	SL ko
WG phIbI	WG TxIbII	WG sya	WG ko
ET bokro	ET TxIpII	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/ xrubI[1]	K chI	K phU	K ru
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 mwi	SS	mwi
NP	me	NP	kO pxyaa	NP	kra$_2$px0	NP	mwi
K	mi/me^1	K	pxyaa	K	kra^2	K	mwi
EK	mbi	EK	pxyaa	EK	kra	EK	mbwi
CL	me	CL	phyaa	CL	kra	CL	mwi
NL	me	NL	pxyaa	NL	kra	NL	mwi
SL	mya	SL	pxyaa	SL	kra	SL	mwi
WG	me/mera	WG	kAApyaa	WG	kra	WG	mwi
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	mbi/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	cxi	K	yo	K	pho
EK	pxala	EK	cxidu	EK	yo	EK	pha
CL	phali	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	mlOgu	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	mlxOku	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	mrO-	SS	ngxyo-	SS	thi-	SS	ngo se-
NP	mrO-	NP	ngxyo-	NP	thee-	NP	se-
K	mrO-	K	ngxyo-	K	thee-	K	ngo se-
EK	mrO-	EK	nggxyo-	EK	thi-	EK	nggo se-
CL	mrO-	CL	ngyu-	CL	nge-	CL	se-
NL	mrO-	NL	cyo-	NL	ngE-	NL	se-
SL	mrO-	SL	ngxyo-	SL	thee-	SL	ngo se-
WG	mrO-	WG	cyo-	WG	thee-/ngE-	WG	se-
ET	mrO-	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-/ kha-/cxwi-[1]	K	si-	K	sae-	K	kywaala-[2]
EK	ndur kha-	EK	si-	EK	sae-	EK	pauri klO-
CL	nxaru yu-/ cxwi-	CL	si-	CL	sae-	CL	polo-
NL	nur kha-	NL	si-	NL	sae-	NL	pokhor klO-
SL	nxar kha-	SL	si-	SL	sae-	SL	pauri klO-
WG	nxar kha-	WG	si-	WG	sae-	WG	pauDi klO-
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 klO-, Yangjakot pauDi klO-.

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/ txayAA	K layAA/laII	K musaara
EK pxi-	EK txI	EK lE	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/ ngyumaa	WG baloDa/ 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/ mxasyO[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 mxasyO; 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	khrO-	SS	kyAA	SS	kII
NP	mebro	NP	khrO-	NP	gxyAA	NP	kataasU
K	mebro/ myauro[1]	K	khrO-	K	gxyAA/kyAA[2]	K	kadaasU/kII[3]
EK	meuro/ mbiuro[4]	EK	khrO-	EK	gxyAA	EK	kII
CL	mibro	CL	khrO-	CL	kyAA	CL	kII culi
NL	mebro	NL	khrO-	NL	kyAA	NL	kII culi
SL	mebro	SL	khrO-	SL	kyAA	SL	kII DAADa
WG	mebro/mepro	WG	khrO-	WG	kyAA	WG	kII/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 kII/kadaasU, Torke himculi, Yangjakot kII 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	taargya
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	mlOn.gyaa	SS	mxuIs ta-	SS	laa kyu	SS	ngyUwaI kyu
NP	mlOn.gyaa$_1$	NP	mxwIs ta-	NP	kyu laa	NP	kyu ngyUba
K	mlOnggyaa	K	mxuIs ta-	K	lala kyu	K	ngyUba kyu$_2$
EK	mlOgya	EK	mxwIs ta-	EK	kyu laa	EK	ngyUba kyu
CL	mlOkya	CL	naa rI-/	CL	kyu laa	CL	kyu sI
			mxuIs ta-				
NL	mlOkhe	NL	nxa rI-	NL	kyu laala	NL	kyu sI
SL	mlOnggyaa	SL	mxuIsa	SL	taato	SL	sI
WG	mlOke/	WG	mxuIs ta-/	WG	taato kyu	WG	cIso kyu
	mlOgya		naa rI-				
ET	mlOkyaa	ET	mwEsar	ET	taato	ET	cIso

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

[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 raIbu, 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

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		
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

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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: pxl *'carrying basket'*,
phl *'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
chyŏ *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 mbxl *'person'* and mbl *'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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