NOTES ON THE HAYU LANGUAGE

Boyd Michailovsky
Institute of Nepal and Asian Studies, Tribhuvan University
and
Martine Mazaudon
Institute of Nepal and Asian Studies, Tribhuvan University, and C.N.R.S., Paris

O THE HAYU

0.1 Literature

Brian H. Hodgson’s extensive articles on the Hayu language make it, after Nepali and Newari, perhaps the most-studied language of Nepal. But the Hayu themselves have received little attention, and they virtually dropped from sight in the literature for a century after Hodgson’s work.

Hodgson wrote only briefly on the anthropology of the Hayu, mainly a physical description of his informants. In addition, his linguistic articles include, as a Hayu text, the ethnographic observations of his informant, Pachya Hayu, whose village is unfortunately not mentioned. The information in the Linguistic Survey of India is based entirely on Hodgson’s data, except for census reports of the few Hayu who had migrated to India. Recently, Corneille Jest has published a brief note on the Hayu based on contact with the westernmost villages, particularly Hayugaun in Dumja-Kuseswar Village Panchayat, Sindhuli District. R. K. Shakya has described the Hayu just to the west of Ramechhap Bazaar on both banks of the Kosi along the road to Sindhuli Gadhi. The present notes are based on contact with the Hayu of Murajor in Sukajor Village Panchayat, Ramechhap District. The village is located two miles south-east of Ramechhap Bazaar; it overlooks the Sun Kosi from the north at an altitude of 3500-4000 feet.

0.2 Habitat

Everyone who has written on the Hayu has approached them from the west, and the eastward extent of their habitat remains in doubt. In the field, the present writers heard of no Hayu habitation more than a few miles east of Murajor, certainly not beyond the Likhu Khola, which marks the eastern boundary of Ramechhap District (or of the former East No. 2). Both Hodgson and Jest, however, report villages further east as well. The westernmost Hayu village is Walting, on the south bank of the Rosi Khola at the eastern edge of Kabhre-Palanchok District. Thus the Hayu habitat extends roughly thirty miles along the valley of the Sun Kosi, from the Rosi Khola in the north-west to the Likhu Khola in the south-east. The Hayu habitations, scattered along the slopes overlooking the Kosi up to about 5000 feet altitude, account for only
a small fraction of the population of the area. All observers have agreed in estimating their number at no more than a few thousands. Hayu habitations high in the Mahabharat Lekh and across it, south of the Kosi, are said to be quite recent.

0.3 Place in the Caste System

The Hayu, together with certain other tribes, traditionally occupied the lowest rank in the hierarchy of pure castes (i.e. castes from whom water can be accepted). In the Muluki Ain (National Law) of Nepal, codified in 1853, they were classified with the Sunwar and others as alcohol-drinkers able to be sold into slavery. Immediately above them were the non-enslavable alcohol-drinkers, the traditionally military tribes, including the Rai and Limbu. After the abolition of slavery in 1924, the term ‘prajājāt’ appears in the law with reference to the previously enslavable tribes. It refers to castes not recruited into the army. The new Muluki Ain of 1963 does not mention caste, and the Hayu are currently entitled to serve in the army.

0.4 The Hayu of Murajor

The present writers made no detailed ethnographic investigations, and what follows are merely notes on some aspects of Hayu life in Murajor that were observed or mentioned in the course of linguistic work.

The Hayu were the original inhabitants of Murajor; Chhetris have moved into the village within the last three generations from neighboring villages. There are twenty-five Hayu-speaking households divided between Barbot-Devithan and Bardada, about a mile away. The headman (mukhiyā) of the village has always been a Hayu, and the incumbent also serves as the ward member of the Sukajor Village Panchayat, where he represents Hayu and Chhetri alike. All of the inhabitants of Murajor are peasants, and all cultivate in the same way. The Chhetri, however, are generally more single-minded in the acquisition and cultivation of land, and the Hayu are losing ground. Even the traditional Hayu burial ground has been sold to a Chhetri. Both gourds are clearing inferior land, and some are leaving the area altogether, either to clear land in the Tarai or to find work in India.

The Hayu claim that their remote ancestor carried the sacred drum (ḍhol) from Lanka and Palanka in the south. Palanka is said to be on the next hill from Lanka. Brought to Murajor, the drum made the sound ‘ting-ting-ting’, indicating that it would go no further. The original Hayu was the youngest of several brothers; some say there were four, and that the other three went on ahead, leaving the Rai, Limbu, and Sunwar as their descendants. A similar Sunwar tradition, according to Alain Fournier, holds that the Kirati race is descended from five brothers: the Surel from the eldest and then, in descending order, the Sunwar, Rai, Limbu, and Hayu.
Hayu children catching an edible insect, *koksel*, (nep. *chichimirá*).
Hayu Pancha with slingshot
0.5 Clans

The Hayu are divided into clans, which fall into four exogamous groups. No explanation of the origin of clans was given. Some of the clan-names, in phonemic transcription, are as follows:

1. /diŋtitsbo/
2. /ba:luŋ/
   /riːme/
   /suː/
   /kamaettsho/
3. /doːphum/
   /bidabare/
   /balettsho/
4. /jakkum/
   /iːsore/
   /rotshiŋe/

The original Hayu is said to have been a Diŋtitsbo, and the Mulami or elder of that clan has certain ritual functions in consequence.

0.6 Festivals and Worship

The Kul Devata⁸ of the clan or of the smaller descent-group is worshipped in the original house of the descent-group on the day of tika, the tenth of the bright half of the month of Kartik. The worship should include the sacrifice of a pig.

A peculiarly Hayu festival of great importance is celebrated annually in Magh and Phalgun alternately. In early 1972 (2028 B. S.) it took place in Phalgun. It begins on the first Thursday after the new moon and lasts eight days, ending before sunset on Friday. The first four days are said to be spent dancing and singing at the house where the sacred drums are kept. The fifth day, a Tuesday, centers on the shrine of a rather fussy vegetarian Devi. In fact, the whole festival is referred to as ‘worship of the goddess’. On the seventh and eighth days the musicians (three singers, two drummers, one cymbalist) and dancers (a variable number of boys) go from house to house, followed by spectators. At each house they dance and sing and ask the blessing of the Devi. Finally, the mistress of the house serves them and the spectators beer from a gourd as prasad. After the tour of the village, which lasts two days, the instruments are replaced in their house and chickens are sacrificed there.

The Hayu make no use of Brahman or other outside priests. A Hayu priest makes offerings to the Devi every Tuesday.

The shaman, /ba:luŋ/, appear to serve only private functions, as medical practitioners and diviners. Some folk tales suggested, however, that they might have had community-wide ceremonial functions in the past.
0.7 Marriage

Although the Hayu of Murajor said that cross-cousin marriage was not permitted, such marriages were in fact common. The custom of paying a bride-price was said to have been abandoned by the Hayu, who remarked ironically that it had been taken up by the local Chhetris.

0.8 Death

The Hayu bury their dead. Traditionally, the body was tied in a sitting position, knees against the chest, and carried to the burial place in the fields by a son. It was then placed sitting at the bottom of a pit some five feet deep, together with rice, water and other necessities as desired. The cavity was roofed over with stones, and more were piled up to mark the spot. On the next day a pig was killed, and on the third day a feast was offered to the lineage. A married daughter of the deceased was fed first, and escorted home with presents of household goods. If the deceased were male, a set of clothing would be given to the son-in-law, if female, to the daughter. Another feast was held after a year. It was said that many of these rites had become rare because of the expense involved.

1 HAYU PHONOLOGY

1.0 Introductory

The language described is spoken in the village of Murajor, Sukajor Village Panchayat, Ramechhap District, Janakpur Zone, Nepal. There are roughly 200 speakers in the community, all of whom also speak the Indo-Aryan national language, Nepali. The speakers call themselves /wa:ju/ (Nep. háyu) and their language /wa:ju da:bu/ 'Hayu speech'.

It is not known whether Hayu is spoken outside of Murajor. Many Hayu villages in the area have given up the language in favor of Nepali quite recently, perhaps within the last twenty years. Some older people in these villages can still speak some Hayu. In Dumja-Hayugaun, Sindhuli District, the language has been dead for at least fifty years, and no one knows more than a dozen or so words today. Informants there reported that Hayu was still spoken in the village of Manedi, nine miles to the south across the Mahabharat Lekh, at head of the Marin Khola in Sindhuli District.

Although the exact provenance of Hodgson's informants is not known, it is clear that they spoke essentially the same language as described here. One or two important points of difference, either in data or in analysis, will be noted at appropriate points.

Hayu belongs to the Tibeto-Burman family of languages and appears to be closely related to some of the languages called 'Rai' in Nepal, but far too little is known about these to make any definite assertion.
The field work for the present study was carried out in Murajor from 23 February to 6 April 1972 and from 1 to 20 June, 1973. The principal informant was Mrs. Sukumari Hayu, aged about 50 years. Her brothers, the Village Panchayat Member, Mr. Padam Bahadur Hayu, aged about 45, and Mr. Krishna Bahadur Hayu, aged about 40, also contributed data.

1.1 SUMMARY: WORD AND SYLLABLE STRUCTURE

1.1.1 The Syllable

The syllable contains one and only one vowel (V) as the syllable nucleus. (The system of vowels is discussed in §1.2 below). There may be an initial consonant, (C1, §1.3) or a final consonant (C2, §1.4) or both.

1.1.2 The Word

The word contains one or more syllables. Phonologically, it has the following characteristics:

i. In addition to the system of syllable-initial consonants (C1) and zero, there is a very limited number of consonant-clusters (C3) occurring in word-initial position (§1.32).

Note that the system of consonant-clusters in the interior of the word, between two syllable nuclei (§1.5 and Table 2), is different from the system C3. In word-medial clusters, the first element functions as the final of the preceding syllable and the second as the initial of the following syllable. Thus all such clusters are of the form C2C1, and the limited nature of the system C2 severely restricts the number of possible combinations. Clusters of three or more consonants do not occur within word boundaries.

ii. Inside the word, a single consonant between two syllable nuclei functions as the initial of the following syllable.

iii. The word is the unit within which the rules of neutralization and of allophony apply. Many of these rules (§1.5) apply to the systems of C2 and C1 in word-interior C2C1 combinations.

Thus the following four positions are distinctive and determine the system of consonants that may occupy them:

- Word-initial
- Word-medial syllable-initial
- Word-final
- Word-medial syllable-final

1.1.3 Tone

Members of the Summer Institute of Linguistics have found somewhat limited tonal systems in two languages belonging to the same group as Hayu: Sunwar and
Khalinge Rai. In the light of this discovery and of the fact that certain apparent minimal pairs had cropped up in the data, the possibility of tonal oppositions was reinvestigated intensively for two weeks during the second field visit. Lists of words of similar structures were recorded together both in isolation and in frames to control intonational and sandhi effects. No distinctive or even consistent non-intonational pitch or melodic patterns were found. Meanwhile, the opposition [apical] vs. [laminal] was gradually developed from an earlier supposed [alveolar] vs. [palatal] opposition that applied only to non-aspirate affricates before non-front vowels. Now the opposition applies to all affricates and sibilants before all vowels, and it covers the otherwise unexplained minimal pairs, leaving only what informants resolutely identified as homonyms.

1.2 VOWELS
1.21 Vocalic Quality

The vowels of Hayu are as follows:

```
  front  central  back
  high  i       u
      i       u
  low   ε       o
```

The low front vowel will henceforth be represented by ‘e’ and the low back vowel by ‘o’. The following minimal set illustrates the oppositions between the seven vowel phonemes:

- ‘yoked’ /likta/
- ‘fallen, toppled’ /likta/
- ‘boiled over’ /lekta/
- ‘taken away’ /lakta/
- ‘come or gone out’ /lokta/
- ‘sorted’ /lukta/
- ‘turned over’ /lukta/

Hodgson used only five vowel signs (i, e, a, o, u) to record his data, but he was not entirely satisfied with the result. For example, /pukko/ ‘awaken him’ he records as “pu’ko (pokko)” and notes, “o and u, like i, e are hardly separable.”

Within the word, a vowel not immediately preceded by a consonant has a glottal-stop onset. In word-initial position, the glottal-stop onset is optional. Usually it is present if the preceding word ends in a vowel or if no word precedes immediately. This onset is not noted in the phonemic transcription. The following examples are disyllabic (v. §1.11):
Vocalic length is distinctive only in open initial syllables of polysyllabic words. In that position, each of the seven vowels has long /V:/ and short /V/ versions in opposition, making a system of 14 vowels. This opposition will be discussed further with examples in §1.53.

Phonetically, the vowels in closed syllables are always short. The phonetic length of vowels in open, non-initial syllables is rather short.

1.23 Nasality

Phonetically, nasal vowels also occur. Their distribution and interpretation are discussed in §§1.50f. below. They have been found only in initial syllables, and are all long except the following:

/hungulum/  ‘hole’
/phanjam/  ‘beside’
/pungurum/ or /pungurunj/  ‘a cactus’
/sinbi/ or /sinmi/  ‘a grass used for rope-making’

1.3 INITIAL CONSONANTS

1.31 Single Consonants

The system of syllable-initial single consonants, identical in word-initial and medial positions, is presented in Table 1. A neutralization affecting the system in word-medial C2C1 combinations is discussed in §1.52.

1.32 Initial Consonant Clusters

The consonant clusters found in word-initial position are the following:

<table>
<thead>
<tr>
<th>Bilabial</th>
<th>Velar</th>
<th>Fricative</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ /l/ : /pl/, /bl/</td>
<td>+ /l/ : /kl/, /khl/</td>
<td>+ /w/: /xw/, /hw/ [voiceless w]; both only before /a/ (Cf. Table 1 note c).</td>
</tr>
</tbody>
</table>

Examples:

‘money’ /pleŋku/
‘feather’ /blop/
‘leech’ /khlik/
‘earwax’ /xwik/
‘cubit’ /hlap/
‘star’ /xwa:men/
TABLE 1: Initial Consonants

<table>
<thead>
<tr>
<th></th>
<th>Stops</th>
<th>Nasals</th>
<th>Fricatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glottal</td>
<td>k</td>
<td>g</td>
<td>h</td>
</tr>
<tr>
<td>Velar</td>
<td>kh</td>
<td>η</td>
<td>x</td>
</tr>
<tr>
<td>Laminal/Palatal affricate</td>
<td>c</td>
<td>j</td>
<td>s</td>
</tr>
<tr>
<td>Apico-alveolar affricate</td>
<td>ts</td>
<td>dz</td>
<td>s</td>
</tr>
<tr>
<td>Dental</td>
<td>t</td>
<td>d</td>
<td>n</td>
</tr>
<tr>
<td>Bilabial</td>
<td>p</td>
<td>b</td>
<td>m</td>
</tr>
<tr>
<td>Continuants:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palatal approximant</td>
<td>j</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labio-velar approximant</td>
<td>w</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alveolar tap</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alveolar lateral</td>
<td>l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

a. The two affricated orders including the sibilants present considerable difficulties in hearing. In the case of the affricates, the palatal quality of /c/ and /j/ is evident only before non-front vowels; before front vowels the distinction is between [apical] and [laminal], e.g. in:

/dzi:ta/  ‘torn’
/fi:ta/   ‘sweet’

In the case of the sibilants, [apical] and [laminal] are the distinctive features in opposition before all vowels. /s/ has the optional allophone [ʃ], but the feature [grooved] is apparently non-distinctive, and the laminal /ʃ/ may optionally be executed with some grooving as well. A minimal pair is:

/ʃe:mem/  ‘they quarreled’
/se:mem/  ‘they fruited’

b. /x/ (IPA ‘chi’) has the allophone [ʃ] before high front vowels:

‘[carry] on the shoulder’  /ximha/  [çimha]
‘tomb’  /xum/  [xum]

c. /w/ occurs only before /a/ and /o/.

d. Minimal pairs illustrating the consonant oppositions are easily found in 2, “Index of Verbal Roots”; they are not listed here. An opposition not easily demonstrated, however, is /j/ vs. /zero/ before /i/ and /e/. Examples:

‘blood’  /ji/  [ji]
‘this’  /iː/  [iː] or [iʔi]
‘brain’  /jekpiti/  [jekpiti]
‘excrement’  /epPi/  [expi] or [ʔexpi]

The same opposition before /l/ is proved by three minimal pairs of verbal roots.
Some speakers had no labial + /l/ clusters, and simply pronounced labials instead, e.g. /peŋku/, /bop/. Hodgson also found some inconsistency in the use of these clusters; he made the generalization [not supported by the present data], “Every initial labial followed by a vowel admits ad lib of an interposed liquid. 12”

1.4 FINAL CONSONANTS

The system of syllable-final consonants (C2) is as follows, both in word-final and word-medial positions:

<table>
<thead>
<tr>
<th>Velar stop and nasal</th>
<th>k</th>
<th>η</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental stop and nasal</td>
<td>t</td>
<td>n</td>
</tr>
<tr>
<td>Bilabial stop and nasal</td>
<td>p</td>
<td>m</td>
</tr>
<tr>
<td>Alveolar tap (rare)</td>
<td>r</td>
<td></td>
</tr>
<tr>
<td>Alveolar lateral</td>
<td>l</td>
<td></td>
</tr>
</tbody>
</table>

The final stops, /k/, /t/, and /p/, are the archiphonemes of the neutralized oppositions between unvoiced, unvoiced aspirate, and voiced stops in final position.

1. 41 Realization of Word-final Consonants

In word-final position, the stops are realized unvoiced and unreleased, with simultaneous glottal closure: [ʔk], [ʔp]. The only exception occurs where the root of a verb is followed by certain auxiliary verbs that have voiced stop initials. In this case, the final stop of the verb root is realized voiced, with laryngealization. (Such verb root–auxiliary combinations cannot be regarded as single phonological words because of the non-application of other phonological laws (§1.5) at the morpheme boundary.)

Examples of word-final stops:

| ‘a lot’    | /sophop/ | [sophoʔp] |
| ‘intestines’ | /cot/   | [coʔt]   |
| ‘louse’    | /sek/   | [seʔk]   |
| ‘let him speak’ | /tt biːto/ | [tʔd biːto] |

1.42 Word-medial C2 Consonants

In word-medial syllable-final position, C2 consonants occur only in C1C2 combinations. This is a corollary of §1.12ii above.

The C2 /t/ and /l/ are always realized in the same way. The C2 stops and nasals in word-medial position are realized as in word-final position except that:

i. C2 stops and nasals, when followed by homorganic C1 initials, are realized as described in §1.51, below.
The notation C2h is used to avoid confusion with C2h glide reflection.

Classification of aspirated affricates is incomplete.

Notes:

<table>
<thead>
<tr>
<th>p</th>
<th>t</th>
<th>k</th>
<th>T</th>
<th>kH</th>
<th>T'</th>
<th>n</th>
<th>T'</th>
<th>ʃ</th>
<th>T'</th>
<th>ʃ'</th>
<th>T'</th>
<th>m</th>
<th>T'</th>
<th>m'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jp</td>
<td>Jt</td>
<td>Jk</td>
<td>JH</td>
<td>JT</td>
<td>JT'</td>
<td>Jn</td>
<td>JT'</td>
<td>ʃJ</td>
<td>JT'</td>
<td>ʃ'J</td>
<td>JT'</td>
<td>Jm</td>
<td>JT'</td>
<td>Jm'</td>
</tr>
<tr>
<td>ʃp</td>
<td>ʃt</td>
<td>ʃk</td>
<td>ʃH</td>
<td>ʃT</td>
<td>ʃT'</td>
<td>ʃn</td>
<td>ʃT'</td>
<td>ʃʃ</td>
<td>ʃT'</td>
<td>ʃ'ʃ</td>
<td>ʃT'</td>
<td>ʃm</td>
<td>ʃT'</td>
<td>ʃm'</td>
</tr>
<tr>
<td>k'p</td>
<td>k't</td>
<td>k'k</td>
<td>k'H</td>
<td>k'T</td>
<td>k'T'</td>
<td>k'n</td>
<td>k'T'</td>
<td>k'ʃ</td>
<td>k'T'</td>
<td>k'ʃ'</td>
<td>k'T'</td>
<td>k'm</td>
<td>k'T'</td>
<td>k'm'</td>
</tr>
<tr>
<td>k'p</td>
<td>k't</td>
<td>k'k</td>
<td>k'H</td>
<td>k'T</td>
<td>k'T'</td>
<td>k'n</td>
<td>k'T'</td>
<td>k'ʃ</td>
<td>k'T'</td>
<td>k'ʃ'</td>
<td>k'T'</td>
<td>k'm</td>
<td>k'T'</td>
<td>k'm'</td>
</tr>
</tbody>
</table>

C2:

Table 2: [C2C] combinations within the World's Broad Phonetic Transition
ii. C2 stops, when followed by voiced C1 initial stops, are realized as voiced, with laryngealization:

`bedbug` /bepdzere/ [beʔbdzere]
`crab` /tsekdi/ [tseʔgdi]

1.5 WORD MEDIAL CONSONANT-COMBINATIONS

1.50 Introduction and Tables

Phonetically, in addition to the finals already described, two new finals and a new feature, vowel nasality, are found in non-word-final syllables:

- Glottal stop [ʔ]
- Fricative [x] (after central and back vowels)
  - [c] (after front vowels)
- Vowels nasality [n]

Vowel nasality occurs only on open syllables. Thus it is in complementary distribution with the syllable-final consonants and can be treated together with them. In § 1.52, all three of these new syllable-final elements will be shown to be allophones of the finals presented in §1.4.

Table 2 shows all the word-medial C2C1 combinations that have been recorded in our data, in a broad phonetic transcription. ([c] is not distinguished from [x]; glottal stop simultaneous with final stops and voicing of final stops are ignored.)

Table 3 is a partial version of Table 2; the C1 considered have been reduced to only the nasals and unvoiced unaspirate stops. In addition, the the elements [ʔ] and [x] are treated as allophones of a single element, because they are found (Table 2) to stand in the complementary relationship:

- [ʔ] before nasals, /l/, /j/, and /w/
- [x] before stops.

Table 4 presents some verbal forms, again in broad phonetic transcription, to illustrate the rules of allophony and neutralization that apply to the C2C1 combinations at the boundary between root and affix.

1.51 C2 Followed by Homorganic C1

In Table 3, considering the system of C2 oppositions encountered before C1 = /t/, we find the non-nasals (stops) /p/ and /k/ and the nasals /m/ and /n/. /t/ and /n/ are absent, but [x] and [n] are present. Thus there is the same number of C2 oppositions as there is in word-final position, with [x] functioning as the allophone of /t/ and [n] as the allophone of /n/ before C1 = /t/. Table 4, col 1 illustrates the same change in the system of finals of verbal roots before initial /t/ of the imperative affix -/to/. Note that only the C2 homorganic to the following initial (here dental) have been affected,
<table>
<thead>
<tr>
<th>C1:</th>
<th>p</th>
<th>t</th>
<th>k</th>
<th>m</th>
<th>n</th>
<th>η</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>?/x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 4: Verbal Root + Affix Combinations in Broad Phonetic Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>affix gloss:</td>
</tr>
<tr>
<td>us’</td>
</tr>
<tr>
<td>affix:</td>
</tr>
<tr>
<td>—ponŋ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>root gloss:</th>
<th>root:</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘arouse’</td>
<td>puk</td>
</tr>
<tr>
<td>‘send’</td>
<td>piŋ</td>
</tr>
<tr>
<td>‘spread a mat for’</td>
<td>put</td>
</tr>
<tr>
<td>‘wash dishes for’</td>
<td>tshun</td>
</tr>
<tr>
<td>‘pin in wrestling’</td>
<td>dip</td>
</tr>
<tr>
<td>‘give food to’</td>
<td>mum</td>
</tr>
<tr>
<td>‘give to’</td>
<td>ha</td>
</tr>
<tr>
<td>‘thin out a crop for’</td>
<td>sel</td>
</tr>
</tbody>
</table>
In the systems of oppositions before /k/ and /p/ (Table 3), holes appear in the chart wherever a stop or nasal would be followed by a homorganic stop, and [x] and [n] are again present. The picture is complicated, however, by the absence of the combinations /tp/ and /pk/ (as, indeed, of all labial+velar C2C1 combinations throughout the system; see §1.52). Table 4 confirms that the pattern established before C1 = /t/ also holds before /k/ and /p/. The finals of the verbal roots /puk/ and /pin/ become [x] and [n], respectively, before the homorganic (here velar) initial of the affix -/koŋ/. Similarly, the roots with labial finals, /dip/ and /mum/, are realized as [dix] and [mun] before the homorganic initial of the affix -/poŋ/.

From Tables 3 and 4, the system of oppositions of stops before nasals is also quite clear: Each stop has the allophone [?] when followed by the homorganic nasal.

The system of allophony described above can be expressed in three rules, which are here extended to cover the complete C2C1 system of Table 2:

i. C2[stop] is realized [x] before homorganic C1[stop].

ii. C2[stop] is realized [?] before homorganic C1[nasal or liquid].

iii. C2[nasal] is realized [n] before homorganic C1[stop or sibilant].

Both the palatal and the alveolar orders of C1 are treated as homorganic to dental C2. Cf. the forms [buxcan] ‘headband for carrying’, from /but/ ‘to carry’ and -/can/ ‘instrument for—’ and [khoxse] ‘Cook it for yourself!’, from /khot/ ‘to cook’ and -/tse/ ‘reflexive imperative’. For C2 before /l/, cf. verbal forms with the affix -/luŋ/ ‘receptacle for’ e.g. ‘hitching post’ /potluŋ/ [poʔluŋ], from /pot/ ‘to attach, tie’. The combinations [?]j, [ʔw] and [mr] found in Table 2 are treated in §1.61.

The three laws above share one interesting principle: in each, three different phones share a single allophone, but all phonological distinctions are preserved. No neutralization of the oppositions between finals occurs. This is because, at every occurrence, the finals [x] and [?] unambiguously represent the stop, and [n] the nasal, homorganic with the following initial. Thus:

- 'gourd' /ponti/ [ponti]
- 'monkey' /rintsho/ [rintsho]
- 'below' /loŋkha/ [lonkha]
- 'butter' /l̥ŋku/ [l̥ŋku]
- 'tongue' /l̥ŋga/ [l̥ŋga]
- 'a chill' /dzunsa/ [dzunsa]
- 'rain' /natnum/ [naʔnum]
- 'child' /tsotla/ [tsotla]
- 'woman' /mttsho/ [mttʃho]
- 'bird' /tsittsi/ [tsiʃtsi]
- 'nut' /kattu/ [kaxtu]
- 'barley' /sakka/ [sakka]
1.52 Neutralization Affecting C1 in C2C1 Combinations

The absence of velar + labial C2C1 combinations (Tables 2 and 3) has been noted above. The shift of the verbal affixes */konj/ and */nom/ to */ponj/ and */mom/ respectively, after roots with final labials (Table 4, col. 2 and 5) suggests the following law of neutralization:

Following C2 [Labial] the opposition C1 [velar] VS. C1 [labial] is neutralized in favour of the labials.

The archiphanomes resulting from the neutralized opposition between the features [velar] and [labial] are represented phonemically by the capitalized labials (e. g. /P/, /M/) in accordance with their phonetic realizations. Thus:

- 'day' /nupMa/ [nu?ma]
- 'excrement' /epPi/ [expi] or [?expi]
- 'father's elder brother' /themPu/ [thenpu]
- 'ginger' /simPHi/ [sinphi]
- 'penis' /khomBe/ [khonbe]

1.53 C2 Deletions and Vocalic Length

Two of the remaining gaps in Table 2, the absence of */t.s/ (which would be distinct from /ts/ because of the glottal stop associated with C2 /t/) and the absence of geminate nasals, find an explanation in Table 4, where the /t/ final of a verb root is deleted before C1 /s/, and the nasal finals of verb roots are deleted before identical nasal C1. In both cases, the open syllable left by the deletion of the final consonant of the root contains a short vowel, while the vowel of a verbal root that has no C2 final (e. g. /ha/ in Table 2) is invariably long. Thus, such pairs as the following can be produced in great number:

- /pisuŋmi/ ‘he brought for me’ from /pit/
- /pi:suŋmi/ ‘he sewed for me’ /pi/
- /tunom/ ‘I will nourish you’ /tun/
- /tu:nom/ ‘I will comb for you’ /tu/
- /piŋom/ ‘he will send me’ /piŋ/
- /pi:ŋom/ ‘he will sew for me’ /pi/

Here it appears that the phonemically short vowel of the initial open syllables is in origin the phonetically short vowel of a closed syllable and that it remains short after the syllable-final consonant has been deleted.

Inverbs, these are the only phonemically short vowels that occur. Since neither */t.s/ nor geminate nasals occurs in other words either, it is reasonable to suppose that phonemically short vowels before nasals or /s/ are the result of the same deletions as are observed in verbal morphology.
It is worth considering whether all phonemically short vowels can be interpreted as resulting from deletion of finals. In nouns, both phonemically long and short vowels are found before virtually all C1. The only simple explanation of short vowels based on the system of finals presently found in Hayu would be to attribute their occurrence before stops to deletion of C2 /t/, since C2C1 combinations of /t/ + [stop] almost never occur—the only exception being in verbal morphology where root-final /t/ is followed by ending-initial /k/—whereas all other finals except /t/ are seen not to be deleted before initial stops. This interpretation fails because phonemically short vowels occur frequently before dental and affricate stop initials, where all of the finals (including /t/, represented by [x]) and long vowels also occur, (e.g. /buti/ ‘grain cooked in water’; /hita/ ‘later’). In other words, there is no missing final opposition for vowel length to replace. Similarly, all known finals plus both short and long vowels occur before /l/ and /r/. Thus no complete, synchronic reinterpretation of vocalic length seems possible. We therefore retain vocalic length in our phonemic transcription even before initial /s/ and nasals, where the feature [short] could be presented as an allophone of existing C2.

1.6 RESIDUE
1.61 Unexplained [?] and [n]

There are three cases where /?/ and /n/ have been left in the phonemic transcription because they could not be interpreted as allophones of C2 finals.

The occurrence of /kj/, /tj/, /pj/, and /?j/ seems anomalous. The first three combinations have appeared only where the affix -/ji/ ‘-er [actor]’ is added to verbal roots; the last only occurs in nouns, with no evidence to show what it acts in oppositions with:

‘rat’ /tsu?ju/
‘axe’ /kho?jon/

The significance of [nr] is doubtful because /r/ itself is rare and there are few examples of it following nasals:

‘paddle to beat clothes’ /denri/
Similarly, /?w/, of which there is one example, is difficult to account for:
‘blouse’ /cu?wa/ (cf. /cup/ ‘to wear’)

1.62 Reduplicating and Onomatopoeic Words

A whole series of anomalies is found in adverbs and adjectives of the reduplicating and onomatopoeic types. The reduplication often leads to C2C1 combinations not normally permitted or to initial clusters in the middle of the word. Words of this type, whether or not they show phonological anomalies, have been split with a hyphen and are considered phonologically as two words:
'round' /pem-peremu/ [pemperemu]
'vertical' /kaŋ-kaŋ/ [kaŋkaŋ]
'bad tasting' /kham-kham/ [khamkham]
'tasteless' /plom-plom/ [plomplom]
'bright' /daŋ-daŋ/ [daŋdaŋ]
'straight' /tseŋ-tseŋ/ [tseŋtseŋ]

The same notation is used for one other, non-redundative word, which unaccountably has an anomalous combination:

'now' /um-be/ [umbe]

Optional expressive gemination in onomatopoetic words is not taken into account in the phonemic transcription:

'bang' /bleŋa/ [bleŋŋaŋa]
* * *
NOTES
7. Personal communication, 20 August 1972.
10. *Essays* v. i. p. 249 n; see also p. 266 n.
11. Three of our verbal roots in sibilant initials before front vowels were noted by Hodgson as 'kh-'; to one of them he adds the note, "Kh of khisto is a very peculiar sound, verging upon a vague th or hard h or Sanskrit ksh: kh [Hodgson uses italics here as a notational device for a different sound] is hard Arbaic, without the least vagueness, as in khwasto, to tighten." (p. 29) Hodgson's examples are our /sitto/, [sixto], 'rub it!' and /xwatto/, [xwaxto], 'tighten it!' He clearly means that the 'very peculiar sound' (our /s/ our /ʃ/) was distinct from /s/, /ʃ/, and /kh/.

12. * * *