

## PROTO-VIET-MUONG PHONOLOGY

Laurence C. Thompson  
University of Hawaii

1. *Introduction.* The relationship between Vietnamese and Muong has long been recognized. Henri Maspero (1912) collected vocabularies from several dialects of both languages and studied in particular the intricacies of the great mass of loanwords from Chinese, presenting the results in a long monograph on Vietnamese historical phonetics. His summary of the characteristics of Muong (1912:4-5) presupposes reconstruction; he outlines a system for 'préannamit (close to what we would today call Proto-Viet-Muong) and reviews the phonological evolution to modern Vietnamese dialects (111-14), but provides no body of reconstructed forms. In the course of ethnographic field research Jeanne Cuisinier recorded a set of ritualistic texts in one Muong dialect and collected sample adjunct vocabulary in 17 other Muong communities, representing quite extensively the apparent dialectal spread. In her introduction to the published version of these texts and vocabulary lists she summarizes the correspondences between Muong and Vietnamese (Cuisinier 1951:5-10), but adds nothing further to the comparison. The general outlines of a reconstructed phonological system and a concise statement of developments in the two languages are given succinctly in Leroi-Gourhan and Poirier (1953: 528-9; quoted in Wilson 1966:203-4, where Cuisinier's comments are also summarized); one sees here the

rights of Haudricourt, about which more below.

The further relationships of this little linguist-family have been less clear, however. Although affiliation with Mon proposed well over a century (Logan 1852:658) was accepted by many later scholars, Maspero's own view (1912:114-17) was that ancestor language reflected a fusion of dialects--Mon-Khmer, Tai, and perhaps a third type of unknown affiliations, with Tai exerting the dominant influence. For him the fact that Vietnamese and Muong tone languages constituted an insurmountable barrier to a genetic relationship with the non-tonal Mon-Khmer tongues. The outstanding quality of Maspero's careful, thorough work assured some prestige to his picture of the relationship; non-believers in 'mixed' languages could lean toward a genetic connection with Tai. It was André-G. Haudricourt (1953, 1954b) who set the matter straight, showing a heavy concentration of words apparently related to Mon-Khmer languages in the area of basic vocabulary, while those resembling Tai words were more often of the type frequently borrowed. At the same time he cited correspondences for Vietnamese tones in certain Austroasiatic languages and demonstrated how these tones may well have arisen.

Viet-Muong, then, seems clearly Austroasiatic. On the basis of lexicostatistic counts Thomas and Bradley (1970) relate it closely to their broadly conceived Mon-Khmer--in fact, consider it reasonably placed as a Mon-Khmer subgroup. They add to this group three languages coordinate with Vietnamese and Muong: May (Ruc), Arem, and Tay Pong, on the basis of short word lists published by Vuong-Hoang-

14

Tuyen (1963). Actually Vuong-Hoang-Tuyen considers these all forms of Muong (1963:68 and fn. to plate VIII at end of book), although his presentation is confusing: in addition to the lists thus labeled he has a list he calls simply 'Muong,' probably a Hoa-binh province dialect. (An Indo-European analogy would be presentation of lists in three or four Swiss German dialects, identified by village names, beside a list headed simply 'German.')

The locations for May, Ruc, Arem, and Tay Pong agree with locations for Muong speech given by Maspero (1912:3-5), who cites forms from fifteen dialects (for seven of which he himself recorded vocabularies) and speculates (5) that perhaps as many more remained unrecorded. These dialects are spoken by small groups in mountain valleys in a long line of sometimes widely separated enclaves from the Black River of northern Vietnam southward to Quang-binh province. We should scarcely be surprised to find considerable diversity among dialects so scattered. Although the published word lists are severely limited, they do provide equivalents for a number of common words. Thus it is possible to see that Vuong-Hoang-Tuyen's May, Ruc, and Arem, spoken in the northern mountains of Quang-binh province, show forms for the most part very similar to those cited by Maspero for the Muong dialects designated Nguon and Sek in the same region. Similarly, what Thomas and Headley designate a separate language Tay Pong (Vuong-Hoang-Tuyen's list for a Muong dialect in the Tuong-duong district of Nghe-an province) looks very similar to citations from Muong dialects in the same district called Hung and Khong-kheng by Maspero. Haudricourt (1966)

recognizes the close relationship of May, Ruc, and  
m with Nguon and Sek (better termed Sach) and of  
Pong with Hung and Khong-kheng, and signals the  
obvious affinity of all these forms of speech to the  
Vietnamese-Muong complex. Just how many mutually  
intelligible languages are actually involved is  
problematic: indications of mutual intelligibility  
are lacking and the word lists representing the little  
known dialects are both short and internally inconsis-  
tent phonetically. The picture is complicated, too,  
by our limited information on the Haut-Annam dialects  
of Vietnamese, which are surely quite divergent from  
the standard language. In any case, it seems clear  
that full consistent materials on these neglected  
dialects of the complex will make possible a much  
improved reconstruction with, in particular, a  
considerably richer inventory of initial clusters.

Recently Vietnamese-Muong comparison has been  
taken up by Milton and Muriel Barker, who have col-  
lected materials from Muong speakers relocated in  
north-central Vietnam during the hostilities, con-  
centrating on a dialect originally of Hoa-binh pro-  
vince called Khen /xen./ (apparently from the same  
village as Cuisinier's main texts). They have re-  
constructed initial labial consonants (Barker 1963)  
and vowels and final consonants (Barker and Barker  
1960) and provided extensive exemplification of  
initial correspondences (Barker 1966); the last paper  
is supplemented by notes on tone reconstruction by  
David D. Thomas (1966). The labial reconstructions  
have been reconsidered by Eric Hamp (1966), bringing  
to bear the theory of phonological distinctive  
features. On the Vietnamese side these reconstruc-  
tions are based primarily on northern speech, with

some adjustments in terms of information suggested by the official writing system. Etymologies offered substantiating the reconstructed vowels and finals also include reconstructions of individual forms, but initials other than labials are not discussed.

It now seems appropriate to reconsider the entire Viet-Muong comparison and offer a unified treatment with full reconstructions and citation of all recognizable etymologies. The early materials (in addition to the forms cited by Maspero 1912, Cuisinier 1951, and Vuong-Hoang-Tuyen 1963, some vocabulary is provided by such publications as Cadière 1905 and Chéron 1905, 1907) are quite limited and, except for Maspero's, lack consistent phonological representation, making systematic comparison and reconstruction difficult or impossible. But they do afford a wide view of dialectal diversity, and the forms are useful both for confirmation and for the hints they offer toward meaningful reconstruction. The Khen material on the other hand, present internal consistency and more extensive coverage of the lexicon. To the etymologies offered by the Barkers in the papers cited above I have added Vietnamese cognates for Khen words provided in other sources (all ultimately material recorded by the Barkers): in the phonemic description (Barker 1968); the Muong list given by Thomas and Headley (1970:411-16); and an unpublished word list dating from 1963 generously made available by Kenneth Gregerson. In a few cases I have substituted what seem like better Vietnamese cognates in the original Barker etymologies. I have expanded the Vietnamese attestation to include Saigon dialect forms (as well as those of Hanoi) wherever possible

particular it has seemed important to bring in the evidence of an earlier stage of Vietnamese; so I have led the available cognates from the Vietnamese-Portuguese-Latin dictionary of the seventeenth century (deRhodes 1651). Earlier scholars have frequently cited forms from this dictionary, and Maspero (1912) of course regularly takes this material into account. Eugénie Henderson (1966a) has studied particularly the initial clusters with *ʃ* in comparison with Khasi words with complex initials.

Section 7 below lists the entire body of comparisons considered, with reconstructions wherever they are warranted.<sup>1</sup> References to this glossary are made throughout the body of the paper by English gloss.

In order to afford easy comparability, both Vietnamese and Muong forms in this paper are presented in phonemic transcription. In general, however, phonemic slashes are omitted except where they are needed for clarity. Vietnamese (Vn) phonemes are presented as follows, characterized in terms of Hanoi (Hn) (northern) pronunciation: tense stops: voiceless unaspirated /-p t c k ʔ/ (/p/ occurs only finally; /c/ here and elsewhere represents a palatal), voiced preglottalized imploded /b d/; lax consonants: voiceless /f t' s x h/, and voiced /v l z g/; nasals /m n ñ ŋ/; vowels: non-back /i e ε ǎ a/, back rounded /u o ɔ/, back unrounded /ĩ ẽ ə/; semivowels /-y w -ə/; tones (written last in syllable): high rising /'/, high rising laryngealized /ˀ/, mid-high trailing (unmarked), mid-low dropping-rising /˨˨˦/, low dropping tense (with final stops) or laryngealized (otherwise) /./, low trailing /˨˨˦˨˨˦/. Note that the semivowel /ə/ is written with the

symbol used for the homorganic vowel; no confusion need arise since it always follows a more prominent vowel. Among the tonal contours, *dropping* refers to an abrupt fall, *trailing* to a slower fall. Saigon (Sg) (southern) speech involves a number of differences: it has a retroflex set of consonants /ʈ ʂ r/ and /y/ appears in initial position, but it lacks /z/ and, for many speakers, also /v/. Other speakers pronounce [by] (with a simple lax [b], not preglottalized) or [vy] in careful speech, but these tend to be replaced by simple [y] in faster casual conversation; in this paper these facts are summarized by writing /by/. Certain tones are different: /~/ is lacking, and /' / is mid rising, /./ low level (before final stops) or dipping. There are several differences of distribution, which will be discussed in connection with pertinent correspondences. (For details on Saigon speech and other dialects, see Thompson 1965: chapter 4, and the references cited there; see also Henderson 1966b for more details and a prosodic analysis.)

Muong (Mg) is quite similar to southern Vietnamese in phonological structure. The Khen dialect (as described by the Barkers) lacks the Saigonese /ʈ ʂ/, but has a flap /r/; it also has initial /p/ and /tʎ/ (a voiceless alveolar stop with lateral release); /v/ is entirely absent. The tones are high rising /' /, high mid level (ending in glottal stop unless the syllable ends in another stop) /-/, mid level (unmarked), low rising constricted (i.e., presumably, laryngealized) /./, and low falling /` / The Barker papers cite Muong forms using the spelling system they have developed, which is based on stand-

namese orthography and seeks to maximize the relationship of words in the two languages. This feature makes it difficult to separate the identities from the systematic differences, which provide the most convincing testimony of genetic relationship. It also leaves doubt on a few points of phonetic detail. For further details on Muong Khen, see Barker (1968).

The language reflected in the deRhodes (1651) dictionary, which we shall call Middle Vietnamese (Hanoi), seems to have had a system of tones, syllabics, and finals much like that of modern northern Vietnamese, but a more extensive set of initials: voiceless stops /t c k/, retroflex /t̚/, and presumably voiced (presumably imploded) stops /b d/ and /j g/, (/dʲ/ probably a palatalized dental stop occurring with a full cluster [dy], /j/ like Italian /j/); apparently aspirated stops /p' t' k'/; voiceless spirants /h s ʃ/, of which the last was likened to Portuguese *x* of the period; a voiced bilabial fricative /β/ and presumably a semivowel /w/ (with diphthongization between the two in some words); nasals /m ñ ŋ/ and liquids /r l/. As in modern Hanoi Vietnamese, /w/ clustered with most non-labial initials; in addition there were common initial clusters /tʰl- ml-/. Kenneth Gregerson (1969) has done a thorough study of the phonological system implied by the deRhodes dictionary orthography, using careful phonological methods to interpret deRhodes' description of Middle Vietnamese sounds, and making a number of observations on Vietnamese linguistic history. (Friberg 1972 also utilizes information on Vietnamese in developing a generative framework for Vietnamese dialects.) There are many inconsistencies in spelling in the dictionary and a number of



indications of variation patterns. The work deserves a full-scale analysis which has yet to be undertaken.

The Chinese (Ch) loan material is obviously of great importance in the study of Viet-Muong linguistic history, as Maspero (1912) has already demonstrated. Haudricourt (1954a) has called attention to more subtle effects. Mineya (1972) has just presented a thorough treatment, which see for details and for reference to earlier studies. At this writing it seems apparent that much Chinese material was borrowed at a time antedating a number of the regular sound shifts that separated Vietnamese and Muong, and it may be that they are to be construed as loans in PV. For this reason the words of Chinese origin have not been segregated in the present comparison, although attention is sometimes called to their provenience.

2. Procedure. In our consideration of the Muong-Vietnamese relationship we shall cite Muong forms first, followed directly by Hanoi Vietnamese forms for comparison. We shall often cite also Saigon and Middle Vietnamese forms. This order (Mg : Hn : Sg : MVn) will be rigidly observed in order to avoid the necessity of repeating abbreviations. Where only two forms are cited they are to be understood as Mg : Hn. Forms in variation are separated by a slash; the more common variant is cited first. In cases where a form is not available in one or another dialect, a dash appears where the cognate should be. For example, /pɔl voy -- βoy/ 'lime (substance)' means that the corresponding Saigonese word is not available in the material (although it may well exist); /pëy- vëy' byëy' --/ 'with' means that a cognate has not been found in the deRhodes

ionary. Examples cited have regular correspondences throughout except as noted.

The Muong peoples have long lived in areas under Chinese administration. We should therefore expect a good deal of diffusion has taken place, but recognition of loanwords is no easy matter. We shall attempt here to identify at least the most important ones, but much remains to be done along these lines. Generally speaking, words in a comparison that are similar either reflect close genetic relationship or recent borrowing. Recurrent correspondences involving substantial phonetic differences suggest either more distant relationship or earlier diffusion. If languages are closely related, as Vietnamese and Chinese clearly are, there should be many cognates; in comparison of such languages words that are very similar, but which involve a poorly attested correspondence of identical or nearly identical sounds, are almost certainly borrowings. We shall then attempt to evaluate sound correspondences in those terms, regarding them stronger (more likely reflecting genetic relationship) if they involve substantial phonetic differences (e.g. *non-identities* /t : d, b : m/ as opposed to *identities* /d : d, m : m/), or if they are presented in a large number of examples. Further, correspondences are considered to be *supported* by appearance of regular non-identical correspondences elsewhere in cognates that exemplify them. For example, /n- : n-/, itself an identity, is supported by the etymology /nol. : noy'/ 'connect, connect' with the regular non-identical correspondence : -y/. In order to insure a conservative approach, no tonal correspondences are considered sup-

porting; among vocalic correspondences /-u : -əw, -  
-əw, -i : -əy/ are considered strongly supportive,  
/-ɛ- : -ǎ-, -ë- : -ï-, -ə- : -ï-, -a- : -ĩə-, -ɔ- :  
-uə-/ more weakly so; the rare consonantal correspon-  
dence /-m : -Ø/ is also judged to lend only weak su-  
port. Since we are primarily concerned with possible  
borrowings between Muong and Vietnamese, we shall not  
recognize as supportive non-identities in the corres-  
pondences among Vietnamese dialects arising from  
secondary developments (e.g. /-n -n -ŋ -n/ reflects  
a regular shift in central and southern dialects,  
where final apicals have become velars except after  
/i e/). Correspondences represented in few etymolo-  
gies are not necessarily weak, however; we must remem-  
ber, for example, that consonant clusters are typi-  
cally less frequent than the individual consonants in-  
volved in them, so that infrequently attested corre-  
spondences may well reflect earlier clusters rather  
than individual phonemes.

Many etymologies lack a cognate in Sg or MVn or  
both. In cases where no ambiguity arises about what  
the Sg or MVn reflex would be (based on the full  
etymologies), these items are counted as further ex-  
emplifying the Mg : Vn correspondence. But where  
ambiguity arises or where cognation is in doubt the  
etymologies are not counted. (In some cases the  
Vietnamese standard orthography offers fair assurance  
of what the MVn or Sg reflex should be, and this  
information is utilized unless there are indications  
it is problematic.)

3. Tones. Vietnamese standard orthography  
distinguishes six tones, all distinctions recognized  
in northern speech; central and southern dialects

only five tones, and Muong Khen is likewise described with a five-tone system. Comparison makes clear that the history of the languages can be more fully understood if we recognize an underlying eight-tone system, quite parallel to that of the Chinese and Thai families. (For a clear explanation of the Thai system as a convenient introduction to this type of structure see F. K. Li 1966; for a survey of tonal developments of this sort see Haudricourt 1961.)

Haudricourt (1954b; conveniently summarized, pp. 47-51) has offered convincing evidence that the Vietnamese tones originally developed as automatic pitch adjustments to original syllable-final sounds of different sorts, phonemicized (phonologized) when some of these distinctions were lost. Apparently the later tonal contours subsequently acquired further automatic pitch qualities, beginning with relatively high tones for voiceless initial consonants and relatively low tones for voiced initials. When still later these distinctions of voicing were lost, the pitch features were again phonemicized, doubling the number of tones. It is convenient to refer to this later development as a split in *register*.

For standard Hanoi speech the results are as follows:

	<i>Original Initials</i>	<i>Original Finals</i>		
		<i>A Non- Obstruents</i>	<i>B Voiceless Stops</i>	<i>C Voiceless Spirants</i>
1	Voiceless	(unmarked)	'	˘
2	Voiced	˘	.	˘

There is internal confirmation of this system in Vietnamese, as I have tried to show (Thompson 1969). In Saigon speech, as in other southerly dialects, the C category is not split: /<sup>v</sup>/ does duty in both C1 and C2 syllables. Actually, the B category involves syllables of two different types in the modern dialects and in Middle Vietnamese--those ending in /-p -t -c -k/, which we may designate D; and all others, which we shall continue to call B. On the basis of some cognates in Palaung-Wa languages Haudricourt suggests these B syllables earlier ended in glottal stop.

Now in Muong Khen the system is:

<u>Register</u>	<u>Original Initials</u>	<u>Original Finals</u>			<u>Oth</u> <u>St</u>
		<u>A Non- Obstruents</u>	<u>B Glottal Stop</u>	<u>C Voiceless Spirants</u>	
1	Voiceless	(unmarked)	.	'	
2	Voiced	`	-	-	

Here we see that D1 syllables have a tone resembling that of C1 syllables, while in Vietnamese D1 tone identical rather with B1. In the second register, however, B, C, and D tones have all fallen together.

Once the D tones are separated out, the correspondences are more easily stated:

	<u>MgKhen</u>	<u>Vn(Hn)</u>		<u>MgKhen</u>	<u>Vn</u>
A1	(unmarked)	(unmarked)	C1	'	
A2	`	`	C2	-	
B1	.	'	D1	'	
B2	-	.	D2	-	

- 1 h t' t' t' 3 (s s s) 10 x s s s 26 h h h h
- 2 [x z y j]3
- 3 [f f f p']18 t' t t t 16 [t' t' t' t']24 (x x x k')10 (???)
- 4 p b b b 52 t d d d 46 (t t t t) 16 c c c c 46 k k k k 51
- 5 p v by β 13 t z y d v 6 c z y j 13 k g g g 13
- 6 b v by β/w 15 [d z y d v]4 [y z y j] 9
- 7 [b b b b]2 [d d d d]4 [g g g g] 3
- 8 b m m m 13 d n n n 13 ñ ñ ñ ñ d v / ñ 4 [y ñ ñ ñ d v / ñ]2
- 9 m m m m 83 n n n n 20 (ñ ñ ñ ñ) 5 (0 0 0 0) 22
- 10 w v by w 15 l l l l 46 r z r r 19 y z y d v 7
- 11 [t l c t b l]3 t l c t l 15 t' z r r 15
- 12 t l z t b l 3
- 13 l l / ñ l m l 2
- 14 [x w x w -- k' w]2
- 15 [t t w t w t w]4 (k w k w k w)9

A number of words which otherwise show regular correspondences are irregular in tonal register; e. /pëy-/ (B2) : /vëy'/ (B1) 'with'--that is, the Mg form suggests an original voiced initial, the Vn wo a voiceless one. We shall return to this matter in connection with our consideration of initial consonants. There are also cases in which the tone category correspondence is irregular; they are too few reveal any recurrent pattern, so will have to be relegated to unexplained residue at this time. (Some are perhaps vestiges of old morphological differences, others may be simply chance resemblances.)

We shall see that tone register is regularly predictable in terms of other elements, so that we can reconstruct just four tones. Since syllables of the D category always end in stops (and they are the only ones that do), we need not indicate the D tone in reconstructions; other tones are reconstructed \*A, \*B, and \*C, as described above. Further details about register are tied up with the reconstruction of initial consonants; we shall discuss them in the following section, where tone correspondences are also extensively exemplified.

4. Initials. Table 1 groups according to phonetic content the recurrent correspondences of syllable initials observed in 775 lexical sets, together with the number of etymologies in which each occurs. Solid underlining indicates occurrence only with first-register tones, broken underlining only with second-register tones. Parentheses enclose correspondences that are supported only by non-identities of the weak variety; brackets enclose those without supporting non-identities; other correspon-

es are strongly supported. Lines are numbered  
reference in the following discussion.

The table attempts to emphasize apparent paral-  
sms. Correspondences involving labials are placed  
the first column, those involving apicals in the  
nd, palatals in the fourth, velars in the fifth,  
ngeals in the sixth; the third column contains  
flow from both apical and palatal columns. Lines  
assemble correspondences involving spirants and  
rates, 4-7 include those involving unaspirated  
s, 8 mixed stops and nasals, 9 nasals, 10-13  
r sonorants, 14-15 sequences with /w/.

The general outline of the proto-system seems  
ent from the strongest correspondences, and paral-  
sm helps establish phonemes based on less strongly  
orted sets. The four strong correspondences of  
4 suggest a series of stops in labial, apical,  
tal, and velar positions. ?- ?- ?- ?- in the  
column is less well represented, but we note im-  
ately that it occurs only with first-register  
s. This is precisely the distribution we should  
ct if we are dealing with original \*?-, which  
d have no voiced counterpart, and the frequency  
oaches half that of the other correspondences.  
rently, then, original voiced and voiceless stops  
ed in both languages, leaving only tonal register  
erences. We reconstruct, then, \*p-, \*t-, \*c-,  
\*?- with first-register tones, and \*b-, \*d-, \*j-,  
with second-register tones. The third column  
ains a relatively infrequent and weakly supported  
espondence which, however, occurs with both  
sters; it seems outside the pattern established  
he well attested sets, and we shall return to it



later.

Line 9 suggests parallel nasals. The first column contains the strongest correspondence of all that of the second column is far less frequent, but also well supported. The fourth and fifth columns offer sets that are less strongly represented, but palatal and velar nasals are well attested in syllable-final position and parallelism with the stops supports their reconstruction as initials. As these sets accompany tones of both registers, so we must again be dealing with an original voiced-voiceless opposition. Let us reconstruct \*hm-, \*m-, \*hn-, \*n-, \*hñ-, \*ñ-, \*hŋ-, \*ŋ-, leaving open for the moment the question of whether the voiceless elements were single phonemes or clusters.

Line 10 contains another strong correspondence which indicates original \*hl-, \*l-. (Actually, it is probably even more frequent than the 46 examples noted suggest: an additional 10 etymologies lack a MVn cognate, so cannot surely be separated from the correspondence in line 13.) The third column set of line 10 is less frequent, but also well supported; it indicates parallel \*hr-, \*r-. At this point we may pause to consider the correspondences in lines 11-13 which for the most part clearly suggest original clusters; in those of the first two columns we recognize a lateral element, while lines 14 and 15 prompt us to seek evidence for a semivowel of w-type. The first correspondence of line 10 presents appropriate reflexes; thus \*hw-, \*w-. Parallel \*hy-, \*y- are suggested by the set in the fourth column; the reflexes indicate a hardening of \*y to /dʲ/ in MVn, a presumably a later development in Hn /z/, reminiscent

similar elements in certain Romance languages.

We have now accounted for all the extensively presented correspondences (with over 40 examples) and have proposed the following system:

*p-	*t-	*c-	*k-	*ʔ-
*b-	*d-	*j-	*g-	
*hm-	*hn-	*hñ-	*hŋ-	
*m-	*n-	*ñ-	*ŋ-	
*hw-	*hl-	*hr-	*hy-	
*w-	*l-	*r-	*y-	

The developments from \*(h)y- are helpful in concerning the correspondences of lines 5 and 6, which show parallelism with line 4, but drastically fewer examples: they could, then, easily reflect the development of sequences longer than single phonemes.

In the second column we note that the Vietnamese reflexes show precisely the same reflexes as for the dental semivowel, while Muong has stops. Similarly, in the first and fourth columns there are correspondences involving /y/ in Sg and a voiced spirant in

The Mg reflexes show a voicing influence in line 6. In line 5, however, Mg has consistently a voiceless stop, including the set in the velar column. It seems reasonable to suppose that \*y may have acted as a voicing influence in both languages, extending also toward spirantization in Vietnamese. So, then line 6 may be accounted for by clusters of the stops of line 4 with a following \*y. Line 5, on the other hand, shows no voicing in Mg, but consistent voicing in Vn dialects. The MVn reflexes are regularly voiced stops except in labial position, where apparently there was a bilabial spirant. In

line 6 we note that there is variation in MVn between this spirant and /w/; this and the Sg reflexes in the first column of lines 5, 6, and 10 suggest that confusion developed among several categories (presumably an original semivowel and two different stop elements). We need to remember that /g/ was apparently a stop in MVn, whereas it is usually simply a voiced spirant in modern Hn and Sg speech. It is interesting that some southern Vietnamese speakers produce a very front [gʏ] for /g/ (Nguyen Dang Liem, p.c.); this suggests that a palatal contamination from the types of line 6 has extended throughout the reflexes of line 5 for those speakers--the notation /by-/ actually reflects variation in Sg dialect, [y ~ by ~ vy], with [y] predominant in casual speech. MVn also shows some variation with /dʏ-/: a few words have alternants with symbols suggesting a clear cluster /dy-/, as opposed to a simple stop with palatal coloring. /β appears in just one word: /βyaw`/ 'enter.' /g/, on the other hand, gives no indication of palatal involvement.

If we ignore the palatal effect in the reflexes of line 5, which we may suspect have arisen by some sort of contamination from those of line 6, we have consistent spirantization in Hn, and voicing throughout the Vn reflexes, as opposed to consistent voiceless stops in Mg. The most reasonable explanation for this state of affairs would seem to be that the Vn initials developed in a voiced environment. We are led to suppose that the proto-forms may have had a presyllable with a vowel, which we may symbolize \*e; that is, the reflexes of line 5 result from the stops of line 4 in intervocalic position. Despite

low frequency of these correspondences, both registers are involved; where a voiceless initial is called for, we can reconstruct the presyllable, simply \*ə- where a voiced initial is needed. These elements \*hə- and \*ə- should be taken as more exact than other reconstructions, reflecting respectively presyllables beginning with some voiceless and voiced sounds.) Line 5 provides representations for all four stop positions, but line 6 shows only three. The set in the fourth column of line 6 could have developed from \*y- clusters with either palatals or velars--in fact, perhaps with some examples from each, but there is no way to separate original velars from the palatals in that case, so it seems better to reconstruct clusters with palatals, reflecting the stage at which they fell together. Lines 5 and 6 will then give us the following system of initial sequences:

*həp-	*hət-	*həc-	*hək-
*həb-	*həd-	*həj-	*həg-
*əp-	*ət-	*əc-	*ək-
*əb-	*əd-	*əj-	*əg-
*py-	*ty-	*cy-	
*by-	*dy-	*jy-	

The handling of the line 5 correspondences also takes care of cases where the tonal registers are different in Muong and Vietnamese. The reconstruction assumes that the presyllables not only did not give rise to intervocalic voicing or spirantization in Muong, but also disappeared before the loss of contrast between voiced and voiceless initials phonemized the tonal registers in that language. Thus \*p- yields Mg /p-/, Vn /v- by- β-/, with a first-

register tone throughout, while \*həb- develops to the same initial correspondence, but the Vn words have a first-register tone, while the Mg words show second register. E.g. pay' vay' byay' βay' (all C1 tones) 'cloth' from \*həpay C, but pɔ- (C2) vɔ' byɔ' βɔ' (C1) 'peel, shell' from \*həbɔ C. Similarly kǎp- gǎp. gǎp gǎp. (all D2) 'meet' from \*əgǎp, but kaw. (B1) gaw. gaw. gaw. (B2) 'husked rice' from \*əkaw B. There is also further motivation for this sort of solution, and Haudricourt (1965: 171) has noted: for example, Ruc dialect forms (Vuong-Hoang-Tuyen 1963:end tables) show *kupal* 'cloth' and *rkô* 'husked rice', both with pre-syllabic elements, the first with voiceless initial, the second with voiced initial, as we should expect. The other forms in that limited material bear out the same sort of relationship. Particularly interesting are *kchít* 'die' and *kuchít* 'kill', corresponding to cit'/cet' cet' cet' cet' 'dead, die' and -- ziet' yiək' jiet' 'kill' (no Mg Khen cognate available; 'kill' is given as /pɔ'/, conceivably related to Hn /bɔ'/ 'put, cast; leave, quit, abandon, give up'). If our theory here is correct, the Khen reflex of a \*həcet would not differ from that of \*cet. These initial sequences are also confirmed, of course, in wider Austroasiatic comparison. Vietnamese then shows evidence of some old morphological differences, as has long been known (cf. Haudricourt 1953:124). This presumably explains dual sets like the words for 'what?' in which Mg /ci/ can be compared to both Vn /ci ci ci/ and /zi` yi` ji`/; we are presumably dealing with an original simplex and prefixed derivative. Similarly Mg. /kay./ 'female' is comparable with bo Vn /kay' kay' kay'/ 'female (of animals)' and /gay' gay' gay'/ 'girl, (human) female'; here we reconstruct both \*kay B and an apparently prefixed

ay B.

With two exceptions all the cases of conflicting register between Muong and Vietnamese have initials in line 5 or lines 9-11. The exceptions, which can be explained by presyllabic elements because Vietnamese does not show spirantization, are pək- (D2) ' -- -- (D1) 'coerce, pressure' and paŋ (A1) baŋ -- (A2) 'neighbor(ing).' Both are presumably Chinese loans (cf. Mineya 1972:index p. 87 \*p-iek 'compel' and p. 11 \*b-aŋ<sup>1</sup> ['near']), and we may suppose that they came into the languages late, at a time when the registral split had already occurred. In the original sonorants (lines 9 and 10) this state of affairs implies the reconstruction of some forms with presyllables \*hə- and \*ə-. There are 10 cases in all. Happily, one of them permits us to explain another apparent anomaly in the material: /măt-/ 'eye, face' has the same tone register as /măt. māk. măt./ 'face' (D2), but the opposite form in Vn /măt' māk' măt'/ 'eye' (D1). Now we are to reconstruct \*măt 'face,' \*həmăt 'eye,' again with the suggestion of some old prefix. Two cases have a first-register reflex in Muong and a second-register reflex in Vietnamese: nut' (D1) nut. -- nut. (D2) 'ark, stopper (for bottle)'; ñuk' (D1) ñuk. -- ñuk. (D2) 'flesh.' These require the reconstructions \*hnut, \*əhñuk, respectively, and suggest that our first-register initial sonorants were units rather than syllables.

Other well supported correspondences are found in the first two columns of line 8; like the reflexes of \*ʔ- they are limited to first-register tones. As Schlegel (1950:180, 1965:171) has indicated, we are surely dealing here with original preglottalized

voiced stops \*ʔb-, \*ʔd-. The other correspondences of this line involve stops only in MVn, and presumably reflect clusters with \*y: for the third column set we may reconstruct \*hny-, \*ny-, while the fourth column set seems parallel to the set in the same column of line 6--here again original velars may have been involved, but we shall conservatively reconstruct \*hñy- (first register only, so there are no grounds for a parallel \*ñy-).

Line 3 shows a set of correspondences involving aspirated stops and spirants. The only strong set is in the second column; the simplest reconstruction would seem to be a pair of aspirated stops \*t'-, \*d'. The set in the velar column is next best supported, but is limited to first register; we may set up a parallel \*k'-. Extending the parallelism leads to \*p'-, \*b'- for the first column set. This brings us to consider the poorly supported but extensively exemplified correspondence of the third column, and we are reminded that we have also left for later treatment a somewhat better supported (but less frequent) correspondence in the third column of line 4. We seem to have too many stops in apical position. Here we should recall that Chinese loans with initials \*s-, \*z-, \*ts-, \*dz- all appear in Sino-Vietnamese as /t-/, while those with initial palatal sibilants often appear as /t'-/, in a complex, partly conditioned relationship with /s-/ (Maspero 1912:43-51). And we have not yet observed any correspondences that specifically indicate reconstruction of sibilants. The obvious sets involving spirants are in the first two lines. The infrequent but well supported correspondence in the second column (line 1)

reasonably handled by a sequence \*təh-, with Muong  
in losing the presyllable without trace. The sets  
the fifth column seem clearly to involve velar  
ments, which we shall consider a little later;  
t of the final column would suggest laryngeals.  
s last correspondence shows examples with both  
al registers, so we must reconstruct both voiced  
voiceless elements: let us opt for \*h- and \*ɦ-  
rhaps a murmur, or possibly simply vocalic ini-  
ls). The correspondence in the palatal column was  
ced there because the MVn reflex was apparently a  
atal (as are the reflexes in some modern Vn  
lects as well); it is limited to first-register  
es. We are left without any sets strongly suggest-  
original \*s-, \*z-, and the handling of Chinese  
ns might lead us to posit them for /t- t- t- t-/  
solution Maspero seems to take for granted). But  
t as an unconditioned change is universally rare,  
we would find it difficult to explain the motiva-  
n for conversion of lone sibilants to apical stops  
a system already crowded with apical stops. And  
should still need a reasonable reconstruction for  
- t'- t'- t'-/. There is another possibility  
t could explain all these facts: PVM may have  
ked sibilant sets entirely, and Chinese loans con-  
ning sibilants were then logically adapted to the  
guage by substituting the stops which seemed  
sest. With this point in mind we may proceed to  
onservative reconstruction for the sets of the  
rd column: \*ṭ-, \*ḍ- for line 4, \*ṭ'-, \*ḍ'- for  
e 3 (the subscript dot simply indicating some  
t of distinction from \*t-, \*d-, \*t'-, \*d'-). The  
requent /s- s- s- ṣ'-/ of line 1 may then be recon-  
ucted \*c'-. It is interesting that one example



of \*c'- (sǐəŋ/siəŋ sǐəŋ sǐəŋ sǐəŋ 'bone') appears to have a wider Austroasiatic etymology, and the initial in many languages is a palatal affricate (cf. Pinnow 1959:70-1).

Actually, the initials we have reconstructed \*p'-, \*b'-, \*t'-, \*d'-, \*t'-, \*d'- have a feature in common that sets them apart from the rest: the words in which they appear are mostly not of the basic core vocabulary, and the forms are for the most part extremely similar. We may well be dealing with a layer of late loanwords that spread through the area at a time when Vietnamese had already converted original \*t-, \*d- to /d-/ and \*t'-, \*d'- to /t'-/, but still had /t-, t'-/ from the sources just described, and the categories were re-expanded with the borrowed material. This (together with a still surviving \*k'- could have set up a pattern for extending the series of aspirates, permitting the direct borrowing of \*p'-. For this reason I have placed the reconstructions of words involving these initials in brackets.

The remaining examples of simple stop correspondences are in line 7. Here the evidence is exceedingly weak: the words are all extremely similar in the two languages and are of the type that is easily borrowed. They are most likely Vietnamese loans in Muong; we shall not consider them further in the reconstruction.

Lines 14 and 15, as we have already noted, suggest original clusters \*tw-, \*dw-, \*k'w- (first-register tones only, parallel to \*k'-), \*kw-, \*gw-. Cluster status helps account for the infrequency of these elements, but they are otherwise weak as well. A large proportion of the words involved are surely

: likely of Chinese origin; they may all reflect diffusion, and we shall bracket them to indicate the same status as our other bracketed reconstructions. We should note in passing that at least southerly rural dialects of Vietnamese, like Muong Khen, eliminate w-clusters, and even Saigonese speakers generally reduce most of them in allegro speech. Whatever the ultimate status of this category, we should observe that \*w as a clustering element had no voicing effect in Muong, as \*y clearly did.

Other clusters seem evident in the first two columns of lines 11-13. MVn here offers distinguishing data, line 13 suggesting \*ml- (second register only), the second column of line 11 suggesting \*tl-, dl-. The remaining correspondences, suggesting labial stops clustered with \*l, present a problem: the Hn reflexes indicate a difference--that in line 11 is spelled in the standard orthography with *tr-*, that in line 12 with *gi-*. There are some cases in which MVn shows variants with both /bl-/ and /tl-/, as well as extensive examples of variation between each of these initials and /t̚-/. Much of this probably represents the inclusion in the deRhodes dictionary of forms from different dialects, but it is also quite possible that we are observing here a tendency for /bl-/ to fall together with /tl-/, a coalescence already completed in this Muong dialect. The Hn forms may then reflect a freezing of one or the other variant in different cases. Or the forms with Hn /c-/ (spelled *tr-*) may simply be borrowed from a dialect which had already coalesced the two initials. Two of the three etymologies show Hn forms with /z-/ (spelled *gi-*) which may be related: with

tlë' cë' t̥ë' blë'/t̥ë' 'return' compare Hn /zë'/  
 'alter, change; untie, unwrap, open; turn over'; with  
 tlan` can` -- blan` 'overflow' compare Hn /zan` zuə./  
 'bathed in tears.' No obvious wider Austroasiatic  
 cognates have been observed for any of the forms in  
 this category (the third example is tlot` cot` --  
 blot` 'completely, accomplished'). But the three  
 examples of the correspondence in line 12 ('betel,'  
 'moon,' 'sky, heaven') are all thought to relate to  
 Mon-Khmer etymologies and to involve initial clusters  
 with a labial stop (Maspero 1912:83, 115). Parallel  
 to our other cases where Hn contrasts a voiceless  
 stop and voiced spirant, we may reconstruct \*pl-,  
 \*bl- for line 11 (first column), \*(h)əpl-, \*(h)əbl-  
 for line 12. If it later becomes clear that we are  
 dealing with variation or dialect borrowing in these  
 categories, these reconstructions may need revision.  
 But it is interesting at least with 'betel' that  
 Maspero (1912:83) cites a Mon form ǰã-blu, with an  
 apparent presyllable. (Etymologies for the other  
 two words are problematic--cf. Pinnow 1959:77, 168-9,  
 and perhaps 212--but may also suggest original pre-  
 syllables.) The remaining correspondence of line  
 11 (third column) now appears to reflect a parallel  
 cluster \*tr- (first register only, so no \*dr-).

We can now return to consider the remaining cor-  
 respondences involving spirants in the fifth column  
 of lines 1 and 2. The set in the first line is well  
 supported and fairly extensively exemplified. The  
 Mg reflex indicates some sort of velar. We have  
 seen that there is very little evidence for spirants  
 in general, and a system with spirants only in velar  
 and laryngeal positions may well strike us as un-  
 likely, while one with only laryngeal spirants

appears reasonable enough. An affricated stop for the source of this correspondence seems quite possible, although it is quite unparalleled in our reconstructed system. We might then suspect we are dealing with an original cluster, but the number of examples is considerably larger than that for other clusters we have reconstructed. Here again it will be instructive to examine the available evidence from other Muong dialects. Very few forms in this category are furnished by Vuong-Hoang-Tuyen (1963), but Maspero (1912:81) offers 15 sets of cognates in which one or both of two Nghe-an dialects show distinctive initial complexes. Of the 15, 11 show initial kr- in one dialect, two show pr-, and one - (cognate missing in the last set); in the other dialect khl- corresponds to kr- of the first in 5 sets (and is also found in the set in which the first dialect lacks a cognate); in 2 sets it is rather phl- which corresponds to kr-; phl- corresponds to pr- in both cases; other forms are lacking in this dialect. The material is obviously too limited to systematize, but it clearly suggests that several originally distinct clusters have fallen together in both the Khen dialect of Muong and in Vietnamese. Of Maspero's examples, 9 coincide with sets in our material, including 5 cases of kr- in the first dialect, the one case of kl-, and two cases of pr-.) Some of these forms have obvious wider Austroasiatic etymologies--e.g. (references to pages in Pinnow 1959) 'behind, after' (170) supporting kr-, 'six' (177-8) offering some parallels with pr-, but suggesting further complexities. For the present comparison it seems reasonable to reconstruct \*kh-, \*gñ-, reflecting a stage at which the several earlier

clusters had already fallen together. Fuller Muong dialect material (and probably rural north-central Vietnamese dialect material) will doubtless require considerable eventual sharpening in this area.

Line 2 now appears partly parallel, but in addition to voicing it involves some palatalizing element in Vietnamese. This correspondence needs to be considered together with two non-recurrent sets exhibited in apparently viable etymologies: xăy' căy/cəy' -- căy' 'pestle' again mixes velar and palatal elements; xəñ(A1) gən' gəŋ' gən' (A2) 'near' shows voicing in Vietnamese but no palatal elements. We have set up post-initial \*y having a voicing influence in both languages, but the presyllables having this effect only in Vietnamese. Now we have set up the clusters \*kh-, \*gñ-; these presumably fell together as \*kh- at the time obstruents were devoiced in both languages. We may further suppose that neither the post-initial \*y by itself nor a presyllable by itself exerted the voicing effect on this voiceless cluster, but that the combination of the two--a presyllable before and \*y after--would result in voiced reflexes in Vietnamese. This will allow us to reconstruct \*gñy- (originally voiced because of the second-register tone) for the initial in 'pestle,' providing the palatalizing element without concurrent voicing, while we add an appropriate presyllable to account for the voiced palatal elements in the correspondence of line 2. 'Near,' on the other hand, calls for a voicing element in Vietnamese only and no palatalizing effect; we may suppose that we are dealing with a presyllable preceding the simple phoneme \*k'- rather than the cluster \*kh-: the reconstruction \*ək'- will also account for the difference in tone register between

e two languages. (Note also that this lends further edibility to \*k'-, as opposed to some of the other pirated elements.) The three examples of the line correspondence are 'middle (between),' 'old' (2), and 'worm.' The last is problematic: for Mg /xun/ find a corresponding Hn /zun/, which can have two spellings, *giun* and *run*. Unfortunately no Sg form is available corresponding to either. In MVn we find a cognate with either of these spellings, but there is no MVn /blun/ 'lumbricus,' which poses a different situation for Hn /zun/ spelled *giun* (it should then go back to \*hēplun, but we have no Mg cognate for the latter). This would leave Mg /xun/ corresponding to Vn /zun/, which would then be added to a lone set xēñ- -- rēn. 'body louse.' This correspondence appears quite parallel to our \*tr-, and indicates a cognate \*gr-. With 'worm' assigned to \*kr- we need a cognate \*ēghy- for our line 2 correspondence, since the second-register tones are involved in the remaining examples.

This completes coverage of our recurrent correspondences. We may now review the phonological system we have established:

*p-	*t-	[*t̥-]	*c-	*k-	*ʔ-
*b-	*d-	[*d̥-]	*j-	*g-	
[*p'-]	*t'-	[*t̥'-]	*c'-	*k'-	*h-
[*b'-]	*d'-	[*d̥'-]			*ɦ-
*ʔb-	*ʔd-				
*hm-	*hn-		*hñ-	*hŋ-	
*m-	*n-		*ñ-	*ŋ-	
*hw-	*hl-	*hr-	*hy-		
*w-	*l-	*r-	*y-		

*py-	*ty-		*cy-		
*by-	*dy-		*jy-	*ghy-	
	*hny-		*hñy-		
	*ny-				
*pl-	*tl-	*tr-		*kr-?	*kh-
*bl-	*dl-			*gr-	*gh-
	[*tw-]			[*kw-]	
	[*dw-]			[*gw-]	
				[*k'w-]	
*(h)əp-	*(h)ət-		*(h)əc-	*(h)ək-	
*(h)əb-	*(h)əd-		*(h)əj-	*(h)əg-	*əghy-
				*ək'-	
*həm-					
	*əhn		*əhñ-		
	*həl-				
	*təh-				

It remains to consider the marginal material. There are a number of apparently viable etymologies involving initial correspondences that are not recurrent. Three sets indicate further w-clusters, which we shall again bracket: t'- t'w- t'w- t'w- [\*t'w-], c- cw- cw- cw- [\*cw-] (both with first-register tones); w- ηw- ηw- ηw- [\*ηw-] (with second-register tone). There is another comparison in the same category: wa hwa wa hwa 'flower,' unquestionably a Chinese loan. Unless we suppose that there was a distinction between the voiceless initial we have reconstructed \*hw- (i.e. a voiceless high back rounded glide) and a cluster \*h- plus \*-w-, there is no way to account for this form at the PVM level. It seems inappropriate to reject the system of voiceless sonorants we have set up because of this single case

iously a borrowed item; we shall not reconstruct

This problem adds another piece of evidence  
t w-clusters have arisen largely from loan  
erial.

Two categories involving /r/ are troublesome.  
h is represented by two examples, but the nature  
the material is problematic, so they have not  
n included among the recurrent correspondences.

lexical sets suggest a correspondence /y- : z-/  
h no known cognates in either Sg or MVn: yəm zəm  
ady,' yǎŋ- zǎŋ. 'row (of trees), hedgerow.' The  
tnameese forms are both spelled with r-. They could  
gest \*hry-, \*ry-, but the evidence seems very  
k. The other two sets are rən zən yǐŋ dʷən  
ople' (there is also the bound form Hn /ñən/ Sg  
ŋ/, but no apparent MVn counterpart; both are of  
nese origin); ru- zu. -- -- 'entice' (spelled with  
in Vietnamese, probably also from Chinese; Hn /zuʷ/  
vite,' spelled with r-, but with C tone, has a  
ular cognate Mg /ruʷ/). It seems best to place  
these resemblances with the problematic residue.

There are three correspondences exhibited each  
a single etymology. Unlike the cases just dis-  
sed, these all appear viable in themselves, and  
y suggest clusters that fit with the system al-  
dy established. They are best discussed in-  
dually.

sɔ. zɔ' yɔ' jɔ' 'wind (blowing)' suggests \*c'-  
h a presyllable, i.e. \*hɛc'-. It further supports  
onstruction of a stop for the simple phoneme,  
ce it involves the stop in MVn.

sək' zĭək' rĭək' rĭək' 'meet on arrival, welcome'



involves an otherwise unattested vowel correspondence which is, however, parallel to /a iə iə iə/, better represented in the material (see discussion in 6 below). This set suggests \*cr-, with a spirantic effect in Muong parallel to \*tr-, \*kr-.

hɛ̃n`dak': gẽn` 'waterfall' (cf. Mg/dak' / 'water' also involves an irregular vowel correspondence. It has a possible MVn cognate /gẽn` / (also /gəp. gẽn` /) 'via salebrosa ex ascensibus et descensibus constans' (cf. also the modern expressions Hn /gəp. gẽn` / 'uneven, broken, rough, bumpy' and /len t`ak` suəŋ` gẽn` 'up hill down dale' [lit. 'ascend falls, descend cataract']). It suggests a possible \*gəh- initial.

Finally, there are two sets of words with tantalizing similarities which do not fit with our regular correspondences. In one case--xaŋ. t`aŋ` t`aŋ` t`aŋ` 'month'--Maspero (1912:85) decided that we are dealing with a relative of the word for 'moon' tlaŋ zãŋ ɬãŋ blaŋ, and that the difference in initial in Muong and Vietnamese reflects a different prefix. (Maspero considered that all of these complex initials involved old prefixes.) However, this may be only an accidental resemblance: the tones are different in the two cases (B1 in 'month,' A1 in 'moon'), and in the modern dialects the vowel is different. (There are a number of cases in which MVn vowels differ from those of the corresponding modern words; we need careful philological study to determine whether the spelling *blang* here reflects a printing or scribal error, a misrecording, or a genuine vocalic difference--since the difference is absence of a diacritic, one suspects an error.) For the moment it seems more likely that our word for 'month' perhaps re-

ects a complex initial like \*təkh-, and it may re-  
 te in some way to Vn /saŋ' ʃaŋ' saŋ'/ 'be light,  
 ine' and Hn /laŋ'/ 'shine, be shiny' MVn /laŋ'/  
 larus.' (That is, we may be dealing with a basic  
 ot \*hlaŋ B, with a couple of levels of derivation.)

The other case involves two Muong words /t'uəŋ./  
 'descend, go down' and /xuəŋ./ 'lower, put down.'  
 Corresponding to the first we find /suəŋ' suəŋ' súəŋ'/,  
 at the second seems to have gone out of use in modern  
 Vietnamese; however, MVn has /juəŋ'/ 'descendo,' with  
 an example /di juəŋ' hon'/ 'vocare animas defunctorum,'  
 which would indicate a transitive use. The second  
 form then suggests another case of a causative prefix  
 ə-. If this is related directly to the first form,  
 we might suppose that it involved a complex initial  
 containing a velar--perhaps something like \*tk'-.  
 We would have to suppose that the cluster fell to-  
 gether with \*c'- in pre-Vietnamese, but with \*t'- in  
 pre-Muong. With the prefixed form, Vietnamese  
 developed a regular voiced counterpart /j-/, while  
 Muong the original initial dropped with the pre-  
 al syllable, leaving /x-/:

PVM	*tk'-	*hətk'-
Pre-Vn	*tc'- > *c'-	*hətc'- > *həc'-
Pre-Mg	*tx- > *t'-	*hətx- > *x-

5. Finals. Little needs to be added to the  
 treatment of final consonants (Barker and Barker  
 70). It will be useful to recapitulate what we  
 know here. In discussing finals it is important to  
 separate out first certain internal changes in  
 Vietnamese (as mentioned above). These I have dis-  
 cussed in detail (Thompson 1967); we may summarize

the main facts here. MVn finals are quite regularly the same as those of Hanoi in comparable words. But central and southern dialects have converted original final apicals to velars except after the higher front vowels, and original palatals to apicals (these latter occur only after /i e ǎ/). The following table states these relationships in terms of Hn and Sg finals, giving the reconstructed Proto-Vietnamese (PVn), which we shall subsequently use for comparison with Muong.

*Saigon*

PVn	Hn	After /i e/	After /ǎ/	After other vowels
*-c	-c	-t	-t	--
*-ñ	-ñ	-n	-n	--
*-t	-t	-t	-k	-k
*-n	-n	-n	-ŋ	-ŋ

The following examples give comparative forms in the order Hn Sg: ?ic' ?it' 'useful', ?ec' ?et' 'frog', kǎc' kǎt' 'manner', miñ` min` 'self', beñ ben 'protect', mǎñ. mǎn. 'strong', ?it' ?it' 'small amount', het' het' 'finished, used up', kǎt' kǎk' 'cut', cin' cin' 'nine', ben ben 'side', mǎn. mǎŋ. 'salty', mat' mak' 'cool', tot' tok' 'good', ban' baŋ' 'sell', luən luəŋ 'always'.

PVM final consonants add only \*-l to the PVn inventory:

*-p	*-t	*-c	*-k
*-m	*-n	*-ñ	*-ŋ
*-w	*-l	*-y	

For the most part they are straightforward correspondences of identities between Mg and PVn (/p \*p, t \*t, k \*k, m \*m, n \*n, ŋ \*ŋ, w \*w, y \*y/). (The final semivowel \*-ə, based on /-ə : \*-ə/, could be added

this array, but is best treated as part of the calic system; see 6.) Examples can be observed in the etymologies cited in 7. But PVM \*-l and the initials show splits in Vietnamese:

PVM	Proto-Vietnamese		
	Muong Khen	After PVM Front Vowels	Elsewhere
*-l	-l	∅	*-y
*-c	-c	*-c	*-t
*-ñ	-ñ	*-ñ	*-n

For examples of \*-l see 'return' (2), 'lightweight,' 'even,' 'run'; of \*-c see 'guest,' 'sand,' 'iron,' 'diminish, decrease,' 'one'; of \*-ñ see 'body, self,' 'good, kind, well,' 'sell,' 'shoot,' 'slippery, smooth,' 'turn (pot of rice), pivot.'

The Barkers reconstruct an additional final on the basis of Mg -ñ : Hn -ñ without conditioning, presumably primarily because of contrasts after /e ă/ (e.g. 'order, command,' 'up, go up,' 'hit,' 'bite'). But this adds an incongruous final with severely limited distribution to an otherwise well integrated system. It seems far more likely that an original calic contrast was involved, as we shall see in 6.

Two etymologies suggest that under special conditions final \*-m was lost in Muong, but material is sufficient to recognize conditioning: ñɔ. ñɔm' -- 'kindle, build fire,' la` lam` lam` lam` 'do, make, work.'

A single etymology indicates a correspondence between /-ñ/ in Mg and /-ŋ/ in Vn: mɛñ- miəŋ. miəŋ. əŋ. 'mouth.' Regularly we find Mg /-ɛñ/ corresponding to Vn /-ǎñ/, and the material contains no

examples of velars after /ε/, except for 'shovel,' a likely loan (see 7B). We may tentatively set up development of \*-ŋ to Mg<sup>o</sup> /-ñ/ after \*ε. This set also involves a special vocalic development; see the next section.

6. Vowels. As might be expected, vowels present a number of problems that are difficult to deal with. However, these problems are of relatively small importance--to a great extent the system of PV seems to be very similar to that of the modern languages.

As with final consonants, there are several internal developments in Vietnamese dialects affecting vowels. Again we shall discuss the most important of these separately before comparing PVn with Mg. (For examples, see Thompson 1965:chapter 4.)

Hanoi speech has kept most vocalic clusters, but it has converted PVn \*/īw, īəw/ to /iw, iəw/, respectively. Saigon speakers, on the other hand, to a great extent reduce ə-diphthongs and -triphthongs: so PVn \*/iəp, iəm, iəw, īəp, īəm, īəy, īəw, uəm, uəy become respectively /ip, im, iw, ip, im, iy, iw, um, uy/, falling together with the simpler clusters. They also coalesce some other combinations: PVn \*/āy, āw/ fall together with \*/ay, aw/; the contrast between \*/āwk/ and \*/əwk/, \*/āwŋ/ and \*/əwŋ/ is lost \*/ə/ is partly replaced by /ī/ before velars, and \*/ε/ is diphthongized to /εə/ before velars. (In both the latter cases these are primarily the velars developing as a result of the shift of PVn apicals.) (For detailed statistical coverage of Saigonese syllable types, see Nguyen Dang Liem 1967.)

The Barkers (1970) reconstruct most vowels on the basis of identities or near identities in the two languages.

*Basic Vowels*

*i	*ĩ	*u
*e	*ë	*o
*ɛ	*a	*ɔ
	*ã	*ə

*Special Clusters*

*iə	*ië	*uə
-----	-----	-----

They reconstruct \*ë and \*ə from splits in which PVn has shifted the original vowels upward to \*ĩ before velars (exemplified only before \*ŋ in the case of *ɛ*): e.g. 'egg,' 'forest,' 'strength, force.' They reconstruct \*ɛ from a split in which PVn has lowered (and somewhat centralized) the vowel before palatals: e.g. xɛc' xăc' xăt' k'ăc' 'guest,' kɛñ' kăñ' kăn' 'branch.'

They also reconstruct two proto-phonemes to handle the correspondences /a : \*ië, ɔ : \*uə/, as in k' nĭək' nĭək' nĭək/nak' 'water,' ʔɔŋ. ʔuəŋ' ʔuəŋ' 'drink.' Actually, the distribution of these elements suggests that we are dealing with leftovers from an earlier shift. They are rare (17 etymologies all, 10/a : \*ië/, 7/ɔ : \*uə/), but there is nevertheless some pattern to their occurrence: they appear predominantly without any final consonant or before velars; /ɔ : \*uə/ also precedes \*-y and \*-c, /a : \*ië/ also precedes \*-w, \*-y, and \*-ñ. In modern Vietnamese dialects there are quite a number of cases of variation between /-aŋ/ and /-iëŋ/, and in MVn /a/ is often favored over /ië/ (e.g. taŋ' dĭəŋ'/daŋ' dĭəŋ' 'road'). MVn has the same variation before /-k/, as the example above ('water') shows.

There are also pairs where we suspect a similar earlier relationship, although now the variants are specialized (e.g. Hn /ŋay`/ 'polite address form for person of high status', Hn /ŋiäy`/ 'person [general]'. North-central dialects tend to show /a/ rather than /iä/ in a number of cognates. The phenomena are very much like those observable in various Mon-Khmer languages, where original vowels have developed differently in opposing registers. No tonal register patterns emerge in the material studied here; we must await fuller materials and further study before more sense can be made of them. It is good to call attention to these recurrent correspondences, but it seems misleading to reconstruct separate entities for them in PVM. What probably will eventually be demonstrated is that /iä/ is a variant of \*a, /uä/ of \*ɔ, in particular positions. For these etymologies we shall reconstruct underscored \*a, \*ɔ.

There are other similar correspondences that are not recurrent: /-ëk : \*-iäk/ in 'meet on arrival, welcome,' /-ən : \*-iän/ in 'garden', /-ɛñ : \*-iəŋ/ in 'mouth'; for these we shall make tentative reconstructions \*-ëk, \*-ən, \*-ɛŋ, respectively. (For the final in the last case, see 5 above.) There is also a set haw. hiew' -- hiew' 'want, be fond of,' which might indicate yet another variation; it may conceivably reflect the northern shift of PVn \*-iäw to Hn /-iəw/ in which case it is simply one further instance of /a : iä/. Here we shall make an interim reconstruction with \*-aw.

Vietnamese regularly has diphthongs where Muong is recorded with the lower back rounded vowels before velars: /o : \*əw, ɔ : \*ǎw/. (These have fallen

gether as /ǎw/ in southern speech, as noted above.)  
is the Barkers have not treated, probably because  
is obscured by the standard orthography, which  
suggests /ok, oŋ, ɔk, ɔŋ/ in these words. (Actually,  
the pronunciation of the parallel Muong forms is in  
doubt, because they are not among the phonetic  
sequences that the Barkers single out as being dif-  
ferent from Vietnamese; the internal evidence seems  
in favor of simple vowels rather than diphthongs, and  
that solution has been adopted here.) For the most  
part the spelling of these words in the deRhodes  
dictionary makes clear that they had diphthongal  
pronunciation in the seventeenth century. But there  
are also spellings with simple vowels /o ɔ/, which  
may mean there was variation. In any event, the  
evidence points to original simple vowels which were  
diphthongized in relatively recent times.

An apparently unrelated set of diphthongizations  
has a much more limited distribution: /-o : \*-əw/  
(two cases), /-u : \*-əw/ (six cases, with occasional  
flex /-ǎw/ in northern Vn dialects), and /-i :  
-ey/ (four cases, one of which shows parallel Hn  
-iy/); /-e : \*-əy/ appears in just one etymology.  
In the case of /a : iə/, etc., north-central  
Vietnamese dialects often show simple vowels in cog-  
nates. Out of these 13 cases we note with interest  
that for other reasons we have reconstructed a pre-  
-llable in four of them ('bear [animal], 'betel,'  
'[v.], ' and 'take'). The hypothesis presents  
itself that diphthongization in Vietnamese may have  
been conditioned by a preceding \*ə, so we may con-  
sider reconstructing presyllables for the other  
instances of this kind of diphthongization. Examining  
the rest of the etymologies we observe little



conflicting evidence. For the most part we are not establishing presyllables with initials that did not already occur with them. Where we are, there seems no serious conflict: \*həʔd- (in 'that') reasonably results in the same initials as \*ʔd-; after a presyllable, \*t̚'- (as in 'corpse') apparently was not voiced and spirantized (words with \*t̚'- may in any case be later borrowings and the vocalic irregularity may then have a different explanation). It is also interesting to note that of the 66 etymologies for which we have reconstructed presyllables to take care of register differences or voiced initials in Vietnamese there are none involving final \*-e, \*-u, \*-o, so that there is no conflict there, either. We are left with two troublesome cases: ci. cəy'/ci' - cəy' 'head louse', and ci zi` yi` ji` 'what?' In the second one we need a presyllable both to take care of the register difference and to account for the voiced initials in Vietnamese; we also suspect an old morphological relationship to ci ci ci ci 'what?'. This problem can be handled by reconstructing a different sort of presyllable; let us use \*N- for this purpose, reconstructing the second item \*Nci A. The first case is more difficult: there we need a conditioning element to account for the Vietnamese diphthong without any voicing or spirantization. We note that the initial is a palatal, and we may wonder whether perhaps the diphthong was original. The fact that modern Hn speech shows a variant in /-i/ would tend to support this; we may reconstruct a tentative \*cəy B. With these problems eliminated we can reconstruct \*ə-presyllables for the remaining cases where Vietnamese shows diphthongs corresponding to Muong simple vowels. Two of the 66 examples in

ch we reconstructed presyllables for other reasons  
w other diphthongs--one /a : \*iə/, the other  
: \*uə/--but there are a number of conflicts to con-  
nering that these diphthongs are conditioned by the  
syllable: there are cases involving diphthongs  
re a presyllable can hardly be reconstructed, and  
re are cases requiring a presyllable where no  
hthong has developed.

We may note one recurrent theme in the vocalic  
blems we have been studying: final velars seem  
tinually to have influenced the vowels preceding  
m; it is interesting to note the same kind of  
nges (\*ə, \*ë > i before velars) occurring between  
l and PVn, then being repeated in the formation of  
e southern dialects as there developed more cases  
these vowels followed by velars.

Two cases of unusual vocalic development can be  
ounted for by presuming that Vietnamese forms  
lect alternates that developed under weak stress.  
ñi ñi ñi 'like, similar' (2) is still usually a  
kly stressed word in the modern language, and  
can understand that the other word may well have  
d a weak variant, particularly in its use as a  
t of conjunction: xəy xi xi k'i 'when, time'.  
shall reconstruct the vocalic elements as \*ë, \*əy,  
spectively.

Three etymologies lead us to suspect that the  
oto-language may have had a few complex finals:  
k' tawk' tawk' tawk' 'hair' may be explained by  
constructing a tentative \*t'awk, presuming that  
ong simplified the final, while Vietnamese main-  
ined it. On the other hand, tuy' dəy<sup>v</sup> -- dəy<sup>v</sup>

'push' may represent an original \*təwy C, in which Muong converted the vocalic sequence to /uy/, while Vietnamese simply eliminated the \*w before \*y. Another case, tiəl. ze' -- dʲe' 'cricket' appears reasonably reconstructed \*hətʲiəl B; we presume Vietnamese developments something like \*hədiəy' > \*dʲiəy > dʲe' (the MVn stage) > ze'. This lends further support to the elimination of the original diphthong after a palatal in 'head louse' (above); here the palatal initial developed later and the vowel that has resulted is a step lower.

Two etymologies suggest that \*i was drastically lowered in Muong under certain circumstances (or possibly \*ɛ was raised in Vietnamese); there is insufficient material to clarify the conditioning, but it appears to relate to a glottalized initial and stop final: dət' nit' nit' nit' 'child' (\*ʔdit), ʔət' ʔit' ʔit' ʔit' 'little, not much' (\*ʔit).

The vowels before PVM palatals are especially problematic. Table 2 charts the attested combinations (given in correspondences Mg : Hn). The column on the left includes correspondences involving frontish vowels followed by palatals in both languages; other columns deal with the remaining correspondences, where we find palatals in Mg, but apicals in Hn: in the second frontish vowels, in the third central or back unrounded vowels, and in the fourth back rounded vowels.

There are some observable oddities of distribution, but they are difficult to interpret. The number of etymologies involving final palatals (68) is comparable to the number involving final labials

Table 2

## Vowels and Final Palatals,

with Number of Etymologies for each Combination

c ic (1)	--	--	uc ut (1)
ñ iñ (6)	--	--	--
--	--	--	oc ot (3)
ñ iñ (1)	--	--	--
--	--	ëc ët (1)	--
ñ eñ (2)	eñ en (6)	ëñ ën (1)	--
--	--	--	oc uet (1)
ñ iəŋ (1)	--	añ ĩən (1)	--
c ăc (2)	--	ac at (5)	oc ot (1)
ñ ăñ (14)	--	añ an (4)	--
c ăc (1)	ăc ăt (5)	--	
ñ ăñ (5)	ăñ ăn (3)	eñ en (3)	

(67). These lie between the finals with low representation--36 involving final /l/, 58 final /w/--and those rather extensively represented--99 involving final /y/, 116 final apicals, 144 final velars; vocalic finals are featured in 151 etymologies. Final palatals thus seem well established, and no obvious complementation emerges from study of Table 2 with comparable charts of other finals. Nor are there any apparent patterns with respect to tones.

We note a predominance of examples in which low vowels precede the palatals (15 with /ɛ/, 15 with /ǎ/, 9 with /a/). This parallels what seems to be a general tendency in the language. Before labials the high frequency vowels are /ə/ and /ǎ/ (with 13 cases each); before apicals again /ə/ (23), then /a/ (19) and /ǎ/ (14); before velars, /ǎ/ (24), /a/ (23), /ɔ/ (22); before /-l/, /ǎ/ (10); before /-y/, /a/ (31); before /-w/, /a/ (16); and in final position most frequent is /a/ (42), then /ɔ/ (20).

We also note a lack of /ī : \*ī/ figuring in the comparisons; this again is typical. It is also lacking before labials, apicals, /-l/ and /-y/, and appears in a single example before /-k/, which seems very apt to be a Vn loan in Mg (/l̄ik- l̄ik./ 'strength'). Before /-w/ there are three cases, all possible loans in Mg (although modern standard Hn cannot have been the source): /k̄iw. kiw'/ 'save', /m̄iw miw/ 'strategy', /k̄iw` kiw`/ 'sheep'. In open syllables /ī : \*ī/ is also rare, figuring in just three etymologies: /k̄i. k̄i'/ 'continue', /t̄'i. t̄'i' 'order, rank', /ȳi- z̄i~/ 'keep'. This distribution taken together with the development of Vn /ī/ before velars, strongly suggests that /ī/ may be a new element in the system.

Other conspicuous absences before palatals are diphthongs /iə : iə, iə : iə, uə : uə/, which are very extensively exemplified before most other consonants, especially velars. (The three etymologies /mā- miəŋ./ 'mouth', with an otherwise unexemplified initial and final correspondence which we have reconstructed as \*eŋ [see 5 above]; /mañ- miən./ 'borrow'; /rɔc- zuət./ 'intestine' belong to that small troublesome class discussed above.) We can speculate that original palatals may have developed to velars in both languages after these diphthongs; this would agree with the relatively high count of examples with palatals in such positions--nearly 20 percent of all etymologies involving final velars, as opposed to 13 percent of those with final labials, 10 percent of those involving apicals.

It is curious that after back rounded vowels no palatal stops are involved, but with so few cases this is presumably accidental. More subtly, it appears that palatal stops tend to be favored generally after back vowels, nasals after frontish vowels. Again accidental factors may provide a likely explanation.

There remains the apparent contrast of nasal consonants after /e : e/ and /ã : ã/. We rejected above the reconstruction of an additional final consonant on structural grounds. The combinations /eñ : en, ăc : ăt/ are well attested with support of non-identical correspondences elsewhere in some forms; /ãñ : ăñ/ is parallel to /ăc : ăt/; e.g. tleñ cen ɽen tlen 'on top of,' xăc 'săk' săt' 'iron,' pãñ. băñ' băŋ' băñ' 'shoot.' The contrasting examples seem less well integrated:

peñ	beñ/biñ	--	--	'defend'
leñ-	leñ./liñ.	len.	leñ.	'order, command'
măc-	măc.	--	măc.	'beat (of pulse)'
măñ-	măñ.	măñ.	măñ.	'strong'
tăñ.	dăñ'	dăñ'	dăñ'	'hit'
t'ăñ.	t'ăñ'	t'ăñ'	t'ăñ'	'saint, sage'
t'ăñ`	t'ăñ`	t'ăñ`	t'ăñ`	'become'
ñăñ	ñăñ	ñăñ	--	'fast'

The general system shows palatals in Vn only after vowels which have some reason to be thought of as front; otherwise we find PVn final apicals. This may lead us to suppose that the original vowel in /eñ : en/ was not front; the immediate candidate is the missing \*i, which we might suppose to be a highish central vowel, subsequently fronted independently in the two languages. The suggestion would seem better founded if there were stronger support for \*i elsewhere in the system, but let us adopt it here at least provisionally. For the vowel in /ăc :ăt, ăñ ăñ/ we may reasonably reconstruct \*ă, also presumably central.

The forms meaning 'defend' and 'order, command' are troublesome in Vietnamese; dictionaries give alternates with /i/ for both. This would actually seem to integrate these etymologies with what at first seems a lone case: meñ` miñ` min` meñ`/miñ` 'body.' This leads us to examine the cases in which we find /i : i/ before palatals:

lic-	lic.	lit.	lic.	'calendar'
liñ.	liñ'	lin'	liñ'	'soldier'
liñ-	liñ~/lăñ~	--	--	'satin'
riñ`	ziñ`	rin`	riñ`	'lie in ambush'
tiñ.	tiñ'	tin'	tiñ'	'calculate'

n.	tiñ'	tãñ' <sup>2</sup>	tiñ'	'character, disposition'
n'	tiñ'	tin'	tiñ'	'feeling'

In my earlier study of this problem (Thompson 7) I suggested that the similar words with /i/ and represent diffusion. Some diffusion is likely involved, but it now seems more reasonable to suppose that at the PVM stage earlier high front vowels were a variation pattern with mid front vowels--i.e. the process of shifting downwards. We know that northern Vietnamese shows lower (and somewhat centralized) variants of /i e/ before palatals, and observe that Vn has apparently lowered and centralized original lower front vowels in the cases where we find /ε : ǎ/. Perhaps this tendency is not limited to Vietnamese; and it may have begun with a shift of other vowels. In order to suggest this sort of development we might make the following reconstructions (using the wider-spread nasal final as representative of the class):

*iñ/*eñ	(variation pattern reflecting /iñ : iñ, eñ : iñ, eñ : eñ/)
*eñ	εñ : ǎñ
*εñ	ǎñ : ǎñ

In the appended etymologies, however, /iñ : iñ/ is reconstructed as \*iñ, /eñ : iñ/ as \*iñ, and /εñ : eñ/ as \*iñ, in order to identify the different results.) If drag chains have any reality, we can recognize here: the lowering of \*e before palatals left a gap which is beginning to be filled by the downward shift of \*i and the fronting of \*i. In Vietnamese lower vowels were accelerated in their development, \*e and \*ε both falling together with original



\*ã before palatals. (Some analyses of northern Vietnamese assign the low vowel before palatals to /ɛ/; for these and related problems see Thompson 1967, Sampson 1969, 1970, and further bibliography cited therein.) Muong kept \*e separate as /ɛ/, coalescing only \*ɛ and \*ã. In both languages Chinese loan material has afforded additional cases of /i ã/ before palatals. (Apparently Ch final velars were integrated as palatals in positions where velars do not occur in Vn and Mg.) The high vowels in these Ch loans have perhaps acted to support favoring of the higher variants in the i/e variation pattern.

7. Etymologies. Listed below are the comparisons on which this study is based, alphabetized by English gloss. They are organized into three sets: (A) cognates presumably reflecting genetic relationship, cited with PVM reconstructions; (B) apparent loanwords; (C) forms which have been proposed or which suggest themselves as possible cognates but which present problems of one sort or another. Forms are presented, as above, in the order Mg Hn Sg MVn. Where there may be some doubt about semantic connection of a MVn word the Latin gloss is given. When the meaning is different in Mg and Vn a gloss is supplied under either the Mg or Hn form; such glosses beginning under the Hn word may be construed as applying to the other Vn dialects unless a separate gloss is given for Sg or MVn.

A. Cognates. When diagnostic forms in Sg or MVn are lacking, reconstructions rely on standard Vn spelling, *r-* presupposing Sg MVn /r-/, *gi-* presupposing MVn /j-/, *d-* presupposing MVn /dʏ-/. Sg forms cited with /by-, kw-, ŋw-/ are to be understood

/(b)y-, (k)w-, (ŋ)w-/, respectively. A question  
mark after a reconstruction indicates it is problema-  
tic. For reconstructions in brackets see discussion  
4.

abstain	kiəŋ	kiəŋ	--	kiəŋ	*kiəŋ A
accent, tone	yɔŋ-	zǎwŋ.	yǎwŋ.	--	*jyɔŋ B
according to	ti'	twi'	twi'	--	[*dwi A]
accustomed	kwen	kwen	kwɛəŋ	kwen	[*kwen A]
acre (Vn. measure, 3600 sq. meters)	məw-	məw~	--	--	*məw C
adjoining	liən'	liən'	liəŋ'	liən'	*liən A
admire	fuk-	fuk.	--	--	[*b'uk]
after	roy'	zoy'	roy'	roy'	*roy A
aglaia flower	ŋəw	ŋəw	--	--	*hŋəw A
all (1)	ka'	ka'	ka'	ka'	*ka C
all (2)	tan'	twan'	twan'	--	[*dwan A]
all (3)	t'ǎy'	t'ǎy'	t'ay'	t'ǎy'	[*t'ǎy C]
almost	ŋət'	ŋət'	--	--	*hŋət
always	luən	luən	luəŋ	--	*hluən A
ambush, lie in	riñ'	ziñ'	rin'	riñ'	*riñ A
angry	t'ik'	t'ik'	--	t'ik'	[*t'ik]
animal	kɔn	kɔn	kɔŋ	kɔn	*kɔn A
animal (wild quad- rured)	mɔŋ	muəŋ	muəŋ	muəŋ	*hmɔŋ A
anniver- sary	yo-	zɔ~	--	jɔ~	*jyo C
ant	kiən.	kiən'	kiəŋ'	kiən'	*kiən B
approxi- mately	?ʔək'	?ʔək'	--	--	*?ʔək
argue, dis- pute (1)	ceñ	cǎñ <sup>3</sup>	--	cǎñ/ ʔǎñ <sup>3</sup>	*ceñ A
argue, dis- pute (2)	ceñ	zǎñ'	--	jǎñ'	*əceñ A

hand	t'ăy	tăy	tây	tăy	*t'ăy A
and	kweñ	kwăñ	kwăn	kwăñ	[*kweñ A]
question	hoy'	hoy'	hoy'	hoy'	*hoy C
assemble,					
gather	lăp'	lăp'	--	--	*hlăp ?
related	?ë'	?ë'	?ë'	?ë'	*?ë C
because <sup>4</sup>	tay-	tay.	tay.	tay.	[*ɖay B]
id	leñ.	lăñ'	--	lăñ'	*hleñ B
back (of body)	ləŋ	liŋ	liŋ	liŋ	*hləŋ A
	səw.	səw'	səw'	śəw'	*c'əw B
eat (for fish)	moy'	moy'	--	moy'	*moy A
boo					
foot	băŋ	măŋ	măŋ	măŋ	*?băŋ A
mana	cuəy.	cuəy'	cuy'	cuəy'	*cuəy B
quiet	ko-	ko~	--	ko~	*go C
the	t'ăm.	tăm'	tăm'	tăm'	*t'ăm B
	la`	la`	la`	la`	*la A
chicken)	mo'	mo'	mo'	mo'	*hmo C
animal)	ku.	gəw'	gəw'	gəw'	*həku B
born					
birth	te'	dɛ'	dɛ'	dɛ'	*te C
endure	ciw-	ciw.	ciw.	ciw.	*jiw B
pulse)	măc-	măc.	--	măc.	*mec
cause					
)	bi`	vi`	byi`	wi`	*byi A
cause					
)	pëy'	bëy'	bëy'	bëy'	*pëy C
				'ex quo loco'	

become	t'ǎñ`	t'ǎñ`	t'ǎn`	t'ǎñ`	[*d'eñ A]
bed	cɿəŋ`	zɿəŋ`	yɿəŋ`	jɿəŋ`	*əjɿəŋ A
bed, plat- form (carved)	xəp-	səp.	ʂəp.	sǎp. <sup>5</sup>	*gɦəp
bed, wooden	fan`	fan`	--	--	[*p'an C]
bee, wild honeybee	xway.	xway`	--	--	[*k'way B]
before	tlɿək`	cɿək`	ʂɿək`	tlɿək`	*tlɿək
beg, ask for	sin	sin	sin	ʂin	*c'in A
behind, after	xǎw	sǎw	ʂaw	sǎw	*khǎw A
belong to	t'uək-	t'uək.	t'uək.	t'uək.	[*d'uək]
beseech	wan	van	--	wan	*hwan A
bestow	fəŋ	fǎwŋ	--	--	[*p'əŋ A]
betel	tlu`	zəw`/ zǎw`	ʂəw`	blǎw`	*əblu A
bib, halter- like garment	?iəm.	?iəm`	--	--	*?iəm B
big	tə	tə	--	tə	[*tə A]
bird	cim	cim	cim	cim	*cim A
bite	kǎñ.	kǎn`	kǎŋ`	kǎn`	*kǎñ B
bladder	pəŋ.	bǎwŋ`	bǎwŋ`	bǎwŋ`	*pəŋ B
blind, shade	mɛñ`	mǎñ`	mǎn`	--	*mɛñ A
blood	mǎw.	mǎw`	maw`	mǎw`	*hmǎw B
blue, green	sɛñ	sǎñ	sǎn	ʂǎñ	*c'eñ A
board, plank	ban.	van`	byaŋ`	βan`	*pyan B
body, self	mɛñ`	miñ`	min`	mɛñ`/ miñ`	*miñ A

one	sīəŋ/ siəŋ	sīəŋ	sīəŋ	śīəŋ	*c'īəŋ A
orrow (1)	mañ-	mīəŋ.	mīəŋ.	mīəŋ.	*mañ B
orrow (2)	wǎl	vǎy	--	wǎy	*hwǎl A
ow (low)	lǎy-	lǎy.	--	lǎy.	*lǎy B
ow, crossbow	na.	na'	--	na'	*hna B
owl (for rice)	pat'	bat'	--	bat'	*pat
ranch	keñ`	kǎñ`	kǎñ`	kǎñ`	*geñ A
read	peñ.	bǎñ'	bǎñ'	bǎñ'	*peñ B
reak	pe'	be <sup>v</sup>	be <sup>v</sup>	be <sup>v5</sup>	*pe C
reathe	t'ë'	t'ë <sup>v</sup>	t'ë <sup>v</sup>	t'ë <sup>v</sup>	[*t'ë C]
right	laŋ.	laŋ'	--	laŋ'	*hlaŋ B
rother, elder	?eñ	?ǎñ	?ǎñ	?ǎñ	*?eñ A
uffalo, carabao	tlu	cəw	ʔəw	tləw	*hətlu A
undle	pə.	bə'	bə'	bə'	*pə B
urn	cǎl.	cǎy'	cay'	cǎy'	*cǎl B
ut	ma`	ma`	ma`	ma`	*ma A
utterfly	pīəm.	(bīəm) bīəm'	(bīm) bīm'	(bīəm) bēəm'	*pīəm B
uy	muə	muə	muə	muə	*hmuə A
alculate	tiñ.	tiñ'	tin'	tiñ'	[*tiñ B]
alendar	lic-	lic.	lit.	lic.	*lic
anal	mīəŋ	mīəŋ	--	--	*hmīəŋ A
andle	nen.	nen'	--	nen'	*hnen B
ard	t'ɛ'	t'ɛ <sup>v</sup>	--	--	[*t'ɛ C]
arry (a child)	pe.	be'	be'	be'	*pe B
arry (both hands)	pëŋ	bīŋ	--	--	*pëŋ A
arry (one hand)	baŋ	maŋ	maŋ	maŋ	*?baŋ A
atch, seize	pǎt'	bǎt'	bǎk'	bǎt'	*pǎt

caught (cf. hang up)	māk'	māk'	māk'	māk'	*hmāk
centipede	t'et'	zet'	--	ret. <sup>6</sup>	*tret
change	toy'	doy <sup>v</sup>	doy <sup>v</sup>	doy <sup>v</sup>	*toy C
character, disposition	tiñ.	tiñ'	tān' <sup>2</sup>	tiñ'	[*t̥iñ B]
chase	tuøy'	duøy <sup>v</sup>	duy <sup>v</sup>	duøy <sup>v</sup>	*tuøy C
cheek	ma.	ma'	ma'	ma'	*hma B
chicken (gen.)	ka	ga`	ga`	ga`	*əka A
child (1)	dət'	nit'	nit'	nit'	*?dit ?
child (2)	kən	kən	kəŋ	kən	*kən A
chop	cəm.	cəm'	--	cəm'	*cəm B
chop off, pieces	căc-	căt.	căk.	cat. <sup>5</sup>	*jăc
chopstick	tue-	duə <sup>v</sup>	due <sup>v</sup>	due <sup>v6</sup>	*due C
cinnamon apple	mən-	mən.	--	mən.	*mən B
circle	wəŋ`	văwŋ`	byăwŋ`	--	*wəŋ A
cloth	pay'	vay <sup>v</sup>	byay <sup>v</sup>	βay <sup>v</sup>	*həpay C
clothes	?aw.	?aw'	?aw'	?aw'	*?aw B
cloud	məl	məy	məy	məy	*hməl A
cockroach	can.	zan'	--	jan'	*həcan B
cock's comb, wattle	maw`	maw`	--	maw`	*maw A
					'summitas herbae; praeputium...'
coffin	xăŋ	săŋ	--	săŋ	*khăŋ A
cold (1)	ca.	za'	--	ja'	*həca B
cold (2)	lɛñ-	lăñ.	lăn.	lăñ.	*lɛñ B
come	lay-	lay.	lay.	lay.	*lay B
come, arrive	teñ.	den'	den'	den'	*t̥iñ B
common	cuŋ	cuŋ	cuŋ	cuŋ	*cuŋ A
completely	hăn'	hăn <sup>v</sup>	hăn <sup>v</sup>	han <sup>v5</sup>	*hăn C

pletely,					
com-					
ished	tlot'	cot'	--	blot'	*plot
ceal	lən'	lən <sup>v</sup>	--	--	*hlən C ?
fiscate	t'u	t'u	--	--	[*t'u A]
nect,					
ntinue	no .	noy'	--	noy'	*hno  B
sid-					
ate	ye`	ze`	--	dye`	*ye A
struct,					
ild,					
ect	dəŋ-	zīŋ.	yīŋ.	dYīŋ.	*dyəŋ B ? <sup>7</sup>
sult	pəl.	bəy' 'prophecy'	--	bəy' 'sortilegium'	*pəl B
ntinue					
)	kī.	kī'	kī'	--	*kī B
ntinue					
)	may-	may <sup>v</sup>	may <sup>v</sup>	--	*may C
trary					
	tlay.	cay'	tay'	tlay'	*tlay B
ck, boil	no.	nəw'	nəw'	nəw'	*həhno B
l	mac'	mat'	mak'	mat'	*hmac
ck (for					
ttle)	nut'	nut.	--	nut.	*əhnut
rpse	t'i	t'əy	t'əy	t'əy	[*hət'i A]
st	ton.	ton'	--	ton'	[*t'on B]
ugh	hən	hən	--	--	*hən A
		'asthma'			
unt	tem.	dem'	dem'	dem'	*tem B
ver (v.)	löp-	löp.	--	löp.	*löp
ver, fill					
n	löp'	löp'	--	löp' <sup>5</sup>	*hlöp
v (bovine					
imal)	pə`	bə`	bə`	bə`	*bə A
ward	hən`	hən`	--	hən`	*hən A
		'coward; lowly'	'vilis'		
azy	ro`	zo`	--	--	*ro A
icket	tiel.	ze'	--	dye'	*hətiel B
oss, go					
cross	xəŋ	səŋ	şəŋ	səŋ	*kəŋ A



crow (v.)	kāl.	gāy'	--	gəy' <sup>5</sup>	*həkāl B
crushed, broken	dac'	nat'	--	nat'	*?dac
cry, begin to cry	mew.	mew'	--	mew'	*hmew B
cup	cən.	cən'	cəəŋ' 'bowl'	cən'	*cən B
custom	tuk-	tuk.	tuk.	--	[*ɖuk]
cut (1)	fat'	fat'	--	--	[*p'at]
cut (2)	kāc'	kāt'	kāk'	kāt'	*kāc
dance	muə.jāc'	muə'	muə'	muə'	*hmue B
dark	t'ol.	toy'	toy'	toy'	*t'ol B
daughter- in-law, bride	yu	zəw	yəw	dʲəw	*həhyu A
day (1)	hom	hom	hom	hom	*hom A
day (2)	ŋāy'	ŋāy'	ŋay'	ŋāy'	*ŋāy A
dead, die	cit' <sup>8</sup>	cet'	cet'	cet'	*cet
December (last month of [lunar] year)	cap-	cap.	cap.	cap.	*jap
deep	xu	səw	ʃəw	səw	*həkhu A
deer	day	nay	nay	nay	*?day A
defend	peñ	beñ	--	--	*piñ A
deformed, out of shape	bew.	mew'	--	--	*?bew B
deliver	yaw	zaw	--	--	*cyaw A
deliver; emanci- pate	yay'	zay'	--	jay'	*cyay C
deposit (settle)	lāŋ.	lāŋ'	--	--	hlāŋ B
destroy	fa.	fa'	fa'	p'a'	[*p'a B]
devil	kwi'	kwi'	kwi'	kwi'	[*kwi C]
devotion	ŋiə-	ŋiə~	--	ŋiə~	*ŋiə C

fferent	xak'	xak'	xak'	k'ak'	*k'ak
fficult	xɔ.	xɔ'	xɔ'	k'ɔ'	*k'ɔ B
g	taw`	daw`	daw`	daw`	*daw A
me	haw`	haw`	haw`	--	*haw A
mension	ciəw`	ciəw`	--	--	*jiəw A
minish, decrease	pēc'	bēt'	bēk'	bēt'	*pēc
sh	tiə-	diə~	--	diə <sup>v6</sup>	*diə C
shonest	yan	zan	--	jan	*cyan A
splay	păy`	băy`	bay`	băy`	*băy A
vide	ciə	ciə	ciə	ciə	*ciə A
o, make, ork	la`	lam`	lam`	lam`	*lam A ?
g	cɔ.	cɔ'	cɔ'	cɔ'	*cɔ B
or	kīə'	kīə <sup>v</sup>	kīə <sup>v</sup>	kīə <sup>v</sup>	*kīə C
own: descend	t'uəŋ.	suəŋ'	suəŋ'	śuəŋ'	*tk'uəŋ B?
own: lower (v.)	xuəŋ.	--	--	juəŋ'	*hətk'uəŋ B ?
rink	?ɔŋ.	?uəŋ'	?uəŋ'	?uəŋ'	*?ɔŋ B
rown, sink	tăm.	dăm'	--	dăm'	*tăm B
rum	tloŋ-	cəwŋ'	--	tləwŋ'	*hədloŋ B
runk	xăy	săy	şay	săy	*khăy A
ry	t'aw.	zaw'	--	raw'	*traw B
ry up	kan-	kan.	--	kan.	*gan B
uck	wit-	vit.	byit.	wit.	*wit
urable, solid	pen`	ben`	--	ben`	*ben A
ust	pul-	buy.	buy.	buy.	*bul B
ach (1)	moy-	moy~	moy <sup>v</sup>	moy~	*moy C
ach (2) <sup>9</sup>	təŋ`	tīŋ`	tīŋ`	tēŋ` <sup>5</sup>	[*dəŋ A]
ar	t'ay	tay	tay	tay	*t'ay A
arly	xēm.	sēm'	şēm'	sēm'	*khēm B
arth	tət'	dət'	dək'	dət'	*tət

eat	ʔǎn	ʔǎn	ʔǎŋ	ʔǎn	*ʔǎn A
egg	tlǝŋ.	cǐŋ'	ʔǐŋ'	tlǐŋ'	*tlǝŋ B
eight	t'am.	tam'	tam'	tam'	*t'am B
elephant	wɔy	vɔy	byɔy	wɔy	*hwɔy A
encamp	tɔŋ.	dǎwŋ'	--	dǎwŋ'	*tɔŋ B
end	kuəy.	kuəy'	kuy'	kuəy'	*kuəy B
enjoin, advise, order, recommend	dǎn-	zǎn.	yǎŋ.	dʏən. <sup>5</sup>	*dʏǎn B
enjoy oneself	cǝl 'happy'	cǝy	cǝy	cǝy	*cǝl A
enough	tu'	du <sup>v</sup>	du <sup>v</sup>	du <sup>v</sup>	*tu C
enter <sup>10</sup>	paw	vaw <sup>v</sup>	--	βyaw <sup>v</sup>	*əpaw A
epoch	ki <sup>v</sup>	ki <sup>v</sup>	ki <sup>v</sup>	ki <sup>v</sup>	*gi A
equal (1)	pǎŋ <sup>v</sup>	bǎŋ <sup>v</sup>	bǎŋ <sup>v</sup>	baŋ <sup>v5</sup>	*bǎŋ A
equal (2)	tew <sup>v</sup> 'together'	dew <sup>v</sup>	dew <sup>v</sup>	dew <sup>v</sup>	*dew A
escape	xɔy'	xɔy <sup>v</sup>	xɔy <sup>v</sup>	k'ɔy <sup>v</sup>	*k'ɔy C
evil (adj.)	ʔak'	ʔak'	ʔak'	ʔak'	*ʔak
exact, true	t'ət-	t'ət.	t'ǐk.	t'ǎt. <sup>5</sup>	[*d'ət]
excessive	kwa.	kwa'	kwa'	kwa'	[*kwa B]
excrement	fən	fən	--	--	[*p'ən A]
exhausted, weak	la'	la <sup>v</sup>	--	la <sup>v</sup>	*hla C
eye	mǎt-	mǎt'	mǎk'	mǎt'	*həmǎt
eyebrow	mǎy <sup>v</sup>	mǎy <sup>v</sup>	--	mǎy <sup>v</sup>	*mǎy A
face	mǎt-	mǎt.	mǎk.	mǎt.	*mǎt
face up (v.)	ŋa'	ŋǐə <sup>v</sup>	--	ŋǐə <sup>v</sup>	*hŋa C
fade	fay	fay	--	p'ay	[*p'ay A]
fall, fall over	lǝ'	lǝ <sup>v</sup>	--	lǝ <sup>v</sup>	*hlǝ C 'conquassari'

family, lineage	yoŋ'	zǎwŋ'	--	dʲǎwŋ'	*yoŋ A
n	kwat-	kwat.	kwak.	kwat.	[*gwat]
r	sa	sa	sa	śa	*c'a A
st, rapid (1)	cɔŋ.	cǎwŋ'	cǎwŋ'	cǎwŋ'	*cɔŋ B
st, rapid (2)	ñǎñ	ñǎñ	ñǎn	--	*hñǎñ A ?
sten (1)	kal'	kay'	--	kay'	*gal A
sten (2)	kal'	gay'	--	gay'	*əgal A
te	bən-	vən.	--	--	*byən B
ther	po.	bo'	--	--	*po B
vor	?ən	?ən	?ǝŋ	?ǝn	*?ǝn A
ast, festival ceremony	le-	leʷ	leʷ	leʷ	*le C
ed (beak no beak)					
pre- chew)	mēm-	mēm'	--	mēm'	*həmēm B
eling (1)	moy.	moy'	moy'	--	*hmoy B
eling (2)	tiñ'	tiñ'	tin'	tiñ'	[*ɟiñ A]
male (1)	kay.	kay'	kay'	kay'	*kay B
		'female of animals'			
male (2)	kay.	gay'	gay'	gay'	*həkay B
		'girl, human female'			
male (3)	may-	may'	--	may'	*həmay B
nice	raw'	zaw'	--	raw'	*raw A
ment, evening	mən	mən	--	mən	*hmən A
w (how many?)	məy.	məy'	məy'	məy'	*hməy B
eld	toŋ'	dəwŋ'	dǎwŋ'	dəwŋ'	*doŋ A
g	wa'	va'	--	wa'	*hwa C
g tree (sp.)	xi	si	--	--	*khi A
		'banyan (sp.)'			

fill	tēm	dēm	--	--	*tēm A
finish (1)	het'	het'	het'	het'	*het
finish (2)	səŋ	sǎwŋ	sǎwŋ	šǎwŋ	*c'əŋ A
fire, firewood	kuy'	kuy <sup>v</sup>	kuy <sup>v</sup>	kuy <sup>v</sup>	*kuy C
firm (adj.)	cǎk'	cǎk'	cǎk'	cǎk'	*cǎk
first	ñət'	ñət'	ñĩk'	ñit' <sup>5</sup>	*hñət
fish	ka.	ka'	ka'	ka'	*ka B
five	dām	nām	nām	nām	*?dām A
fix, put in place	cǎt'	zǎt'	yǎk'	jət' <sup>5</sup>	*hēcǎt
flesh	ñuk'	ñuk.	--	ñuk.	*əhñuk
float	noy'	noy <sup>v</sup>	noy <sup>v</sup>	noy <sup>v</sup>	*hnoy C
floor	xañ`	san`	şaŋ`	--	*gfañ A
flow	cǎy'	cǎy <sup>v</sup>	cay <sup>v</sup>	cǎy <sup>v</sup>	*cǎy C
flower	poŋ	bəwŋ	bǎwŋ	--	*poŋ A
fly (insect)	ruəy`	zuəy`	ruy`	ruəy`	*ruəy A
fly (v.)	pǎl	bǎy	bay	bǎy	*pǎl A
fold, crease	nep'	nep'	--	--	*hnep
follow	t'ɛw	t'ɛw	t'ɛw	t'ɛw	[*t'ɛw A]
foot, leg (1)	cən	cən	cĩŋ	cən	*cən A
foot, leg (2)	co`	zo`	--	jo`	*əjo A 'foot (of pig, chicken), leg'
forehead	tlañ.	can'	taŋ'	tlan'	*tlañ B
forest	rəŋ`	zĩŋ`	rĩŋ`	rĩŋ`	*rəŋ A
fork of tree	kak-	gak.	--	gak. hĩw 'cornua cerui'	*əgak
four	pon.	bon'	boŋ'	bon'	*pon B
fragrant	hēm	t'ēm	t'ēm	t'ēm	*təhēm A
freeze	toŋ	dəwŋ	dǎwŋ	dəwŋ	*toŋ A

friend	pan-	ban.	baŋ.	ban.	*ban B
fresh	t'fəy	t'fəy	t'fɿy	t'fəy	*t'fəy A
hill	təy'	dəy'	dəy'	dəy'	*dəy A
hill (from steating	ɔ	no	no	no	*ʔɔ A
fur, feathers, hair	loŋ	ləwŋ	lǎwŋ	ləwŋ	*hloŋ A
narrow	loŋ.	luəŋ'	--	--	*hloŋ B
future cense marker	xɛ-	sɛv	ʂɛv	sɛv	*gɦɛ C
hill					
bladder	mət-	mət.	--	mət.	*mət
garden	wən'	vīən'	byfəŋ	wīən'	*wən A
generation	təy'	dəy'	dəy'	dəy'	*dəy A
most	ma	ma	ma	ma	*hma A
ribbon	wīən-	vīən.	--	--	*wīən B
hills (of fish)	maŋ	maŋ	--	maŋ	*hmaŋ A
live	co	co	co	co	*co A
lizzard	mel'	me'	--	me'	*mel A
to	ti	di	di	dí	*ti A
bold	waŋ'	vaŋ'	byaŋ'	waŋ'	*waŋ A
long	ciəŋ	ziəŋ	--	--	*həciəŋ A
good (beau- tiful)	t'oc'	tot'	tok'	tot'	*t'oc
good, kind, well	leñ'	lǎñ'	lǎn'	lǎñ'	*leñ A
nose	ŋan	ŋan	--	--	*hŋan A
grass	ko'	ko'	ko'	ko'	*ko C
cave	ma'	ma'	ma'	ma'	*hma C
crease, fat	mě-	měv	měv	měv <sup>6</sup>	*mě C
street	caw'	caw'	caw'	caw'	*jaw A
kind (rice) in mill	sǎy	sǎy	--	śǎy	*c'ǎy A

groan	reñ	zen	--	ren	*hrĩñ A
group (1)	fĩeŋ`	fĩeŋ`	--	p'ĩeŋ`	[*b'ĩeŋ A]
group (2)	tan` [pluralizer for pronouns]	dan`	daŋ`	dan`	*dan A
group (3)	tan.	twan`	--	--	[*twan B]
grow	mək-	māwk.	māwk.	māwk.	*mək
gudgeon (pivot)	poŋ.	bəwŋ`	--	--	*poŋ B
guest	xec`	xāc`	xāt`	k'āc`	*k'ec
guts	loŋ`	lāwŋ`	lāwŋ`	lāwŋ`	*loŋ A
hair	t'āk	tāwk`	tāwk`	tāwk`	*t'āwk ?
half	nĩe`	nĩe`	nĩe`	nĩe`	*hnĩe C
hammer	puə.	bue`	bue`	bue`	*puə B
hang up; bait hook	bāk`	māk`	māk`	mak` <sup>5</sup>	*?bāk
happy (1)	mēŋ`	mĩŋ`	mĩŋ`	mēŋ`/11 mēŋ`	*mēŋ A
happy (2)	puy	vuy	byuy	βuy	*həpuy A
hard	kəŋ.	kĩŋ`	kĩŋ`	kĩŋ`	*kəŋ B
harrow	pĩe`	bĩe`	--	bĩe`	*bĩe A
harvest	ciəm	ciəm	--	ciəm	*ciəm A
hat	mu-	mu~	mu`	mu~	*mu C
have	kɔ.	kɔ`	kɔ`	kɔ`	*kɔ B
head (1)	təw` 'first'	dəw`	dəw`	dəw`	*dəw A
head (2)	tlok`	cəwk` 'top'	--	--	*tlok ?
heart	tim	tim	tim	tim	[*t̥im A]
heavy	nāŋ-	nāŋ.	nāŋ.	nāŋ.	*nāŋ B
help (1)	fu`	fu`	--	p'u`	[*b'u A]
help (2)	yup`	zup`	yup`	jup`	*cyup
hide (v.)	cu.	zəw`	--	--	*həcu B
hill	tol` <sup>12</sup>	doy`	doy`	doy`	*dol A
hit	tāñ	dāñ`	dāñ`	dāñ`	*teñ B
hoe	kuək`	kuək`	--	kuək`	*kuək

ld	kəm`	kəm`	kəm`	kəm`	*gəm A
pe	mɔŋ	mǎwŋ	mǎwŋ	mǎwŋ	*hmɔŋ A
t	xot`	sot`	ʂok`	sot`	*khot
ur	yě`	zě`	yě`	jě`	*jyě A
use	ña`	ña`	ña`	ña` / dya`	*nya A
ndred	tlǎm	cǎm	ʈǎm	tlǎm	*tlǎm A
ngry	tɔl.	dɔy`	dɔy`	dɔy`	*tɔl B
	toy	toy	toy	toy	[*ʈoy A]
	new.	new`	new`	new`	*hnew B
me-					
riately	ŋǎy	ŋǎy	ŋay	--	*hŋǎy A
	tlɔŋ	cǎwŋ	ʈǎwŋ	tlǎwŋ/ ʈǎwŋ/ ʈuŋ	*tlɔŋ A
ncense	hǐeŋ	hǐeŋ	hǐeŋ	hǐeŋ	*hǐeŋ A
crease	t'em	t'em	t'em	t'em	[*ʈ'em A]
ndividual, erson	tǐe.	dǐe`	dǐe`	dǐe`	*tǐe B
nk	mək-	mǐk.	mǐk.	mǐk.	*mək
nterval	xwaŋ`	xwaŋ`	--	k'waŋ` 'diuisiones partis inferioris nauigij`	[*k'waŋ C]
ntestine	rɔc-	zuət.	ruək.	ruək.	*rɔc
avite (1)	měy`	měy`	měy`	měy`	*měy A
avite (2)	ru`	zu`	--	ru`	*hru C
ron	xǎc`	sǎt`	ʂǎk`	sǎt`	*khǎc
ch(y)	ŋa-	ŋǐe`	--	ŋǐe`	*həŋa B
vory	ŋa`	ŋa`	ŋa`	ŋa`	*ŋa A
uckfruit	mit`	mit`	--	mit`	*hmit
ur	pay- 'jarful'	vay.	--	βay.	*əbay B
erk, ull	yət-	zət.	--	jet.	*jyət
ep	yǐ-	zǐv	yǐ`	jǐv	*jyǐ C



kindle, build fire	ñɔ.	ñɔm'	--	--	hñɔm B ?
kindle, set fire	toc'	dot'	dok'	dot'	*toc
king	bue	vue	byue	βue	*pyue A
knife	taw	zaw	yaw	dʷaw	*hetaw A
laugh	kīey'	kīey'	kīy'	kīey'	*gīey A
layer, stratum <sup>9</sup>	təŋ'	tīŋ' / təŋ'	tīŋ'	tēŋ' <sup>5</sup>	[*dətəŋ A]
lead (v.)	tāc'	zāt'	yāk'	dʷat' <sup>5</sup>	*hetāc
leaf	la.	la'	la'	la'	*hla B
lean on	dīe-	zīe.	--	dʷīe.	*dyīe B
lemon	ceñ	cāñ	cān	cāñ	*ceñ A
lie (down)	nām'	nām'	nām'	nām'	*nām A
life	maŋ-	maŋ.	--	--	*maŋ B
lift (v.)	yāk'	ñāk'	ñāk'	ñak' <sup>5</sup>	*hñyāk
lightning	cēp'	cēp'	--	cēp'	*cēp
light- weight	ñɛl-	ñɛ.	ñɛ.	ñɛ. / dʷɛ.	*nyɛl B
like (1)	coŋ.	zəwŋ'	yāwŋ'	jəwŋ'	*həcoŋ B
like (2)	ñě	ñī	ñī	ñī	*hñě A <sup>13</sup>
lime (sub- stance)	pol	voy	--	βoy	*həpol A
lip	moy	moy	moy	moy	*hmoy A
liquid	lɔŋ'	lǎwŋ'	--	lǎwŋ'	*hlɔŋ C
little, not much (1)	?ɛt'	?it'	?it'	?it'	*?it ?
little, not much (2)	?ɔy'	?it'?ɔy'	--	--	*?ɔy C
little, not much (3)	dɛw	nɛw	--	--	*?dɛw A
live, be alive	xoŋ.	səwŋ'	ʂǎwŋ'	səwŋ'	*kxoŋ B

ong	yay`	zay`	yay`	d'yay`	*yay A
ong (time)	lo	læw	læw	læw	*həhlo A
ook at (see)	ŋɔ.	ŋɔ'	--	ŋɔ'	*hŋɔ B
ord	cuə.	cuə'	cuə'	cuə'	*cuə B
ose	bət'	mət'	mək'	mət'	*?bət
ose, be defeated	t'uə	t'uə	--	t'uə	[*t'uə A]
ost	lak-	lak.	--	lak.	*lak
ouse, ody	xəñ-	zən.	--	rən.	*grəñ B
ouse, head	ci.	cəy'/ ci'	--	cəy'	*cəy B ?
ucky, fortunate	māl	māy	may	māy	*hmāl A
ade of	pāŋ`	bāŋ`	bāŋ`	--	*bāŋ A
agpie	xaw.	saw'	--	saw'	*khaw B
any	tī`	zī	--	d'yī	*hədī A
arket	cē-	cē.	cē.	cē.	*jē B
at`	ciəw.	ciəw'	ciw'	ciəw'	*ciəw B
real	pīə-	bīəv	bīəv	bīəv <sup>6</sup>	*bīə C
edicine	t'uək'	t'uək'	t'uək'	t'uək'	[*t'uək]
edium, spiritual- ist	t'iep'	t'iep'	--	t'iep'	[*t'iep]
reet	kǎp-	gǎp.	gǎp.	gǎp.	*əgǎp
reet on arrival, welcome (v.)	sək'	zīək'	rīək'	rīək'	*crək ?
end	pa.	va'	--	βa'/ wa'	*həpa B
iddle (between)	xīə-	zīəv	yīəv	jīəv <sup>6</sup>	*əghyīə C
irror	kīəŋ	gīəŋ	--	gīəŋ	*həkīəŋ A
iscel- aneous	t'ap-	tap.	tap.	--	*d'ap
ist	hëy	hëy	hëy	hëy	*hëy A
		'steam, vapor, air'			

mistake	loy-	loy <sup>~</sup>	loy <sup>˘</sup>	loy <sup>~</sup>	*loy C
model	kiəw'	kiəw <sup>˘</sup>	--	--	*kiəw C
moist, humid	ʔəm'	ʔəm <sup>˘</sup>	--	ʔəm <sup>˘</sup>	*ʔəm C
moment	luk'	luk'	luk'	--	*hluk ?
month	xəŋ.	t'aŋ'	t'aŋ'	t'aŋ'	*təkhaŋ B
moon	tlǎŋ	zǎŋ	ʔǎŋ	blaŋ <sup>5</sup>	*həplǎŋ A
more	hën	hën	hëŋ	hën	*hën A
mortar, mill	kol.	koy'	--	koy'	*kol B
mosquito	mɔy-	muəy <sup>~</sup>	muy <sup>˘</sup>	muəy <sup>˘6</sup>	*mɔy C
mouth (1)	mɛñ-	miəŋ.	miəŋ.	miəŋ.	*mɛŋ B ?
mouth (2)	mom`	mom`	--	mom`	*mom A
much, many	lǎm.	lǎm'	lǎm'	lǎm'	*hlǎm B
mud, mire	pun`	bun`	--	bun`	*bun A
must	fay'	fay <sup>˘</sup>	fay <sup>˘</sup>	p'ay <sup>˘</sup>	[*p'ay C]
nail (finger, toe)	mɔŋ.	mǎwŋ'	mǎwŋ'	mǎwŋ'	*hmɔŋ B
name	t'en	ten	ten	ten	*t'en A
name, family name	hɔ-	hɔ.	hɔ.	hɔ.	*hɔ B
narrow	hɛp-	hɛp.	--	hɛp.	*hɛp
near	xəñ	gən`	gəŋ`	gən`	*ək'əñ
need	kən`	kən`	kəŋ`	--	*gən A
negative- prohibi- tive	cë.	cë'/cī'	cë'	cë'	*cë B <sup>13</sup>
nest	ʔo'	ʔo <sup>˘</sup>	--	ʔo <sup>˘</sup>	*ʔo C
new	mëy.	mëy'	mëy'	mëy'	*hmëy B
New Year festival	t'et'	tet'	tet'	tet'	*t'et
news	tin	tin	tin	tin	[*ʔin A]
night	tem	dem	dem	dem	*tem A

ne	cin.	cin'	cin'	cin'	*cin B
odles	fë'	fë'	fë'	--	[*p'ë C]
on	tlïë	cïë	ʈïë	tlïë	*tlïë A
ose	muy-	muy~	muy'	muy~	*muy C
tebook	bë' 'play, dramatic piece'	vë'	--	βë'	*pyë C
umber	xo.	so'	ʂo'	so'	*kho B
sess	?am.	?am'	--	?am'	*?am B
struct	ŋaŋ.	ŋaŋ'	--	--	*hŋaŋ B
lor	muy`	muy`	muy`	muy`	*muy A
d (1)	ku-	ku~	ku'	ku~	*gu C
d (2)	xa`	za`	ya`	ja`	*əghya A
d woman	mu-	mu.	--	mu.	*mu B
a, on top	tleñ	cen	ʈen	tlen	*tlïñ A
ne	moc-	mot.	mok.	mot.	*moc
ly	ci'	ci'	ci'	--	*ci C
en	bë'	më'	më'	më'	*?bë C
t, prefer	hăy	hăy	hey <sup>14</sup>	hăy	*hăy A
der (v.)	xay	say	--	say	*khay A
der, command (n.)	leñ-	leñ./ liñ.	--	leñ.	*liñ B
der, rank	t'ï.	t'ï'	t'ï'	--	[*t'ï B]
rdinary	t'ïeŋ`	t'ïeŋ`	t'ïeŋ`	t'ïeŋ`	[*d'ïeŋ A]
ther	no-	no.	no.	no.	*no B
ght to	deñ	nen	nen	nen	*?dïñ A
unce (37.8 grams)	laŋ-	laŋ.	--	laŋ.	*laŋ B
ut, go out	t'a	za	ra	ra	*tra A
utburst	kën	kën	këŋ	kën	*kën A
utside	way`	ŋway`	ŋway`	ŋway`	[*ŋway A]
verflow	tlan`	can`	--	blan`	*blan A

owner	cu'	cu <sup>v</sup>	cu <sup>v</sup>	--	*cu C
palm (of hand)	daŋ. t'äy	naŋ 'hand span'	--	--	*?daŋ B
pants	kwən'	kwən'	kwĩŋ'	--	[*gwən A]
paper	cəy.	zəy'	yəy'	jəy'	*həcəy B
parakeet, parrot	wət-	vət.	--	--	*wət
parallel	kən	kən	--	kən	*kən A
part	fən'	fən'	fəŋ'	p'ən'	[*b'ən A]
pass by (v.)	kwa	kwa	kwa	kwa	[*kwa A]
pastry (rice roll)	ca'	ca <sup>v</sup>	ca <sup>v</sup>	--	*ca C
peanut	lak-	lak.	--	--	*lak
peck (measure)	təw.	dəw'	--	dəw'	*təw B
peel (v.)	pək'	bǎwk'	bǎwk'	bǎwk'	*pək
peel, shell (n.)	pɔ-	vɔ <sup>v</sup>	byɔ <sup>v</sup>	βɔ <sup>v</sup>	*həβɔ C
pepper	?ət'	?ət'	?ək'	--	*?ət
permission	fəp'	fəp'	fəp'	--	[*p'ɛp]
person	ŋiəy'	ŋiəy'	ŋiy'	ŋiəy'	*ŋiəy A
person, people	mɔl-	mɔy. 'bar- barian'	mɔy.	mɔy.	*mɔl B
pestle	xǎy'	cǎy' / cəy'	--	cǎy'	*għyǎy A
pick up with chop- sticks	kǎp'	gǎp'	gǎp'	gap' <sup>5</sup>	*həkǎp
piece (1)	mɛñ'	mǎñ <sup>v</sup>	--	mǎñ <sup>v</sup>	*hmeñ C
piece (2)	məw'	məw <sup>v</sup>	--	--	*hməw C
piece (slice)	miəŋ.	miəŋ'	miəŋ'	miəŋ'	*hmiəŋ B
pile (n.)	tun-	dun.	--	--	*dun B

le up, ack	tǎp' 'dam'	dǎp'	dǎp'	dǎp' 'cooperire se cum quis cubat'	*tǎp
rate, nvader	cǎk-	zǎk.	yǎk.	jak. <sup>5</sup>	*əjǎk
ow	kāl'	kāy'	kay'	kāy'	*gāl A
ural article	kak'	kak'	kak'	kak' 'omnis'	*kak
le	tɔn'	dɔn'	--	dɔn'	*dɔn A
melo	přey'	břey'	břiy'	břey'	*přey C
nd	təm'	dəm'	--	dəm'	*dəm A
rch	hiən	hiən	--	--	*hiən A
ossible	noy'	noy'	--	noy'	*hnoy C
stpone ayment, sk to	xət'	xət'	--	--	*k'ət
t	nol'	noy'	--	noy'	*nol A
wer	kwien'	kwien'	kwien'	kwien'	[*gwien A]
ayer	xən.	xən'	--	--	*k'ən B
regnant	cǐə'	cǐə'	--	cǐə'	*cǐə C
epare	xǎm.	sǎm'	şǎm'	sǎm'	*khǎm B
esent, ow	nǎy	nǎy	nay	nǎy	*hnǎy A
esent article	taŋ	dřǝŋ/ daŋ	dřǝŋ/ daŋ	--	*taŋ A
roperty	kuə'	kuə'	kuə'	kuə'	*kuə C
oud	kiəw	kiəw	--	--	*kiəw A
iddle	puŋ-	vuŋ~	--	--	*əbuŋ C
ill (1)	kew.	kew'	--	kew'	*kew B
ill (2)	loy	loy	--	loy	*hloy A
pil	tlɔ'	co'	ʈɔ'	tlɔ'	*dlɔ A
sh	tuy'	dəy'	--	dəy'	*təwy C ?
t, place	tǎc-	dǎt.	dǎk.	dǎt.	*dǎc
t in	tla	ca	--	tla	*tla A

question particle	cǎŋ	cǎŋ	cǎŋ	caŋ <sup>5</sup>	*cǎŋ A
rabbit	t'ɔ'	t'ɔ'	--	t'ɔ'	[*t'ɔ C]
rain	mĭe	mĭe	mĭe	mĭe	*hmĭe A
rare	hiəm.	hiəm'	--	hiəm'	*hiəm B
rat	cuət- 'squirrel'	cuət.	cuət.	cuət.	*juət
rattan	məy	məy	--	məy	*hməy A
reason	lɛ-	lɛ~/ ñɛ~	lɛ'	mñɛ~/ mlɛ~	*mlɛ C
recently	bĭe'	vĭe'	byĭe'	--	*byĭe A
red	tɔ'	dɔ'	dɔ'	dɔ'	*tɔ C
region (1)	man-	man.	--	--	*man B
region (2)	miən'	miən'	miəŋ'	miən' 'pagus'	*miən A
region (3)	puŋ'	vuŋ'	--	--	*əbuŋ A
regret	tiək'	tiək'	tiək'	tiək'	[*t̥iək]
remain	kɔn'	kɔn'	kɔŋ'	kɔn'	*gɔn A
remember, think about	ñĕ.	ñĕ'	ñĕ'	dyĕ'/ ñĕ'	*hnyĕ B
remote	hɛw'	hɛw'	--	--	*hɛw C
rent, hire	t'we	t'we	t'we	t'we	[*t̥'we A]
repair	cĭe-	cĭe~	cĭe'	cĭe~ 'libero à quo- libet infortunio...'	*jĭe C
rest (v.)	ŋi'	ŋi'	ŋi'	ŋi'	*hŋi C
return (1)	tlĕ'	cĕ'	t̥ĕ'	blĕ~/ t̥ĕ'	*plĕ C
return (2)	wel'	ve'	bye'	we'	*wel A
revolt	kwet-	kwet.	--	--	[*gwet]
rice (cooked)	kĕm	kĕm	kĕm	kĕm	*kĕm A

rice (husked)	kaw.	gaw.	gaw.	gaw.	*əkaw B
rice (plant and grain)	lo-	luə'	luə'	luə'	*həlo̯ B
rice plant, young	ma-	ma.	ma.	ma.	*ma B
radiculae	ñaw-	ñaw.	--	ñaw.	*ñaw B
rice	deñ	nen	--	nen	*?dĩñ A
		'develop'			
rice, cooked	cin.	cin'	cin'	cin'	*cin B
rice	xoŋ	səwŋ	şəwŋ	səwŋ	*khəŋ A
rice (1)	taŋ'	dĩəŋ' / daŋ'	dĩəŋ'	daŋ' / dĩəŋ'	*daŋ A
rice (2)	xa.	sa'	şa'	--	*kha B
rice	naŋ	nĩəŋ'	nĩəŋ'	nĩəŋ'	*hnəŋ B
rice	may.	may'	may'	may'	*hmay B
rice	puəŋ'	buəŋ'	buəŋ'	buəŋ'	*buəŋ A
rice not used for sorcery	ŋay'	ŋay'	--	--	*hŋay C
rice	dəy	zəy	yəy	d'yəy	*tyəy A
rice	hoy.	t'oy'	t'oy'	t'oy'	*təhoy B
rice, line	haŋ'	haŋ'	haŋ'	haŋ'	*həŋ A
rice	cāl-	cāy.	cay.	cāy.	*jāl B
rice	t'ieŋ	t'ieŋ	t'ieŋ	t'ieŋ	[*t'ieŋ A]
rice	puən'	buən'	buəŋ'	buən'	*buən A
rice	boŋ.	muəy'	muy'	muəy'	*?boŋ B
rice fish	bām.	mām'	mām'	mam', <sup>5</sup>	*?bām B
	'salty'				
rice	kac'	kat'	kak'	kat'	*kac
rice	yep'	zep'	--	--	*hyep
rice	liñ	lāñ' / liñ'	--	--	liñ C ?
		'glossy silk, taffeta'			



save	k'w.	kiw'	--	k'w'	*k'w B
say (that)	rãŋ'	zãŋ'	rãŋ'	raŋ' <sup>5</sup>	*rãŋ A
scene	man'	man'	--	man'	*man A 'peripetasma'
scold (1)	bãŋ.	mãŋ'	mãŋ'	mãŋ'	*?bãŋ B
scold (2)	ñiæk'	ñiæk'	--	d'yiæk ñaw 'rixando inuícem aperire defectus'	*hnyiæk
scratch	kay'	gay~	--	gay' <sup>6</sup>	*əkay C
sea	pe'	be <sup>v</sup>	be <sup>v</sup>	be <sup>v</sup>	*pe C
search, look for (1)	kiəm.	kiəm'	kim'	kiəm'	*kiəm B
search, look for (2)	t'im' 'find'	tim'	tim'	tim'	*d'im A
season (1)	mue'	mue'	mue'	mue'	*mue A
season (2)	bu-	vu.	--	--	*byu B
secret (closed)	kin.	kin'	--	kin'	*kin B
secretly, sneaking	len'	len <sup>v</sup>	--	--	*hlen C ?
section (of orange)	muy.	muy'	--	muy'	*hmuy B
sedan chair	kiew-	kiew.	--	kiew.	*giəw B
seed	hot-	hot.	hok.	hot.	*hot
sell	pañ.	ban'	baŋ'	ban'	*pañ B
servant	të.	të'	--	të'	[*të B]
serve	həw'	həw'	--	--	*həw A
seven	pãy'	bãy <sup>v</sup>	bay <sup>v</sup>	bãy <sup>v</sup>	*pãy C
several	bay'	vay'	byay'	βay'	*byay A
sew	bāl	mãy	may	mãy	*?bāl A
shallow	doŋ	nəwŋ	nãwŋ	--	*?doŋ A
sharp	xāk'	sāk'	şāk'	sāk'	*khāk

pen	may`	may`	may`	may`	*may A
keep	kīw`	kiw`	--	--	*gīw A
foot	pāñ.	bān`	bāñ`	bān`	*pāñ B
port	pān.	vān`	--	βen` <sub>5</sub> wen`	*həpān B
shoulder	bay	vay	byay	β(y)ay/ way	*pyay A
back (1)	?om.	?om`	--	?om`	*?om B
back (2)	tāw	dāw	daw	dāw	*tāw A
backle (1)	hay.	hay`	--	hay`	*hay B
backle (2)	liəm`	liəm`	--	liəm`	*liəm A
bed	pen	ben	ben	ben	*pen A
back (1)	luə-	luə.	--	luə.	*luə B
back (2)	t'ë	të	të	të	*t'ë A
silver	pak-	bak.	bak.	bak.	*bak
hang	hat`	hat`	hak`	hat`	*hat
to	ḡoy`	ḡoy`	ḡoy`	ḡoy`	*ḡoy A
to	xāw.	sāw`	ṣaw`	sāw`	*khāw B
to	ta	za	ya	dʷa	*həta A
to	wāl.	vāy`	byay`	--	*hwāl B
to, heaven,					
to	tlëy`	zëy`	tëy`	blëy`	*əblëy A
to, cut					
to	sāt`	sāt`	--	šāt`	*c'āt
to, slippery,					
to, smooth	tlëñ	cën	--	tlën	*tlëñ A
to	cəm-	cəm.	cəm.	cəm.	*jəm B
to	kən	kən	kəŋ	--	*kən A
to	hit`	hit`	--	hit`	*hit
		'inhale'			
to	xoy.	xoy`	xoy`	k'oy`	*k'oy B
to	t'āñ. <sup>17</sup>	zān`	rāñ`	rān`	*trāñ B
to	ḡəm-	ḡəm`	--	--	*həḡəm B
to, il,					
to, dirty					
to, (v.)	ləm-	ləm`	--	ləm`	*hələm B
to, soldier	liñ.	liñ`	lin`	liñ`	*hliñ B

sorcerer	t'əy'	t'əy'	--	t'ǎy' <sup>5</sup>	[*d'əy A]
soul of dead person	bɔŋ	vǎwŋ	--	--	*pyɔŋ A
source	pen.	ben'	--	--	*pen B
spade	bay	may	--	may	*?bay A
special	riɛŋ	ziɛŋ	riɛŋ	riɛŋ	*hriɛŋ A
speech, language; noise	t'ien.	tien'	tien'	tien'	*t'ien B
spill	to'	do'	do'	do'	*to C
spirit	t'en'	t'en'	t'en'	t'en'	[*d'en A]
spit	fun	fun	--	p'un	[*p'un A]
split	ce'	ce'	--	ce'	*ce C
spread, distrib- ute	ray'	zay'	--	ray'	*hray C
square	buɛŋ	vuɛŋ	byuɛŋ	βuɛŋ' <sup>6</sup>	*pyuɛŋ A
stab	təm	dəm	--	dəm	*təm A
stake (pointed stick)	kɔk-	kǎwk.	kǎwk.	kǎwk.	*gɔk
stand <sup>7</sup>	tɛŋ. 'build'	dīŋ'	dīŋ'	dīŋ'	*tɛŋ B
star	xaw	saw	ʃaw	saw	*khaw A
stature, body shape	pɔk'	vǎwk'	--	βǎwk'	*hɛpɔk
step (n.)	pīɛk'	bīɛk'	bīɛk'	bīɛk'	*pīɛk
stink	hoy	hoy	hoy	hoy	*hoy A
stomach	ta-	za.	ya.	dya.	*ɛda B
story, floor	t'ɛŋ'	tīŋ' / tɛŋ'	tīŋ'	tɛŋ' <sup>5</sup>	*d'ɛŋ A
straight	t'ǎŋ'	t'ǎŋ'	t'ǎŋ'	t'ǎŋ' <sup>5</sup>	[*t'ǎŋ C]
strange	la-	la.	la.	la.	*la B
strategy	mīw	miw	--	--	*hmīw A

rength	lĩk-	lĩk.	˘-	lĩk.sĩv *lĩk	
				'luctator	
				regius'	
rength, orce	xək'	sĩk'	ʃĩk'	sĩk'	*khək
ring, ord made f bamboo	lac-	lat.	--	lat.	*lac
rong	mǎñ-	mǎñ.	mǎn.	mǎñ.	*mɛñ B
ubble (of rice)	ra-	za.	--	ra.	*ra B
udy (v.)	hək-	hǎwk.	hǎwk.	hǎwk.	*hək
uff (v.)	lot'	lot'	lok'	lot'	*hlot
ump, base f tree	kok'	gəwk'	gǎwk'	gəwk'	*həkok
bject	mon	mon	--	mon	*hmon A
merge	lǎn-	lǎn.	--	lǎn.	*lǎn B
ck	ʔu. <sup>18</sup>	vu'	--	βu'	*hwu B <sup>18</sup>
		'breast, udder'			
gar cane	miə.	miə'	--	miə'	*hmie B
m	mən.	mən'	mənʔ'	mən'	*hmən B
nshine	dǎŋ.	nǎŋ'	nǎŋʔ'	nǎŋ'	*ʔdǎŋ B
rround	bəy	vəy	--	wəy	*pyəy A
ell up 1)	fəŋ'	fəwŋ'	--	--	[*b'əŋ A]
ell up 2)	xəŋ	sĩŋ	--	sĩŋ	*khəŋ A
ollen, well	fu'	fu'	--	--	[*b'u A]
ble	pan'	ban'	baŋ'	ban'	*ban A
il	tuəy	duəy	duy	duəy	*tuəy A
ke	le-	ləy'	ləy'	ləy'	*həle B
steless <sup>19</sup> nsipid	lac-	lat./ ñat.	lak.	mlat.	*mlac
a	ce'	ce'	--	ce'	*je A
apot	ʔəm.	ʔəm'	--	--	*ʔəm B
ar, torn	reç'	zǎç'	rǎt'	rǎç'	*hrec

tell	t'iet'	tiət' 'leak out; dis- close'	--	--	*t'iet
tell [a story]	ke'	keʷ	keʷ	keʷ	*ke C
tell, inform	paw'	bawʷ	bawʷ	bawʷ	*paw C
temple	miəw.	miəw'	--	miəw'	*hmiəw B
temporary	tam-	tam.	--	tam.	[*ɖam B]
ten	m'iel'	m'iy'	m'iy'	m'iy'	*m'iel A
ten (in higher numbers)	m'iel	m'iy	m'iy	m'iy	*hm'iel A
ten thousand	ban-	van.	--	wan.	*byan B
tench (fish)	mɛ'	mɛ'	--	--	*mɛ A
tender	mem'	mem'	mem'	mem'	*mem A
termite (1)	mol.	moy'	--	moy'	*hmol B
termite (2)	mɔc-	mɔt.	--	mɔt.	*mɔc
terrain, flat expanse	pay-	bay~	bayʷ	bayʷ <sup>6</sup> 'littus'	*bay C
that	di.	ney'	ney'	ney'	*həʔdi B
thatch support	t'uy	zuy	--	ruy	*truy A
thick	tāy'	zāy'	--	dYāy'	*ədāy A
thigh	pel. 'hip'	ve'	--	βe'	*həpel B
thin	hɛl	t'ɛ 'silk, gauze'	--	t'ɛ 'sericum rarum...'	*təhɛl A
thing (classi- fier)	kay.	kay'	kay'	kay'	*kay B

ings in quantity classi- er)	më.	më'	--	më'	*hmë B
nk	ŋäm.	ŋäm' 'contem- plate'	--	ŋäm' 'meditor'	*hŋäm B
irsty	xat'	xat'	xak'	k'at'	*k'at
ls	ni'	näy', <sup>15</sup>	nəy'	nəy'	*əni A
orn, icker	kay	gay	--	gay	*həkay A
ousand <sup>16</sup>	ŋin'	ŋin' / ŋan'	ŋaŋ'	ŋin'	*ŋin A
ree	pa	ba	ba	ba	*pa A
row	fɔŋ.	fǎwŋ'	--	--	[*p'ɔŋ B]
row, ast	t'a'	t'a' 'release, drop'	--	t'a'	[*t'a C]
under	xəm.	səm'	--	səm', <sup>5</sup>	*khəm B
e	pul.	buy'	--	--	*pul B
e up, asten	puək- căt-	buək. căt.	buək. cāk.	buək. cat. <sup>5</sup>	*buək *jăt
ne, ccur- ence	pən-	bən.	--	bən.	*bən B
ne, eriod (1)	puəy'	buəy'	buy'	buəy'	*puəy C
ne, eriod (2)	yaw-	zaw.	--	--	*yaw B
o (top) e tree, eak	ŋɔn-	ŋɔn.	ŋɔŋ.	--	*ŋɔn B
red	ñɔk-	ñawk.	ñawk.	ñawk.	*ñɔk
gue	lay-	liəy~	liy'	liəy' <sup>6</sup>	*lay C
oth	t'ǎŋ	zǎŋ	rǎŋ.	rǎŋ	*trǎŋ A
ansplant	kəl.	kəy'	kəy'	kəy'	*kəl B

tray	bəm	məm	məm	məm	*?bəm A
tree (plant)	kəl	kəy	kəy	kəy	*kəl A
trim (v.)	sən.	sən'	--	śən'	*c'ən B
trim, prune (separate [v.])	t'ie'	tie'	--	tie'	*t'ie C
trip, journey	ciən.	cwien'	cwienʔ'	cwien	[*cwien B]
troop, band	tan'	dan'	daŋ'	dan'	*dan A
try	t'i'	t'i'	t'i'	t'i'	[*t'i' C]
turban	xǎn	xǎn	--	k'ǎn	*k'ǎn A
turn, time, round	liət-	liət.	liək.	liət.	*liət
turn (pot of rice), pivot	wəñ'	vən'	--	wən'	*wəñ A
two	hal	hay	hay	hay	*hal A
uncle	cu.	cu'	cu'	cu'	*cu B
understand	hiəw'	hiəw'	hiw'	hiəw'	*hiəw C
up, go up	leñ	len	len	len	*hiĩñ A
uproot	yo'	ño'	ño'	dʲo' / ño'	*hñyo C
useful	lëy-	lëy.	lëy.	--	*lëy B ?
very	rət'	zət'	rək'	rīt', <sup>5</sup>	*hrət
village	laŋ'	laŋ'	laŋ'	laŋ'	*laŋ A
village, hamlet	səm.	səm'	səm'	śəm'	*c'əm B
vomit	ba'	mīə'	--	mīə'	*?ba C
wait for	tëy-	dëy.	dëy.	dëy.	*dëy B
wait, watch for	cək-	c'ik.	--	--	*jek
wake, rise, get up	yəl-	zəy.	yəy.	dʲəy.	*yəl B
wall (clas- sifier)	pək'	b'ik'	b'ik'	b'ik'	*pək
want, be fond of	haw.	hiəw'	--	hiəw'	*həw B ?

rm	nəŋ.	nǎwŋ'	nǎwŋ'	nǎwŋ'	*hnəŋ B
sh	t'īə'	zīə'	rīə'	rīə'	*trīə C
sh (clothes)	căt'	zăt.	yăk.	jăt.	*əcăt
sh (rice)	bə	və	--	βə <sup>6</sup>	*pyə A
sp	wə'	(və') və'	--	--	*wə A
ste	fi.	fi'	--	--	[*p'i B]
ter	dak'	nīək'	nīək'	nīək'/ nak'	*?d <u>ak</u>
cer <sup>20</sup> all	heñ' dak'	geñ'	--	geñ' 'via salebrosa ex ascensibus et descensibus constans'	*gəheñ ?
k	xap'	sap'	ʂap'	sap'	*khap
ar	măk-	măk.	măk.	măk.	*măk
ar (on head)	toy-	doy.	doy.	doy.	*doy B
ave	tañ	dan	--	dan	*tañ A
ek (lunar period)	tən'	twən'	twīŋ'	twən'	[*dwən A]
ll (water)	ciəŋ. ʔīət'	ziəŋ' ʔīət'	yiəŋ' ʔīək'	jiəŋ' ʔīət'	*həciəŋ B *ʔīət
at (1)	ci	ci	ci	ci	*ci A [polite]'ad quid'
at (2)	ci	zi'	yi'	ji'	*Nci ?
en, lme	xəy	xi	xi	k'i	*k'əy A <sup>13</sup>
lte	tliǎŋ.	cǎŋ'	ʧǎŋ'	tliǎŋ <sup>5</sup>	*tliǎŋ B
o?	?ay	?ay	?ay	?ay	*?ay A
le	ŋaŋ	ŋaŋ	ŋaŋ	ŋaŋ	*hŋaŋ A
le, acious	roŋ-	zəwŋ.	rǎwŋ.	--	*roŋ B
ie	bə-	və.	byə.	βə.	*byə B



wilt, wither	hɛw.	hɛw'	--	hɛw'	*hɛw B
wind (blowing)	sɔ.	zɔ'	ɣɔ'	ʝɔ'	*hɛc'ɔ B
wine (rice)	raw-	ziɛw.	rīw.	rīɛw.	*r <u>aw</u> B
wing	kɛñ.	kǎñ'	kǎn'	kǎñ'	*kɛñ B
wipe	lǎw	lǎw	--	--	*hlǎw A ?
wise man, sage	t'ǎñ.	t'ǎñ'	--	t'ǎñ'	[*t'ǎñ B]
with	pɛy-	vɛy'	byɛy'	--	*hɛbɛy B
withdraw, recoil	luy	luy	--	luy <sup>6</sup>	*hluy A
withdraw, retreat	ruc'	zut'	--	rut'	*hruc
wolf	laŋ	laŋ	--	--	*hlaŋ A
work (n.)	koŋ	kɛwŋ	kǎwŋ	--	*koŋ A
work, job, affair	wiɛk-	wiɛk.	byiɛk.	wiɛk.	*wiɛk
worm (earth- worm)	xun	zun <sup>21</sup>	--	--	*krun A ?
worry	lɔ	lɔ	lɔ	lɔ	*hlɔ A
worship	t'ɛ'	t'ɛ'	t'ɛ'	t'ɛ'	[*d'ɛ A]
year	nǎm	nǎm	nǎm	nǎm	*hnǎm A
you (pl.)	pǎy	bǎy	bɛy <sup>14</sup>	--	*pǎy A
you (to man)	?oŋ	?ɛwŋ	?ǎwŋ	--	*?oŋ A
you (to superior)	ŋay'	ŋay'	ŋay'	--	*ŋay A
you (to woman)	pa'	ba'	ba'	ba'	*ba A
young	nɔn	nɔn	nɔŋ	nɔŋ	*hnɔn A

B. Probable borrowings.

against one's will	dǎñ'	dǎñ'	--	--
perce, pressure	pək-	bīk'	--	--
consist of	gom'	gom'	--	gom'
crowd	dam.	dam'	dam'	dam'
arty	bən'	bən <sup>v</sup>	bəŋ <sup>v</sup>	--
tact, correct	dūŋ.	dūŋ'	dūŋ'	--
listen (cf. A: fasten')	kay'	kay'	--	kay'
lower	wa	hwa	wa	hwa
jealous	gen	gen	--	gen
neighbor(ing)	paŋ	baŋ'	--	--
novel	səŋ'	səŋ <sup>v</sup>	səŋ <sup>v</sup>	--
suffer, undergo	bi-	bi.	bi.	bi.
word	giəm	giəm	--	giəm
thing(s)	do'	do'	do'	--

C. Problematic residue.

additional	nīə	nīə <sup>v</sup>	nīə <sup>v</sup>	nīə <sup>v</sup>
again	le	lay.	lay.	--
appear	tlo-	lo.	--	lo. 'publice'
bamboo (sp.)	tāŋ	zaŋ <sup>22</sup>	--	--
bend	kwät-	ŋwät.	--	--
blow	hul-	t'oy <sup>v</sup>	--	t'oy <sup>v</sup>
bunch	tum-	cum <sup>`</sup>	--	cum <sup>`</sup>
bush	pul <sup>`</sup>	buy.	--	buy.
carry, several people together	xīəŋ <sup>`</sup>	xiəŋ	xiəŋ	xiəŋ
chase (cf. A: 'chase')	dəl	duəy <sup>v</sup>	duy <sup>v</sup>	duəy <sup>v</sup>
chin	kaŋ.	kām <sup>`</sup>	kām <sup>`</sup>	--
climb	təw <sup>`</sup>	cew <sup>`</sup>	təw <sup>`</sup>	tləw <sup>`</sup>
dare	dām.	zam <sup>`</sup>	yam <sup>`</sup>	d'yam <sup>`</sup>
edge	pě-	bě <sup>`</sup>	bě <sup>`</sup>	--
entice (cf. A: 'invite')	ru-	zu. <sup>23</sup>	--	--
fall down	tlə <sup>`</sup>	ce <sup>v</sup> <sup>24</sup>	--	blə <sup>v</sup> 'iter con mune dat opera re linquere
		'turn right or left'		
cf. also:		te <sup>`</sup>	te <sup>`</sup>	--
		'(person) falls'		
hang up (cf. A: 'hang up')	kwāk <sup>`</sup>	māk <sup>`</sup>	māk <sup>`</sup>	mak <sup>`</sup>
here (cf. A: 'this')	ni	dəy	dəy	dəy
cf. also:		nāy 'now'	nay	nāy
hole	hu.	ho <sup>`</sup>	--	ho <sup>`</sup>
it, he, she	na.	no <sup>`</sup>	no <sup>`</sup>	no <sup>`</sup>
mother	me-	mε.	--	mε.

ck	kɛl	ko <sup>v</sup>	ko <sup>v</sup>	ko <sup>v</sup>
E. also:		gɛ	--	kɛ
		'vulva; clitoris'		'pudenda sive viri, sive fœminæ'
t (cf. A: question particle')	cǎŋ	cǎŋ <sup>v</sup>	cǎŋ <sup>v</sup>	cǎŋ <sup>v</sup>
t yet	cuɛ <sup>25</sup>	cīɛ	cīɛ	cīɛ
st particle	ta <sup>˘</sup>	da <sup>˘</sup>	da <sup>v</sup>	da <sup>˘</sup>
ople	rən	zən <sup>23</sup>	yən	d'yən
ant (v.)	loŋ	zəwŋ <sup>˘</sup>	ʃǎwŋ <sup>˘</sup>	bləwŋ <sup>˘</sup>
ot (of ground)	tlīɛ <sup>˘</sup>	t'īɛ <sup>v</sup>	--	--
ural particle	ñən	ñīŋ <sup>˘</sup>	ñīŋ <sup>v</sup>	ñīŋ <sup>˘</sup> 'omnes'
uralizer (for ertain ronouns)	muŋ- 'we'	cuŋ <sup>˘</sup>	cuŋ <sup>˘</sup>	cuŋ <sup>˘</sup>
w, hedgerow	yǎŋ-	zǎŋ. <sup>26</sup>	--	--
w, line	dǎl.	zǎy <sup>˘</sup> <sup>22</sup>	--	--
ady	yəm	zəm <sup>26</sup>	--	--
ort (cf. A: short')	pǎn.	ŋǎn <sup>˘</sup>	ŋǎŋ <sup>˘</sup>	ŋən <sup>˘</sup>
that, in order	tē <sup>˘</sup>	de <sup>v</sup>	de <sup>v</sup>	de <sup>v</sup>
o				
reak	xe.	ce <sup>˘</sup> 'jeer, mock, scoff at'	--	--
and	coŋ-	zǎwŋ <sup>23</sup>	--	--
ingy, varicious	riet-	kiɛt.	--	--
op, cease	t'ëy	t'oy	t'oy	t'oy
pport	nëŋ	nəŋ	--	nëŋ len 'attollere in palmis manuum'

take	nam-	năm'	--	nam'
temple, small shrine (cf. A: 'temple')	miəw.	miəw <sup>v</sup>	--	--
time: in time	lip-	kip.	kip.	kip.
thus, like that	t'ě'	t'e'	t'e'	--
we (incl.)	tan'ha <sup>27</sup>	ta	ta	ta
wet	t'uł	toy/tuy	--	--
where	no	dəw	dəw	dəw
cf. also:		naw	--	naw
		'which'		
which	no'	naw'	naw'	naw'
wrinkled	ñal	ñăn	--	ñăn
younger sibling	?un.	?ut'	--	?ut'
		'youngest child'		

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<sup>1</sup>The present study represents a complete revision and considerable expansion of the paper I presented at the conference. It reflects my research on Vietnamese over many years, including field research in Vietnam (1951-1953), course development and supervision at the U. S. Army Language School, Monterey (1954-1956), and at University of Washington (1960-1966). The dialect material cited or referred to here is primarily from my own field notes, supplemented by some recent checking of forms. All Vietnamese forms have been checked against Vietnamese dictionaries--primarily Nguyen-Dinh-Hoa (1967), but also Thanh-Nghi (1952). I take opportunity here to thank all those patient speakers of the language who furnished samples of their speech. I also thank Nguyen-Duc-Hiep, Nguyen-Dinh-Hoa, and Nguyen-Dang-Liem for help in many questions of Vietnamese grammar and usage. Field research was supported by the American Council of Learned Societies and the Ford Foundation; ACLS and the U. S. Office of Education helped finance further research. For assistance at various times with Chinese loan material I am grateful to Robert Cheng, Julia Kwan, Nguyen-Dinh-Hoa, and particularly Fang-Kuei Li; Professor Li has also been a continuing source of inspiration and help with the problems of reconstruction. Finally I wish to thank my wife, M. Terry Thompson, for stimulation

and assistance at all levels of the collation and analysis.

<sup>2</sup> There are a number of cases in which Sg /ǎ/ corresponds to Hn /i/ before a PVn palatal; many of them are Ch loans.

<sup>3</sup> Hn word spelled with *tr-*; the two spellings in Vn, with different glosses (and different usage suggested) indicate that perhaps two different words have fallen together in Hn (where *ch-* and *tr-* are not distinguished).

<sup>4</sup> Possibly two different (homonymous) words.

<sup>5</sup> MVn vocalism irregular; perhaps a misprint or faulty transcription.

<sup>6</sup> MVn tone irregular; perhaps a misprint or faulty transcription.

<sup>7</sup> Probably Mg /dɛŋ-/ 'construct, build, erect' is related to Mg /tɛŋ./ 'construct, build' (cited here under 'stand'). We may assume a root \*tɛŋ B 'stand, be erect,' which yields Vn /d'ɛŋ' d'ɛŋ' d'ɛŋ'/'stand.' A derivative \*ə-tɛŋ B 'cause to stand, erect' would develop regularly to Mg /tɛŋ./ (B1) n /z'ɛŋ. y'ɛŋ. d'y'ɛŋ./ (B2). Mg /dɛŋ-/ may then be a loan from Vn at a time when \*ə-tɛŋ B had already become \*dɛŋ B1. On the other hand, we may be dealing with a Pre-Viet-Muong process in which a \*-y- infix in \*t...ɛŋ B voiced \*t- to \*d-, yielding PVM \*dɛŋ B 'construct, build.'

<sup>8</sup> Mg /cɛt'/ given in one source (Thomas and Bradley 1970:416); elsewhere /cɪt'/. Variation may possibly relate to presumed original difference cɛt 'die', \*hɛcɛt 'kill' (see 4), or may simply reflect adaptation of vowel to initial consonant.

<sup>9</sup> 'Each' (2) and 'layer, stratum' may well be the same item, and both are likely loans from Vn; cf. story, floor.'

<sup>10</sup> It appears that two similar words have contaminated each other. MVn /βyaw'/ is an instance of the very rare cluster /βy-/; in this case, no variant spelling without the glide element is given (cf. shoulder'). There is also MVn /wo'/, which matches g /byo/ except for tone register; these should go back to something like \*(h)wo A.

<sup>11</sup> Such alternations in MVn are perhaps simply orthographic.

<sup>12</sup> Mg /toy'/ is presumably an early loan from Vn.

<sup>13</sup>Vn vocalism presumably developed under weak stress.

<sup>14</sup>Sg vocalism irregular. However, there are several common words in modern Vn showing the correspondence Hn /-äy/: Sg /-əy/, rather than the usual /-äy : -ay/; they may reflect development under weak stress.

<sup>15</sup>Hn vocalism irregular. See also note 14.

<sup>16</sup>Alternate vocalism in Vn unexplained.

<sup>17</sup>The spelling of this Mg word is ambiguous: in Vn *-anh* always means Hn /-añ/, and probably that is what it represents in Mg here, but it could also be interpreted Mg /-añ/.

<sup>18</sup>This Mg word is written with initial vowel, which is here interpreted as preceded by /ʔ-/. Possibly smooth onset (initial vowel) is really involved, or perhaps the form is actually /wu./. In any case, we presume it derives from earlier /\*wu./. Hn /bu'/ 'suckle' MVn /bu'/ 'sugo' and Hn /ʔu/ '(wet) nurse' must be related, but just how is not clear.

<sup>19</sup>The comparison /lac- : lat./ 'infertile,' given by Barker and Barker (1970: item 123) is perhaps the same etymology as 'tasteless, insipid.' Dictionaries do not give the meaning 'infertile' for the Vn word.

<sup>20</sup>Vn vocalism problematic. For semantic connection and other details, see discussion in 4.

<sup>21</sup>Vn spellings with both *r-* and *gi-*; see discussion in 4.

<sup>22</sup>Spelled with *gi-*.

<sup>23</sup>Spelled with *d-*.

<sup>24</sup>Spelled with *tr-*. Tone register is contrary to that of Mg and MVn.

<sup>25</sup>Since the orthography uses a modification of the symbol for /u/ to represent /i/, this may be simply a misprint.

<sup>26</sup>Spelled with *r-*.

<sup>27</sup>For /tan`/ see A: 'group.'

## ABBREVIATIONS

- EFEO - *Bulletin de l'Ecole Française d'Extrême-Orient*
- HPAS - *Bulletin of the Institute of History and Philology, Academia Sinica*
- SEI - *Bulletin de la Société des Etudes Indochinoises (Saigon)*.
- SL - *Bulletin de la Société de Linguistique de Paris*
- SOAS - *Bulletin of the School of Oriental and African Studies, University of London*
- OGHL - Ba Shin, Jean Boisselier, and A.B. Griswold, eds. 1966. *Essays offered to G. G. Luce*. Ascona: *Artibus Asiae*, Supp. 23.
- A - *Journal Asiatique*
- g - *Language*
- EFEO - *Publications de l'Ecole Française d'Extrême-Orient*
- CAL - Zide, Norman H., ed. 1966. *Studies in comparative Austroasiatic linguistics*. (Indo-Iranian Monographs, vol. 5.) The Hague: Mouton.
- IL - *Studies in Linguistics*
- HNS - *Văn-hóa Nguyệt-san [Monthly Cultural Review]*, Saigon



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