

MNONG VOWEL VARIATIONS WITH INITIAL STOPS

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Vowels in the Mon-Khmer languages of Vietnam generally vary far more in relation to final consonants than to initial. This observation has been put to use in phonological fieldwork with the construction of sets of rhyming lists on the basis of which subsystems of vowels in relation to the various final consonants were determined.¹ The influence of final consonants on vowels has been widely noted in some of the other language groups of the Far East as well.²

However, it has been proposed that certain basic changes in the vowel systems in the languages of Southeast Asia have come about historically as the result of the influence of consonants that were not final but initial in the syllable.³ Thus, in what Haudricourt has termed the Mon-Khmer shift, voiceless stops were associated with a tenseness of voice quality in the following vowel, voiced stops with looseness, and when the voiced and voiceless stops fell together the tense/lax contrast in vowel qualities became phonemically significant. This tense/lax contrast, or vowel "register", is a feature of many Mon-Khmer languages today.

Among the South Bahnaric languages, none of which have phonemic register, there is one group of Mnong dialects in which the vowels vary according to the preceding stop in a way that seems to parallel what Haudricourt envisions as the stage before the Mon-Khmer shift. It is the only present-day Mon-Khmer language to my knowledge in which the initial stop in the main syllable has such a major influence on the vowel.

The purpose of this paper is to describe the phonetic variations of Mnong vowels in relation to preceding stops. The description holds for the dialects of what may be called Central Mnong, including Bu Nâr, Preh, Dih Bri and Bu Dâng dialects. It does not hold for what H. Blood calls Darlac Mnong: Rólóm, Gar, Kuañ, and Chil.⁴ The "Mnong" of this paper is Central Mnong unless otherwise specified.

It may also be of minor interest that this paper reports a sound which fits into the system of stops as a

preglottalized velar, or voiced fortis velar as I call it here, written /'g/. But it occurs so rarely and with such limitations in distribution that its phonemic status in the regular language system must be regarded as marginal at best.⁵

1. STOPS

Mnong stops at the beginning of the main stressed syllable are contrastively fortis or lenis; the fortis stops have a further voicing contrast. The points of articulation are bilabial, dental, palatal, and velar.

Fortis stops:

Voiceless	p	t	č	k
Voiced	'b	'd	'j	('g)

Lenis stops: b d j g

Following a homorganic nasal all of the stops are modified phonetically. Voiced fortis stops are implosives, but following a homorganic nasal they are preglottalized nasals: /'duŋ/ [d̥uŋ] 'coconut', /n'duŋ/ [n̥?nuŋ] 'to bring trouble on someone'. Lenis stops are voiceless at the beginning of a word and voiced after a nasal: voiceless in /d̥uŋ/ 'bag', voiced in /nd̥uŋ/ 'eel'. Voiceless fortis stops may vary freely toward lenisness after a nasal (/č/ particularly tends to be lenis in this position) but the contrast with lenis stops is maintained since the latter are voiced in this position, and since the phonetic differences in the following vowel, mentioned below as being conditioned by the fortis/lenis stop contrast, hold true for this position too.

Other consonants that occur at the beginning of the main syllable are nasals /m n ñ ŋ/, liquids /w l r y/, spirants /s h/, and glottal stop /?/. Glottal stop is omitted from the above description since there is no voicing contrast. Liquids as second member of a consonant cluster occur after all stops. All fortis stops, but not lenis ones, may be followed by /h/. /'g/ is excepted from the last two distributional statements.

2. VOICED FORTIS /'g/

Sequences of nasal + glottal stop + the same nasal pattern phonemically as nasal + voiced fortis stop at the same point of articulation. This is true of all three voiced stops in the regular system: /m'bêŋ/ 'glutinous rice' /n'dêŋ/ 'to groan', /ñ'jôŋ/ 'to carry in the hand'.

There is another such sequence involving the velar nasal [ŋ ? ŋ] which, to fit the pattern, must be interpreted as /ŋ'g/. The velar stop in this sequence, in contrast with the other voiced fortis stops, occurs only in cluster with the nasal, never as the only consonant before a vowel. It has been found only in five words, none of which is in frequent use. It is because of these limitations in distribution and frequency that /'g/ is considered marginal to the phonemic system.

The words that occur do conform to morphological patterns in the language. The five words are as follows:

(1) /ŋ'gô?/ 'the name of a renowned ancestor of the Mngong Preh'.

Male personal names that begin with any stop or /s/ may take an honorific prefix consisting of a homorganic nasal. Names are normally said with the prefix; in informal speech the prefix may be dropped, and men who have learned to write their names, as for legal purposes, often do so without the prefix. Examples: /n̄thi/ ~ /thi/, /m'brông/~/'brông/, /n'doi/~/'doi/, /n'jüt/~/'jüt/. My informant understood the initial nasal in the name /n'gô?/ as being the usual prefix, but he had never heard the name said without it.

(2) /ŋ'gañ/ 'a load (prepared for carrying on the back) '.

The Quantifier prefix is also a homorganic nasal. The combination of this prefix and a verb or a noun forms a measure of quantity:

bal 'to slice, du mbal 'one slice of...'
troŋ 'road', du ntroŋ 'one line of...'

I know of no other word beginning with /?/ that takes the Quantifier prefix, but the morphonemic process that would result may be seen in words that take another homophonous prefix, the Causative. The Causative prefix and a verb together form a causative verb:

duh 'to be hot', nduh 'to heat'
jur 'to descend' ñjür 'to lower'

In the case of verbs that begin with /?/ or /l/ and that take a Causative prefix, the */n?/ and */nl/ clusters that would result are not permitted in the language and are changed to /n'd/ and /ŋl/, respectively:

?üm 'to bathe oneself', ŋ'düm 'to bathe someone'
lăp 'to enter', ŋlăp 'to insert'

The word η' gañ above does not exactly fit any of these cases, but it does seem to have a Quantifier prefix:

?añ 'to carry on the back' du η' gañ 'one load of...'

(3) / η' gên η' gê η / 'different'

Some pairs of words with and without an initial nasal before the stop seem to be interchangeable with constant meaning:

top, ntop 'to add'
 'jôt, ñ'jôt 'to carry in the hand'
 ?ik, n'dik 'to be cold'
 ?om, n'dom 'to leave alone, let stand'

Similarly, η' gê η η' gê η is a variant of /ê η ê η / 'different'. My informant uses the latter form but recognizes that others use the former. The velar rather than dental initial cluster may result from close association in a reduplicative construction in which the base form ends with a velar. The unreduplicated form is /ê η /.

(4) /jo η n'gõ η / 'very long'

This is another reduplicative construction in which the base form /jo η / 'long' ends with a velar, jo η n'go η is a partial reduplication, of a fairly common type, whereas η' gê η η' gê η is a complete reduplication, also of a common type.

(5) /n'dê η η' guh/ 'to groan once'.

/ η' guh/ is a bound form used only in construction with /n'dê η / 'to groan'. There is no apparent affix in the word.

None of the South Bahnaric languages besides Central Mnong, not even Darlac Mnong, have preglottalized nasals as allophones of voiced fortis stops. In those other languages the stops remain implosive when in cluster with nasals. Stieng has glottalized consonants /'m, 'n, 'l/ which are commonly said with the continuant before as well as after the glottal stop [m?m, n?n, l?l], and the first two sound very much like Central Mnong /m'b, n'd/ clusters but they are phonemes in their own right.⁶

3. VOWELS

The Mnong vowel system consists of nine regular (or long) vowels: three each in front, central, and back positions; and six contrastively short vowels: two each in front, central, and back positions, the short low front vowel has been found in only a few words, none of them with initial lenis stop. Short vowels are marked with breve ˘.

i	ɯ	u			
ê	ɔ	ô	ĩ	õ	ũ
e	a	o	ě	ã	õ

Voice register is not phonemic. But there are subphonemic variations of tenseness and laxness in vowel quality that sound rather similar to register contrasts--clear vs. breathy, head vs. chest, first vs. second register--that have been reported in other Mon-Khmer languages, but without the tendency toward lower pitch associated with lax register in Cambodian, Kuy, and Jeh.⁷

Mnong vowels are tense and clear following fortis stops, but lax and somewhat breathy following lenis stops.⁸ After continuants, for which there is no fortis/lenis contrast, the vowels are intermediate in quality; they may tend toward one register or the other, as, for example, vowels after /r/ tend to be more lax than vowels after /l/, but they do not reach the extremes of contrast that are normal after stops. However, vowels following clusters of stop plus liquid are governed in quality by the stop rather than the liquid; the stop is the main and determining element of the cluster. The vowels of /pah/ 'to do' and /plah/ 'to split' are both tense, and the vowels of /bah/ 'direction' and /blah/ 'classifier for clothes' are lax; the vowel of /lah/ 'to say' is of intermediate quality. Fortis stops are not in contrast with lenis stops before /h/; vowels following aspirated fortis stops are of an intermediate quality.

Along with the difference in voice register there is also a regular difference in aperture for vowels that follow fortis and lenis stops. Vowels are higher after lenis stops than after fortis stops. A given vowel attains the two limits of its range of variation in aperture in these two positions; after continuants the vowel tends to find an intermediate aperture within the range. Short vowels, which never have more than two contrastive degrees of aperture, tend to have a greater range of permitted subphonemic variation than do regular

vowels, which have three contrastive degrees of aperture. The approximate phonetic ranges of aperture of the vowel phonemes are given below. They are to be read, for example, as follows: /i/ [i~Ii^v] read 'The allophones of /i/ range from lax [i] (which occurs after lenis stops) to tense Ii^v] (which occurs after fortis stops)'

/i/	[i~Ii ^v]	/u/	[i~I]	/u/	[ù~u]
/ê/	[Iè~e]	/o/	[ə~ə]	/ô/	[ò~o]
/e/	[e~è~ɛ]	/a/	[à~a]	/o/	[ò~o]
/ĩ/	[ĩ~ě]	/õ/	[ĩ~õ]	/ũ/	[ũ~õ]
/ě/ ¹⁰	[ě~]	/ǎ/	[ǎ~ǎ]	/õ/	[õ~õ]

The glides that are heard with the front vowels in open syllables are reduced or lost in closed syllables. All vowels are slightly higher after palatal stops, fortis or lenis, than after other stops. Vowels are often slightly higher after voiced fortis stops than after voiceless fortis stops.

The vowel contrasts, as in /bih/ 'grain used for beer', /bêh/ 'snake', /mbeh/ 'stingy', or in /pih/ 'to launder', /pêh/ 'knife', /peh/ 'to pound rice', are easy to hear when only words with lenis stops or only words with fortis stops are compared. But the vowel of /pêh/ is just as near in height to the vowel of /beh/ as to that of /bêh/, perhaps slightly more so. Among the short vowels where there is greater range of variation in aperture,¹¹ /põŋ/ 'to nail to', while clearly contrasting with /pǎŋ/ 'he', is considerably more similar to /bǎŋ/ 'coffin' than to the vowel in /dõŋ/ 'below'. The vowels of /põŋ/ and /bǎŋ/ differ only slightly in tongue height; the initial stops are both phonetically voiceless, though one is fortis and the other lenis; to my ear the words are most easily distinguished by the fact that /põŋ/ has the tense vowel quality and /bǎŋ/ the lax. But, although register may have an important role in the identification of vowels, it is easier to describe the system as one in which register is conditioned by the fortis/lenis stop contrast.

With the vowel phonemes of Mngong having such wide and sometimes nearly overlapping range of permissible variation in aperture, any change of the present stop contrasts would very likely result in the establishing of additional contrasts in vowel aperture. There is no evidence that this is happening at present. Mngong Rôlom is the only South Bahnaric language that departs significantly from the pattern of three degrees of vowel aperture for the long vowels, as exemplified in Central Mngong.

Rólóm has four degrees for front and back vowels.¹² But the split to form an additional level has nothing to do with initial consonants, which are the same in number as Central Mnong consonants and correspond closely. Rólóm, and also Stieng, have a third (high) level in the short central vowels; but this is as the result of the centralizing of high front and back vowels, not of consonant change.

Srê, according to W.A. Smalley, a "phenomenon of phonemic tone-length, which could be described as phonemic length and conditioned pitch, or vice versa",¹³ The tone feature of this contrast sets high or high-falling pitch against low-rising. It is tempting to see in this a parallel with tense and lax registers. But cognates in Srê and Mnong show Srê tone-length to be historically related to Mnong length. And, as we have seen, Mnong length is independent of the fortis/lenis stop contrast and hence of the related phonetic distinction in register.

FOOTNOTES

1. David D. Thomas, "Checking Vowel Contrasts by Rhyming", *Mon-Khmer Studies II* p.99-102 (1966).
2. James A. Matisoff, "Lahu and Proto-Lolo-Burmese", *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics*, ed. by A.L. Becker (University of Michigan, 1969), p.205.
3. A.G. Haudricourt and A. Martinet, "Propagation phonétique ou évolution phonologique? Assourdissement et sonorisation d'occlusives dans l'Asie du Sud-Est", *Bulletin de la Société de Linguistique de Paris* 43.82-92 (1946); Heinz-Jürgen Pinnow, "Sprachgeschichtliche Erwägungen zum Phonemsystem des Khmer", *Zeitschrift für Phonetik und Allgemeine Sprachwissenschaft* 10.378-91 (1957); André G. Haudricourt, "Les mutations consonantiques des occlusives initiales en mon-khmer" *BSL* 60.160-172 (1965).
4. Henry F. Blood, *A Reconstruction of Proto-Mnong*, (Summer Institute of Linguistics, University of North Dakota, 1968).
5. The only other report of a preglottalized velar stop in a Mon-Khmer language may possibly be indicated by the /ʔg/ cluster that was noted, without phonetic description, as occurring in Sedang personal names. The phonological system for names differs in Sedang at a number of points, including this one, from the system of the regular language. Kenneth D. Smith, "The Phonology of Sedang Personal Names", *Anthropological Linguistics* 11.189 (1969).
6. Ralph Haupers, "Stieng Phonemes", *Mon-Khmer Studies III* p.136 (1969).
7. Eugénie J.A. Henderson, "The Main Features of Cambodian Pronunciation", *Bulletin of the School of Oriental and African Studies* 14.151 (1952); William A. Smalley "The Use of Non-Roman Script for New Languages", *Orthography Studies* ed. by W. A. Smalley (London: United Bible Societies, 1965), section on Kuy, pp.85-87, 93-95; H. L. Shorto, *A Dictionary of Modern Spoken Mon* (London: Oxford University Press, 1962) Haswell *Grammatical Notes and Vocabulary of the Peguan Language* 5 (Rangoon, 1874); C.O. Blagden, "Quelques notions sur la phonétique du talain et son évolution historique", *Journal Asiatique* 15.479 (1910); Dwight

Gradin, "Consonantal Tone in Jeh Phonemics", *Mon-Khmer Studies II* p.46 (1966); James and Nancy Cooper, "Halǎng Phonemes", *Mon-Khmer Studies II* p.95 (1966); Richard L. Phillips and John and Carolyn Miller, "The Brôu Vowel System: Alternate Analyses" to appear; Richard Watson, "Pacôh Phonemes", *Mon-Khmer Studies I*, p.137 (1964).

The Sedang contrast of laryngealized vs. plain vowels sounds rather different from the two phonetic vowel qualities in Mnong. Kenneth D. Smith, "Laryngealization and Delaryngealization in Sedang Phonemics", *Linguistics* 38.52-69 (1968).

8. In tracing the development of Cambodian in which voiced consonants which later lost their voicing were associated with second (lax) register vowel quality, Pinnow remarks that the implosives /b/ and /d/, despite their voicing, took vowels with first (tense) register. In Mnong the fortis/lenis dichotomy groups /'b/ and /'d/ with voiceless /p/ and /t/ as sounds normally associated with tense vowel quality. The Cambodian case, too, if comparable to Mnong at this point, would then not be contrary to expectation. Pinnow, *op. cit.* 385.
9. Some variations in front/back tongue placement conditioned by the following consonant are not included here. The grave diacritic marks laxness and the wedge or ^ indicates shadings of vowel height.
10. Not much variation has been observed for /e/ since this vowel has not been found following a lenis stop.
11. The high short vowels could have been symbolized as /ĩ ũ ü/ or /ê ẽ ǔ/ with about equal phonetic justification.
12. Blood, *op. cit.*, and Henry and Evangeline Blood, "The Pronoun System of Uon Njuñ Mnong Rôlôm", *Mon-Khmer Studies II* p.103, footnote 2, (1966).
13. William A. Smalley, "Srê Phonemes and Syllables", *Journal of the American Oriental Society* 74.218-19 (1955).