

THE PHONEMES OF UON NJUÑ MNONG RŎLŎM

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1. Introduction.

Rŏlŏm is one of a rather large number of dialects of the Mnong dialect group, which in turn is a member of the Mon-Khmer language family. The Mnong language area extends approximately one hundred and twenty miles east and west and roughly half that distance north and south in northeastern Cambodia and south central Vietnam. The Rŏlŏm dialect is spoken by approximately four thousand people in the district of Lạc Thiện, Đarlạc province, Vietnam, generally southeast of Banmethuot and northwest of Dalat.

The Mnong dialects are closely related to Kŏh¹, Stieng and Chrau². Apparently many of the Mnong dialects are not mutually intelligible. Within the Rŏlŏm dialect area itself, there are regular sound shifts and considerable vocabulary differences. The sub-dialect herein described is spoken by approximately one thousand people with only minor changes from village to village in the vicinity of the district center, Lạc Thiện. My informant's³ village was Uon Njun.

The Uon Njun Rŏlŏm vowel system is especially interesting because it is a departure from the 3-3-3 arrangement⁴ of three degrees of height and three degrees of fronting often found in the Mon-Khmer languages in this area of Vietnam.

2. Procedure.

2.1 Informant Procedure and Problems.

The study of Mnong Rŏlŏm in general and the analysis of its phonology in particular were made considerably easier by the quality of the two informants which I had during most of my two years' stay in the Mnong Rŏlŏm tribal area.

For my first informant, I was fortunate enough to obtain the services of a young man of about twenty-three who was able to teach me

his language by the use of English, whenever this was necessary. To show something of the quality of this informant, he was able, whenever I requested him to do so, to write out several sentences illustrating the area of meaning of a difficult word. Underneath he would write the English equivalent. He was able to do this because the trade language, Rade, with which he was completely familiar, had been reduced to writing by the French in 1936; and he was also fairly familiar with English.

Having such an informant as this greatly facilitated the relatively early solution of a number of problems. One of these problems had to do with the distinction between the pre-nasalized voiced (analyzed in this paper as nasal plus stop) and the simple voiced stop. This analysis was complicated by the fact that all voiced stops were generally heard pre-nasalized in words in isolation. The informant's transcription, however, showed a contrast between simple voiced stops and pre-nasalized voiced stops. His transcription proved to be consistently correct; in context, the contrast was always present, whereas in isolation it was frequently neutralized.

Another problem, that of vowel length, was greatly simplified by having literate informants and a trade language whose sound system was quite similar to Mnong (even though Rade and Mnong belong to separate language families -- Malayo-Polynesian and Mon-Khmer).

On one problem, however, the combination of a literate informant and a trade language whose sound system was quite similar to Mnong Rôlôm proved to be a hindrance rather than a help. During the first year of my residence in the Mnong area, I studied the Uon Biep sub-dialect. This sub-dialect proved to have three degrees of vowel height in both front and back vowels. The following year, as I studied the Uon Njuñ dialect, it was about the middle of the year before I began to suspect four degrees of front and back vowel height in that sub-dialect. The Uon Biep \hat{e} and \hat{o} almost always had corresponding \underline{i} and \underline{u} in the Uon Njuñ sub-dialect.

In time, however, I began to suspect that this \underline{i} and \underline{u} were different from the \underline{i} and \underline{u} which correspond to Uon Biep \bar{i} and \bar{u} . This eventually proved to be the case. However, for some time my informant and other speakers of the Uon Njuñ dialect insisted that both \underline{i} 's and \underline{u} 's were 'the same'. On later questioning, I learned that this meant 'written the same'. (The trade language has only three degrees of vowel height.) Speakers of the Uon Njuñ sub-dialect freely admitted that the two \underline{i} 's and the two \underline{u} 's were spoken a little differently.

2.2 Procedure of Analysis.

As to procedure of analysis, I have generally followed those of Kenneth L. Pike (1947). My original analysis, done in Vietnam, made much use of what Pike refers to as 'pattern pressure'. By this criterion, non-syllabic /f/ and /û/ were analyzed as consonants, /ia/ and /ua/ and the pre-glottalized and pre-nasalized stops were analyzed as units

rather than as clusters. The phoneme was conceived of as a filler of a slot in a syllable rather than as a minimum bundle of distinctive features. This analysis made possible the statement of the syllable in the following terms: C_iV (C_f); in which C_i (initial consonant position) may be filled by /?/, the 'semi-vowels' /w_i/ or by C₁, C₂, or by C₁C₂. C_f (final consonant) may be any consonant but a voiced stop. This analysis, however advantageous on the syllable level, required forty-two phonemes.

The present analysis makes no use of 'pattern pressure', but uses as one of its principal criteria economy on the distinctive feature and phoneme level without regard for simplicity of statement at higher levels of the phonological 'hierarchy'. By this approach, the phonological inventory has been reduced to twenty-eight segmental phonemes plus a prosodic feature of shortness.

3. Phonemes and Allophones.

The twenty-eight segmental phonemes are represented by the symbols / p t c k ? b d j g m n ñ ŋ r l s h f i ê e u ɔ a û u ô o /.

Phoneme Charts. The phonemes of Uon Njuñ Mnong Rôlôm may be charted as follows:

STOPS:	p	t	c	k
	b	d	j	g
NASALS:	m	n	ñ	n
		l		
LIQUIDS:		r		
SIBILANT:		s		
GLIDES:				h ?

Figure 1: CONSONANTS

f		û
i	ɯ	u
ê	ɔ	ô
e	a	o

Figure 2: VOWELS

Phonemes	Allophones	
/p/	[p]	bilabial voiceless unaspirated stop
		/puh/ 'buffalo'
		/tǎp/ 'stab'
/t/	[t]	alveolar voiceless unaspirated stop
		/tuh/ 'bean'
		/güt/ 'know'
/c/	[f̥c]	palatalized alveolar voiceless unaspirated affricated stop, preceded by f̥ on-glide syllable-finally: [lǎf̥c] 'to fall'
	[c]	palatalized alveolar voiceless unaspirated affricate, syllable-initially: [cam] 'papaya'
/k/	[k]	velar voiceless unaspirated stop
		/kǎp/ 'to bite'
		/ʔŋk/ 'cold'
/b/	[mb~b]	bilabial voiced unaspirated stop, pre-nasalized or simple, words in isolation: [mbät~bät] 'grass'
	[b]	bilabial voiced unaspirated stop, words in context: [sa bät] 'eat grass'
/d/	[nd~d]	alveolar voiced unaspirated stop, pre-nasalized or simple, words in isolation: [ndäk~dak] 'water'
	[d]	alveolar voiced unaspirated stop, words in context: [f̥it dak] 'drink water'
/j/	[nj~j]	palatalized alveolar voiced unaspirated affricate pre-nasalized or simple, words in isolation: [nja~ja] 'roofing grass'
	[j]	palatalized alveolar voiced unaspirated affricate, words in context:[tam ja] 'plant grass'
/g/	[ŋg~g]	velar voiced unaspirated stop, pre-nasalized or simple, words in isolation: [ŋgäl~gäl] 'good'
	[g]	velar voiced unaspirated stop, words in context: [mho ʔ gäl] 'do good'
/m/	[bm~m]	bilabial nasal continuant with or without preceding homorganic stop syllable-finally: [ʔum~ʔum] 'bathe'
	[m]	bilabial nasal continuant, syllable-initially: me 'you' (masc.)

Phonemes	Allophones	
/n/	[dn~n]	Alveolar nasal continuant with or without preceding homorganic stop syllable-finally: [nũdn~nũn] 'main branch'
	[n]	alveolar nasal continuant syllable-initially
/ñ/	[fĩđñ~fĩñ]	palatalized alveolar nasal continuant preceded by f̆ on-glide with or without preceding homorganic stop syllable-finally: [?ǎfĩđñ~?ǎfĩñ] 'I'
	[ñ̃]	palatalized alveolar nasal continuant syllable-initially: [ñ̃fm] 'cry'
/ŋ/	[gŋ~ŋ]	velar nasal continuant with or without preceding homorganic stop syllable-finally: [sugŋ~suŋ] 'eat'
	[ŋ]	velar nasal continuant syllable-initially: [ŋǎn] 'very'
/l/	[dl~l]	alveolar lateral continuant with or without preceding homorganic stop syllable-finally: [gǎdl~gǎl] 'good'
	[l]	alveolar lateral continuant syllable-initially: [lũp] 'ask'
/r/	[ʀ]	alveolar trill /?ǎr/ 'tired' /ram/ 'large'
/s/	[s~š]	alveolar to alveo-palatal sibilant syllable-initially: sǎk~šǎk 'go'
	[fh~fš~s]	palatal to alveolar sibilant with f̆ on-glide (the alveolar sibilant occasionally occurs without a perceptible f̆ on-glide) syllable-finally: [nũfh~nũfš~nũs] 'heart'
/h/	[h]	voiceless glottal fricative, syllable-initially: /ha/ 'leaf' /hi/ 'we' (excl.)
	[Y]	voiceless palatal fricative following f̆, i, and ê. [tiY] 'grown-up' [têtY] 'to report'
	[h]	voiceless glottal fricative (occasionally varying toward velar position following higher vowels) following all other vowels [teh] 'earth' [toh] 'breast'
/ʔ/	[ʔ]	glottal stop /maʔ/ 'fat' /?ǎr/ 'tired'
/i/	[ĭ]	syllabic high front unrounded vowel syllable-medially: [s̆i] 'iron'
	[i̇]	non-syllabic high front unrounded vowel syllable-finally following another vowel [?ang ?u̇i] 'morning'
	[ĭ~ž̆ĭ]	non-syllabic high front unrounded vowel with or without ž̆ on-glide syllable-initially: [ĭuk~ž̆ĭuk] 'mountain'

Phonemes	Allophones	
/i/	[i]	mid-high front unrounded vowel
/ê/	[ê]	mid front unrounded vowel
/e/	[e]	mid-low front unrounded vowel
/u/	[ũ]	mid-high central unrounded vowel; short
/o/	[ɔ]	mid central unrounded vowel (perceptible glide toward mid-high position, especially in open syllables)
/a/	[a]	mid-low to low central unrounded vowel
/û/	[û]	syllabic high back rounded vowel syllable-medially: [pûh] 'buffalo' [nû] 'thigh'
	[û̂]	non-syllabic high back rounded vowel syllable-finally following another vowel: [diû̂] 'saliva'
	[sû̂~vû̂]	non-syllabic high back rounded vowel with fricative onset syllable-initially: [βû̂ar~vû̂ar] 'stir'
/u/	[u]	mid-high back rounded vowel
/ô/	[ô]	mid-back rounded vowel
/o/	[ɔ̃]	mid-low to low back rounded vowel; short preceding a consonant [tõŋ] 'hear'
	[o]	low back rounded vowel; long in open syllables: [nɔ̃] 'in order to'

4. Attestation of Phonemes.

4.1 Vowels. While no one consonant has been found preceded by the full set of vowel contrasts, ten of the eleven vowels have been found preceding the velar consonants /k/ and /ŋ/. Only /e/ is missing in this environment. The following words ending in /ŋ/ illustrate these contrasts:

Front Vowels.

piãŋ 'cooked rice'
 bîŋ 'planet, large star'
 biŋ 'full' (of liquid)
 ndiŋ-ndũŋ 'eel'
 gêŋ 'only one' (tusk)

Central Vowels.

- l^huŋ 'to borrow without repaying'
 l^huŋ 'to squirm' (of a baby)
 l^hoŋ 'to throw'
 laŋ 'to unfold'
 lăŋ 'fragrant grass-like leaf used for making beverages'

Back Vowels.

- suaŋ 'step over'
 l^huŋ 'unmarried, barren'
 t^hut l^huŋ 'a type of tree'
 b^huŋ 'spider'
 lôŋ ndr^hih 'part' (in hair)
 loŋ 'flesh, meat'

All the central vowels are to be found in the environment l-ŋ. It will also be noted that the full four degrees of vowel height in the back vowels likewise occur in this environment.

As has been mentioned, of the front vowels only /e/ fails to occur before /k/ or /ŋ/. The following collectively serve to illustrate the full contrastiveness of the front vowels:

Before h. /î, i, ia, ê, e/

- t^hih 'mistake, sin'
 tih 'grown up'
 tiah 'blind'
 têh 'to report'
 teh 'soil, earth'

In open syllables. /î, i, ê, e/

- jî 'sick, sore'
 si/di possessive indicators
 ?dê 'transverse floor beam'
 de 'she, her'

Before t (also before k and ŋ) /î, i, ê/

- h^ht h^ht 'cry of a large bird'
 k^hu ?it 'small'
 têt 'a bird, possibly parrot'

Before ?. /i, ê, e/

- ti? 'above, yonder to the east'
 kê? 'to guard'
 le? 'finished, all'

Thus, the full four degrees of vowel height occur only before h and ø. This might suggest interpreting -êh as eîh /es/, and -ê as eî /eî/. The possibility of this and other interpretations reducing the front vowels to three degrees of height have been investigated at some length in my

paper, 'The Vowel System of Uon Njuñ Mnong Roldm', (Blood 1963). They will not be dealt with in detail here. I will simply quote from the section entitled 'Summary of Arguments Regarding Front Vowel Height':

'In sum, then, the only arguments favoring reduction of front vowels to three levels is economy. The arguments against such interpretations are mainly that they produce an intersection of phonemes and / or a lack of symmetry. On the other hand, symmetry favors the interpretation of four degrees of front vowel height.' (There are clearly four degrees of back vowel height.)

4.2 Consonants: The full contrastiveness of the consonant phonemes may be shown as follows:

Labials and clusters involving labials, /p ph b bh ?b ?bh mb m/.

<u>pam</u>	'fish trap'
<u>pham</u>	'eight'
<u>pah</u>	'to strike' (a ball)
<u>bah</u>	'to be well'
<u>?bah</u>	'to pole a canoe'
<u>mbah</u>	'fork or branch of a tree'
<u>mah</u>	'gold'
<u>bul</u>	'to fill in with earth'
<u>bhun-bhan</u>	'clear, rain-less'
<u>?bhul</u>	'to fly' (dust)

Alveolars and clusters involving alveolars, /t th d dh ?d ?dh nd n/.

<u>tău</u>	'skin'
<u>ihău</u>	'to rub'
<u>dău</u>	'to wear or carry on head'
<u>dăm</u>	'to make a baby warm when it sleeps'
<u>dhu?-dhăm</u>	'weak from grave illness'
<u>?dhuac</u>	'to flood'
<u>?dan</u>	'to shine' (a light)
<u>dăn</u>	'strong'
<u>ndăn</u>	'pole'
<u>năn</u>	'day'

Palatals and clusters involving palatals, /c ch j jh ?j ?jh uj ñ/.

<u>ca</u>	'to claw'
<u>cha</u>	'not bashful'
<u>chon</u>	'a small boat'
<u>jon</u>	'long trousers'
<u>jūt</u>	'to wipe'
<u>jhon</u>	'brave'
<u>?jūt</u>	'grass and weeds growing in water'
<u>?jhak</u>	'long'
<u>njuat</u>	'to cause the buffalo to trample (the rice fields)'
<u>nūt</u>	'to hold or carry in hand'

Velars and clusters involving velars, /k kh g ng ŋ/.

<u>kăp</u>	'to bite'
<u>khăp</u>	'to like'
<u>găp</u>	'friend'
<u>ngăp</u>	'to yawn'
<u>ŋăp</u>	'to cover, submerge'

Liquids:

<u>lăc</u>	'to fall off'
<u>răc</u>	'rice bird'
<u>păl</u>	'hollowed out stump for pounding out rice and other things'
<u>păr</u>	'to fly'

Glides and Zero:

<u>?ăũ</u>	'here'
<u>hăũ</u>	'this'
<u>ma</u>	'right (side)'
<u>ma?</u>	'fat'
<u>mah</u>	'gold'

h and s :

<u>duh</u>	'hot'
<u>dus</u>	'to judge'

5. Distinctive Features.

The nine inherent distinctive features of Uon Njuñ Mnong Rõlõm are charted on the following page.

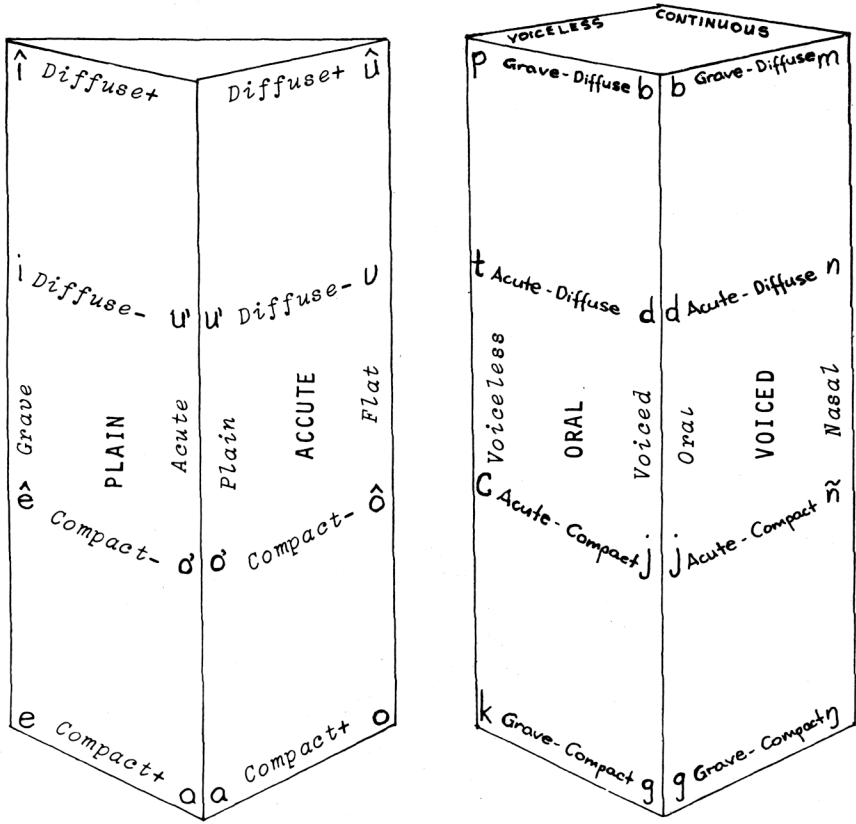


Figure 3. Distinctive Features (incomplete)

In addition to the inherent features, there is a shortness feature which may occur with /i, ɔ, a, and u/. This feature also occurs redundantly with /o/ in closed syllables and with /ʉ/ in all environments.

5.1 Fundamental Source Features. The Vocalic/Non-vocalic and Consonantal/Non-consonantal oppositions divide the segmental phonemes into four groups: Vowels, Liquids, Glides and Consonants

The Vocalic feature has 'a single periodic ('voice') source whose onset is not abrupt.' 'Vowels have no obstructive barrier along the median line of the mouth cavity, whereas consonants have a barrier sufficient to produce either complete occlusion or a turbulent noise source.'

Liquids are complex, as 'they combine closure and aperture, either intermittently or by barring the median way and opening a lateral by-pass.' 'Like vowels, liquids have only a harmonic source.'

'Glides are produced by a stream of air passing through the glottis when it is narrowed or just after an abrupt opening following complete closure.'

The above statements are quoted at some length from Preliminaries (1955:18-20) to point up a problem of analysis for syllable-initial /î/ and /û/. As was mentioned in section 3., in this position /-î/ has the allophones [ʒî ~ î] and /û/ the allophones [βû ~ vû]. Thus, in syllable-initial position, /û/ always has, and /î/ frequently has 'a barrier sufficient to produce ... turbulent noise'. Phonetically then they are, in this position, analogous to the liquids, which have both consonantal and vocalic features.

The analysis of /î-/ and /û-/ as 'liquids' would have certain advantages on the syllable level, as it would then be possible to say that all syllables in Mnong Rôlôm begin with non-vowels (i.e., consonants, liquids, or glides). This problem points up the advantage of the semi-vowel concept for certain types of analysis (e.g., those in which simplicity of description at higher levels of the phonological hierarchy is an important criterion).

For this paper, however, economy at the distinctive feature and phoneme level is the principal criterion. The fricative onsets of î- and û- are therefore considered to be redundant features. This eliminates two extra phonemes, /w/ and /y/.

5.2 Resonance Features. There are five resonance features, four of which are generated in the basic resonator, and one -- the nasal -- which is due to a supplementary resonator. The four resonance features generated in the basic resonator are: the tonality features -- Grave/Acute and Flat/Plain, and the two compactness features -- Compact/Non-compact and Diffuse/Non-diffuse.

(1) Grave/Acute: This feature is pertinent to all vowels and all the consonants with the exception of the sibilant /s/. The gravity feature is produced by 'a larger and less compartmented mouth cavity'.⁵ It divides the consonants into the grave-plus labials and velars and the grave-minus alveolars and palatals. It also divides the grave-plus

non-front vowels from the grave-minus front vowels.

(2) Flat/Plain: This feature is pertinent only to the vowels. The flat feature in Mnong Rôlôm is manifest by lip rounding. It divides the flat-plus (rounded) back vowels from the flat-minus (unrounded) non-back vowels.

The Grave/Acute and Flat/Plain features thus divide the vowels into front (acute-plain), central (grave-plain) and back (grave-flat).

(3) The Compactness Feature: 'The essential articulatory difference between the compact and diffuse phoneme lies in the relation between the volume of the resonating cavities in front of the narrowest stricture and those behind this stricture. The ratio of the former to the latter is higher for the compact than for the corresponding diffuse phonemes.'⁶

The compactness feature divides the compact back consonants (palatals and velars) from the diffuse front consonants (labials and alveolars).

Compact/Non-compact: This opposition is used to divide the lower vowels (low to mid tongue positions) into compact (low)vowels and non-compact (mid) vowels.

Diffuse/Non-diffuse: This opposition is used to divide the higher vowels (high and mid-high tongue positions) into diffuse (high) vowels and non-diffuse (mid-high) vowels.

These features conclude the analysis of the inherent features of the vowels.

The division of the vowels into four degrees of height by only two distinctive features illustrates a case where \emptyset must be considered equally as significant as either + or -. Thus the compactness feature is applied only to the lower vowels and diffuseness only to the higher vowels. The compactness feature must be considered non-relevant to the higher vowels and the diffuseness feature non-relevant to the lower vowels.

5.3 Secondary Consonantal Source Features.

(1) Continuant/Interrupted. This feature is pertinent to all the non-vowels in Mnong Rôlôm except the nasals. It divides the liquids into continuant /l/ and interrupted (trilled) /r/, the glides into continuant /h/ and interrupted /?/, and the non-nasal consonants into continuant /s/ versus the non-continuants ('stop'). This feature completes the analysis of the liquids, glides, and the sibilant /s/.

(2) Voiced/Voiceless: This feature divides the eight 'stops' into four voiced and four voiceless, thus completing the analysis of the consonants.

5.4 Prosodic Feature. Uon Njun Mnong Rôlôm has a shortness feature which occurs as a distinctive feature only with the vowels /i ɔ a u/ and only in closed syllables (syllables having termination). This feature also occurs redundantly on /u/ which is always short (occurring only in closed syllables) and on /o/ in closed syllables.

6. Distribution.

The distribution of the segmental phonemes of Mnong Rôlôm may be made entirely on the syllable level. While analysis on the syllable level separates /ĩ/ and /i/ (which can be united on the word level), this separation does not add to the phoneme inventory, as there is already a prosodic feature of shortness.

6.1 Mnong Rôlôm Syllable Pattern. Mnong Rôlôm syllable pattern may be represented by I C (T), in which I (Initiation) and C (Culmination) are obligatory and T (Termination) is optional. Since the culmination of the syllable is always manifested by a vowel or vowels, the minimum syllable in Mnong Rôlôm consists of two phonemes, the second of which is always a vowel.

The initiation of a Mnong Rôlôm syllable may be manifested by any consonant, a combination of up to three consonants (with severe co-occurrence restrictions) or by /f/ or /û/. The initial consonant positions may be represented by $C_1 C_2 C_3$, in which C_1 is /?/ or a nasal, C_2 is a stop, and C_3 is /h l or r/.

The co-occurrence restrictions on $C_1 C_2$ are as follows: C_1 occurs only before voiced stops. Further, if C_1 is /?/, it may not occur before /g/. If C_1 is nasal, C_2 will be a voiced stop at the same point of articulation as the nasal.

The co-occurrence restrictions on $C_2 C_3$ are as follows: The diffuse stops /p b t d/ may occur before any C_3 . The compact stops /c j k g/ may not occur before /l/. The sibilant /s/ occurs only before /r/.

The co-occurrence restrictions on $C_1 C_3$ are: $C_1 =$ nasal, $C_3 =$ /h/.

The culmination of a syllable may be manifested by any vowel or by /ia/ or /ua/.

The termination may be manifested by C_4 (any consonant but a voiced stop) or by /f/ or /û/.

6.2 Distribution of Syllabic Vowels in Relation to Syllable Initiation. A charting of the distribution of vowels filling the culmination position in relation to the phonemes filling initiation position yields no clear pattern except that a front vowel never follows /f-/ and a back vowel never follows /û-/.

Following the consonants there is no discernable pattern whatsoever, 'holes' appearing here and there on the chart with complete randomness. It should be mentioned, however, that the short forms /ĩ/ and /û/ have a very limited distribution, /ĩ/ occurring only following /d/ and /ŋ/, and /û/ occurring only following /p t k b l/. Even here it will be noted that there is no symmetry between front and back vowels.

Also /ê/ is very limited in distribution, occurring only following /t k d g/. This vowel seems to be in the process of disappearing from the Uon Njuñ sub-dialect as in most cases /ê/ of neighboring sub-dialects is replaced by /i/ in the Uon Njuñ area. (e.g., pêh, pih 'knife').

/ə/, on the other hand, seems to be in the process of entering the sub-dialect, possibly through Rade, the trade language. Its occurrence has only been attested following /t b d j m l h ũ/. While it is clearly phonemic, being in contrast to /ǎ/ with which it is most easily confused, there is a difference of opinion among informants -- even of the same area -- on some words as to whether the phoneme in question is /ə/ or /ǎ/. In other cases, /ə/ and /ǎ/ are in free variation (e. g., /bəñ~bǎñ/'we' inclusive). In the Uon Biap sub-dialect (and perhaps others) the /ə - ǎ/ contrast does not occur. Instead, there is a vowel /ǎ/ whose phonetic norm is approximately mid-way between the two vowels.

6.3 Distribution of Syllabic Vowels in Relation to Syllable Termination.

While no discernable distributional pattern emerged when vowels in culmination position were charted in their relation to consonants in initiation position, quite the opposite is true when these same vowels are charted in their relation to syllable termination. Although the patterns of distribution that emerge from this charting show some irregularity, the strong tendency is toward regularity.

6.3.1 Distribution of the Shortness Feature.

Perhaps the most obvious feature of vowel distribution is that phonetically short vowels do not occur before the glides /h, ?/ (with the one-word exception, chu? 'to wrinkle' nose or mouth) or before /h/ or /Ø/ (zero). It should be noted that while /t/ is everywhere else phonetically short as compared to /d/, in its one occurrence before /?/ it is not perceptibly shorter than /d/ before /?/ (as in ñd? 'dirty'). Also, phonetic shortness on /t/ in this dialect is a redundant rather than a distinctive feature. The prosodic feature of shortness, then, does not occur on vowels preceding the glides /h?/, the sibilant /s/, or /Ø/.

6.3.2 Distribution of Front Vowels.

Before the bilabials /p m ũ/, the front vowels /i/ and /i/ and the sequence /ia/ occur.

Before the alveolars /t n l r/, the front vowels /i/ and /i/ and the sequence /ia/ occur. In addition, /ê/ has been found before /t/ and /i/ before /n/ in a few words.

Before the velar consonants /k ŋ/, /i/ /i/ /ê/ and the sequence /ia/ occur.

Before the palatals /c n s î/, with a one-word exception, (in which /î/ precedes /ñ/), front vowels have not been found.

Before /h/ and /Ø/, all the front vowels occur, except that the sequence /ia/ does not occur before /Ø/ except in proper names.⁹

Before /?/, all the front vowels but /i/ occur.

6.3.3 Distribution of Central Vowels.

Before the bilabial, alveolar and velar consonants /p m t n l r k ŋ/, all the central vowels occur. (/d/ can occur only preceding these

	FRONT VOWELS					CENTRAL					BACK VOWELS							
	i allo.	(ī) allo.	ɪ	ɪa	ê	e	ɨ	â	ɔ	ã	a	u	ũ	û	ua	ô	ó	(ō) allo.
Bilabial	p	✓		✓	✓													
	m	✓		✓	✓		✓	✓	✓	✓	✓	✓		✓				✓
Alveolar	t	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			
	n	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			
	l	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			
Velar	r	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			
	k	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	ng	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Semi-vowels	w	✓		✓	✓			✓	✓	✓								
	y							✓	✓	✓	✓			✓	✓			
Palatal	c						✓	✓	✓	✓	✓	✓	✓	✓	✓			
	ɲ <i>one word</i>						✓	✓	✓	✓	✓	✓	✓	✓	✓			
Other	s			✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			✓
	h	✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			✓
	?			✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			✓
	∅	✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			✓

consonants.)

Before semivowels /f̄ ũ/, /d̄/ /ã/ and /a/ occur. (a is the only vowel which can occur with the shortness feature before /f̄/ and /ũ/.)

Before the palatals /c n/, /u/ /d̄/ /ã/ and /a/ occur. (The phonetically short vowel /u/ can occur wherever /ã/ can occur except before /f̄/ and /ũ/.)

Before /h ? s Ø/, the non-short central vowels /d̄/ and /a/ occur, except that, in this sub-dialect, /a/ does not occur before /s/ and the phonetically short vowel /u/ occurs before /?/ in one word.

6.3.4 Distribution of Back Vowels.

Before the bilabial consonants /p and m/, /ũ/ /u/ and /ô/ occur.

Before /ũ/, no back vowel occurs. (This parallels the non-occurrence of front vowels before /f̄/ in particular and the almost complete non-occurrence of front vowels before the palatals in general.)

Before the alveolars and palatals /t n r l c ñ s f̄/, /ũ/ /u/ and the sequence /ua/ occur.

Before the velar consonants /k/ and /ŋ/, all the back vowels occur. (This is the only environment in which phonetic shortness occurs in the back vowels. The phoneme /ũ/ and the allophone [õ] of the phoneme /o/ occur only in this environment.)

Before /h/, the vowels /ũ/ /u/ /o/ and the sequence /ua/ have been found.

Before /Ø/, the vowels /ũ/ /o/ and the sequence /ua/ have been found.

Before /?/, /u/ /ô/ and /o/ have been found. (The non-occurrence of both /f̄/ and /ũ/ before /?/ constitutes a pattern in which no high vowel occurs before /?/.)

(For a chart of the distribution of vowels in syllable culmination position in relation to phonemes in syllable termination position, see Fig. 4.)

7. Observations.

The vowel system of Uon Njuñ Mnong Rôlôm is a departure from the more common 3-3-3 arrangement (for languages of this area) of three degrees of height and three degrees of backing. Even in the Mnong Rôlôm dialect area, the four phonemic degrees of vowel height in the front and back vowels is probably the exception rather than the rule.

Due to a general lack of security in the area in which I did my field work, it was not possible to trace all the sound shifts within the dialect area. However, it appears that, although other sub-dialects with which I am familiar may have four phonetic degrees of front and back vowel height, there is no necessity of analyzing them as having four phonemic degrees, as only the short and glided forms /ĩ ũ ia and ua/ occur at mid-high position. In these forms, the high - mid contrast is neutralized. Mid-high /i/ and /u/ do not occur in these other sub-dialects.

The Uon Njuñ area is not only geographically central, but it also

seems to be a transitional area for sound shifts. Thus the four degrees of vowel height can be 'explained' either (a) as the result of an incomplete sound shift, or (b) as being due to the presence of an in-between sound not found in the surrounding sub-dialects.

The /i - ê/ distinction is an example of the former. Most of the ê's of the surrounding sub-dialects are replaced by /i/ in the Uon Njuñ area, while a few words retain the /ê/.

On the other hand, /u/ is a sound mid-way between the /ô/ of Uon Dieo to the northeast and the /û/ of Uon Bang to the southwest. From Uon Dieo to Uon Bang, the shift is as follows: ô -- u -- û/ô, in which the /u/ of Uon Njuñ splits to become either /û/ or /ô/ in the Uon Bang area. The glided form /ua/ of Uon Dieo splits to become /ua/ and /ô/ (the latter before bilabial and velar consonants) in the Uon Njuñ area. There is a further shift to /ô/ in the Uon Bang area, but it is neither consistent nor complete. Thus, the Uon Njuñ sub-dialect has both /i/ and /u/ in addition to the other vowels of the surrounding dialect areas.

FOOTNOTES

[Editor's note: This manuscript was found among Henry Blood's belongings in Banmethuot after his capture and abduction at Tet 1968. He seemingly was putting the finishing touches on it, lacking the completion of Fig. 3 and the redrawing of Fig. 4. Two pages of the manuscript were missing, apparently containing a Section 8 and perhaps more in Section 7; the rest of the 26-page manuscript was picked up and collected by his wife Evangeline, with whose kind permission we are publishing this.]

1. See Smalley 1955.
2. See Thomas 1962. I am indebted to Mr. Thomas and Mr. Milton Barker, both of S. I. L., for many valuable suggestions on my analysis.
3. From July 1961 through May 1962, my informant was Muom Nôm, a well-educated young man of about 22. He is almost completely bilingual, knowing the trade language, Rade, perhaps as well as his own language. This made it easy to check on unusual syllable and word patterns as to possible Rade origin. I had previously studied for about a year with an informant from Uon Biep, ten kilometers to the east of Lac Thien.
4. Smalley analyzes three degrees of height for the back vowels of Srê on the following basis:

'/ɔ/ has two distinct allophones which cannot be separated in the present data: [ɔ], mid, back, varying to central unrounded, which occurs with /'/(high, short tone-length feature) and [o], low, open, back, slightly rounded, which occurs with /˘/(low, long tone-length feature).'

Miss Beulah Bowen of the Christian and Missionary Alliance has since noted one very common exception to the above statement of complementary distribution in the word dòng 'large' where ɔ occurs with the low, long tone-length feature. Since this puts -òng in contrast with -ông, it would seem that the four phonetic degrees of back vowel height in Srê would be most accurately analyzed as representing four phonemic degrees.
5. Jakobson 1955:30.
6. Jakobson 1955:27.
7. Non-syllabic final /û/ is here classified as a 'bilabial' on the basis of articulatory similarity to the bilabial consonants (flatness feature manifest by lip rounding) and similarity of vowel distribution preceding it. (See Figure 4.)

Non-syllabic final /f/ is also here classified as a 'palatal' for reasons similar to the above.

8. The sequence /ia/ is here classified with the front vowels since it has the same restriction on its distribution as the front vowels (non-occurrence before the palatals). Likewise /ua/ is classified with the back vowels since it has the same restriction on its distribution as the back vowels (non-occurrence before /-û/). (See Figure 4.)
9. In the phonemic analysis of Mnong Rǝlǝm, proper names, words obviously of Rade origin, animal cries, exclamations and final particles have been eliminated. Words in each of these classes sometimes violate the normal distribution pattern of the phonemes.

[Fig. 4 shows an allophonic [f̃] which does not appear in the text of the article. Since the manuscript pages were scattered around the room and no notes were found, it is not clear whether the chart represents an earlier analysis from which he had since deleted [f̃], or whether the [f̃] was a later discovery not yet worked into the body of the article. Ed.]

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