Phonetic Typology of Languages in Vietnam and a Common Transcription for Them

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I. Introduction

For a long time the teaching and learning of the minority languages in primary school for mountainour regions has been an incentive poligy of the Ministry of Education in Vietnam. Nevertheless, in reality, carrying out this policy has been very difficult and unsuccessful. In fact, the motivation for learning and teaching ethnic minority languages is low, besides their primer books, the children have nothing to read. The minority script is not used outside the classroom. For what purpose should the children learn reading and writing in minority languages and after a short time forget it? This is a difficult question for a teacher in the highland schools. If it is only a first step to acquaint children to the Vietnamese alphabet, it would be better to begin directly with Vietnamese, a means of communication in the whole country.

On the contrary, intellectuals of ethnic minorities are craving for an alphabet to write in their own language. Every year more and more folksongs and poems are printed in bilingual books, even in cases where the minority languages are still without an alphabet (i.e., Muong, Yao, Yay). In these cases, the Vietnamese alphabet is used for transcribing with some creative initiatives. The shortcoming is individual initiatives differeing from the transcriptions of different editors of the same language. For example, the affricate [ts] in Yao is written ts by one editor, xch by another. The Tay-Nung alphabet was created forty years ago, and was taught only in primary school during a short time (in the 1960s), and then forgotten. This alphabet is not popularized for use in society. Even Tay-Nung speakers in broadcasting stations of the Tay-Nung regions don't know this alphabet. They write

news for reading in broadcasts with their individual transcription, as Yao speakers are doing.

This reality proves that alphabets for minority languages are necessary, at first for intellectuals, employers involved in clutural activities, and for broadcasting. Only when the alphabets are popularized for use in society will teaching minority languages in school be successful with increased motivation.

In this situation, it would be useful to create a large and convenient alphabet, based on Vietnamese, that could be applied to various languages in Vietnam. This alphabet would draw on the experience of the official alphabet used for education, individual transcriptions of linguists, and ethnic minority intellectuals, and would have to be taken from a survey of the different types of phonetic systems of languages in Vietnam.

So the phonetic typology presented in this paper is geared toward this practical putpose. It is not a contribution to historico- or geographico-linguistic research.

Material in this paper is collected from scientific articles, dissertations, primers, text books, and bilingual books. It includes thirty phonetic systems and fourteen script systems. Besides the phonetic systems of languages in Vietnam, it includes twelve phonetic systems of dialects and languages at the border of the neighbouring countries also examined to make up the deficit of unknown dialects and languages in Vietnam. Following is a typology of tone and sound systems, but types of sounds are not studied.

Suprasegmental systems

1. Tonal system.

Almost all languages in Vietnam can be divided into two types: tonal languages and non-tonal languages with binary registers or phonations. Tonal languages containing a system of tones (from

3 to 8) are: Viet-Muong, Thai-Kadai, Hmong-Yao, Lolo groups, and the Cham language. We consider high/low pitch syllables with final voiceless stops (jusheng - in Chinese) as variants of rising/descending tones in other syllables. Therefore, except Hmong with 8 tones, other languages have from 3 to 6 tones.

The Vietnamese script system of 6 tones is marked by 5 diacritic signs and with one tone not marked a, à, á, ả, ã, ạ. This is from the great initiative of European missionaries in the sixteenth century for the Vietnamese script. These 4 marks over the letter and one mark under the letter can be compiled for 4 more tones: ầ, ấ, ẩ, ẫ. In this way, a proposed 10-tone system could be marked. It is regrettable that this convenient diacritic system would not be used to mark the 8 tones of the Hmong languages. They are marked by adding consonant letters at the end of the words, an imitation of Hmong scripts in China. Because of the inconvenience of the different ways to write the tonal system, Hmong geographical names are written on Vietnamese maps with Vietnamese style tone marks.

2. Non-tonal languages with binary registers or phonations.

Instead of a tonal system, there are binary registers or phonations in Austroasiatic and Austronesian languages in the Central Highlands and in the central mountain range Truong Son. The preglottalization of voiced stops b, d, j, g causes the variations in the position of the vocal cords in different phonation types. Thus, a creaky voice usually has a low pitch as well as a particular voice quality. Depending on one of the other feature attracting researchers: low pitch or voice quality, vowel under the influence of phonation is described and transcribed in different ways:

Koho with two pitches high/low:	e/è
Bru with contrast lax/tense:	e/ẽ
Pakoh with contrast lax/tense:	e/ee
Rongao with contrast lax/tense:	ê/e
Jeh with contrast lax/tense:	e/è

Hrê with contrast clear/gruff: e/è

Sedang with contrast clear/laryngealized: e/é

In addition, "length . . . has been treated as suprasegmental if it applies to a whole class of segment, such as all vowels: (Maddieson, *Pattern of Sounds*, p. 162). Therefore, length contrast in the whole vowel systems of the Bahnar, Ede, Jarai, and Chru languages can be treated as a suprasegmental feature.

In the following section, the facts of suprasegmental property are presented. Only systems of basic vowels include really segmental units. Other types of binary contrast vowels reflect the contrast between segmental and suprasegmental features.

II. Typology of vowel systems

Diphthongs, triphtongs, or vowel combinations are always a matter of dispute. They are not mentioned in this brief survey. Vowel systems of languages in Vietnam can be divided into two types: systems of basic vowels and systems of binary contrast vowels.

1. System of basic vowels.

The system of basic vowels includes from 5 to 11 vowels. In Hmong Lenh, there are 5 vowels; in Vietnamese, Muong, Tay, Laha, Pupeo, and Yao, there are 11 vowels.

<table>
<tr><td colspan="4"><u>Vowels and Letters of
Vietnamese, Muong, Tay</u></td><td colspan="2"><u>Vowels and Letters of
Hmong Lenh</u></td></tr>
<tr><td>i</td><td>ɯ</td><td>u</td><td></td><td>i</td><td>u</td></tr>
<tr><td>ê</td><td>ơ</td><td>â</td><td>ô</td><td>e</td><td>o</td></tr>
<tr><td>e</td><td>ɑ</td><td>ă</td><td>o</td><td>a</td><td></td></tr>
</table>

2. Binary systems of vowels.

In these systems, basic vowels are multiplied 2, 3, and 4 times. For that reason, the Bru vowel system includes 42 volwels, and Chong has 46 vowels.

a) Systems of binary contrast vowels:
- Length contrast (long/short):
  Vowel system and its writing in Bahnar, Ede, and Jarai languages (in primer books)

	Long			Short	
i	ɯ	u	ĭ	ɯ̆	ŭ
ê	ơ	ô	ê̆	ơ̆	ô̆
e	ɑ	o	ĕ	ɑ̆	ŏ

- Pitch contrast (high/low):
  Vowels and letters in Koho language (by Ta van Thong)

	High			Low	
i	ɯ	u	ì	ɯ̀	ù
ê	ơ	ô	ʼê	ờ	ʼô
e	ɑ	o	è	ɑ̀	ò

- Phonation contrast (lax/tense or clear/gruff):
  Ex. 1: Vowel system and its transcription in the Rongao language (by Ken and Marilyn Gregerson):

	Lax Register			Tense Register	
i		u	í		ú
ê		ô	e		o
	ơ			ɑ	

Ex. 2: Vowels and transcription of the Jeh language (by Patrick Cohen):

Lax Register		Tense Register	
i	u	ì	ù
e	o	è	ò
ɑ		à	

Ex. 3: Vowels and transcription in the Hre language (by Kenneth D. Smith):

Tense register (clear vowels)			Lax register (gruff vowels)		
i		u	ì		ù
ê		ô	ˋê		
e	ɑ	o	è	à	ò

Ex. 4: Vowels and letters in Sedang language (by Kenneth D. Smith, primer book):

Clear vowels			Laryngealized vowels		
i	ɯ	u	í	ɯ́	ú
ê	ơ	ô	ế	ớ	ố
e	ɑ	o	é	ɑ́	ó

b) Systems of triple contrast: lax (long/short)/tense:
   Ex.: Vowels and letters of Bru (by Miller; Hoang Tue)

	Lax					Tense		
	Long		Short					
i	ɯ	u	í	ɯ́	ú	ĩ	ɯ̃	ũ
ê		ô	ế	ớ	ố	ẽ	õ	õ̃
	ɑ							
e	ɑ	ɑ	o	é	ɑ́	ɑ̆́	ó	

c) Systems of double binaries:

- Register contrast and length contrast:
  Ex. 1: Vowels and letters of Pakoh (by Hoang Tue):

Lax						Tense			
Short			Long			Short		Long	
í	ứ	ú	i	ư	u				
ế	ầ	ố	ê	ờ	ô	ờớ		ờờ	
é	ă	ó	e	ɑ	o	eé	oó	ee	oo

Ex. 2: Vowels and letters of Pakoh (by Watsons):

Lax						Tense			
Short			Long			Short		Long	
í	ứ	ú	i	ư	u				
ế	ɑ	ố	ê	ờ	ô	ẽ́	ớ́	ỏ̌	ě ở̌ ŏ
						é	á	ó	e ɑ o

- Length contrast and nasalization contrast:
  Ex. 1: Vowels and transcriptions in Haroi language
  (by A. Mundhenk, W. Goschnick):

	Short		
Non-Nasalized			Nasalized
i	ɨ	u	
ɪ		ʊ	
ê	ə	ô	ə̃
e	ɑ	o	ẽ

	Long		
Non-Nasalized			Nasalized
ì	ɨ̀	ù	
ì̠		ʊ̀	
̀ê	ə̀	̀ô	
è	à	ò	ɑ̃̀ õ̀

Ex. 2: Vowels and transcription in Lakkia (by A. G. Handricourt):

	Normal		
	Normal		Nasalized Normal	
i	u		ĩ	ũ
ie	uo		iẽ	
ẹ	ọ		ẹ̃	ə̃	ọ̃
	ɑ			ɑ̃

	Short		
	Short		Nasalized Short	
ĭ	ŭ			ŭ̃
ĕ	ŏ			ŏ̃
ẹ̆			ẽ	
	ɑ̆			ɑ̆̃

3. Vowel transcription with diacritic signs.

The Vietnamese alphabet, with 11 vowel letters, is enough to write simple vowels in minority languages:

i	ư	u
ê	ơ	â	ô
e	a	ă	o

Nevertheless, it doesn't correspond to complicated vowel systems with binary length contrast, phonation contrast, nasalization contrast, etc. found in most languages in southern Vietnam. For this reason, researchers try to transcribe them with their individual experiences, that is why they transcribe the same vowel property differently.

Transcribing this type of vowel system must be begun by distinguishing basic vowels (i.e., simple vowels) from vowels with secondary articulation (nasalization, laryngealization, creaky voice, etc.) which must be marked. For example, for length

contrast in the Thai language, the marked vowel is long: a/à, but in Bahnar, Jarai, and Ede, the marked vowel is short: a/ă.

We propose such diacritic marks for the marked vowels as follows:

normal/short:	a/ă
normal/long:	a/ā
normal/low:	a/à
normal/tense:	a/á
normal/nasalized:	a/ã

Secondary articulation must be well studied to confirm that the property called by different researchers by different words (for example: short/long, lax/tense, clear/gruff) are really different contrasts or are the same.

III. Typology of consonant systems

1. Initials.

Consonant systems of languages in Vietnam can be classified in three types:
- Systems of basic consonants (simple, without secondary articulation)
- Systems with complicated consonants (with secondary articulation)
- Systems with consonant clusters

a) Phonetic systems of basic consonants.

Most of the consonants of this type are simple, without secondary articulations, except aspiration by voiceless stops in many languages. In Vietnamese there is one aspirated voiceless stop [t^h]; in Muong, May, Ruc, Tay, Thai, Laha there are three: p^h, t^h, k^h. Some languages in this type have some consonant clusters, which are going to disappear (i.e., Muong, May, Ruc).

Ex: Consonant system of Laha (Kadai group):

p	t	c	k
pʰ	tʰ		kʰ
b	d		
m	n	ɲ	ŋ
v	s	z	l

b) Phonetic systems with series of complicated consonants.

By adding secondary articulation such as aspirations, prenasalization, palatalization, preglottalization, and laryngealization languages in this type obtain many consonants. For example, in Hmong Lenh (Vietnam) there are 55 consonants, in La-i-phin Hmong (China) there are 67. A voiceless stop multiplies four times in Hmong Lenh (Vietnam) and eight times in La-i-phin Hmong (China).

Hmong Lenh (Vietnam)

| | | aspirated: ph
| voiceless stop 'p'< | | prenasalized: mp
| | | aspirated-prenasalized: mph

La-i-phin Hmong (China)

| | | aspirated: ph
| | | prenasalized: mp
| | | aspirated-prenasalized: mph
| voiceless stop 'p'< | | palatalized: pj
| | | aspirated-palatalized: phj
| | | affricate: pʐ
| | | aspirated-prenasalized affricate:
| | mphʐ

With secondary articulations nasal and lateral consonants are multiplied twice in Hmong Lenh and four times n La-i-phin Hmong:

Hmong Lenh					La-i-phin Hmong	
m	n	ɲ	ŋ	l	m	l
m̥	n̥	ɲ̥	ŋ̊	ɭ	m̥h	lh
					mj	lj
					mʐ	ljh

In Ede, an Austronesian language in Vietnam, there exists four sets of voiced and voiceless stop consonants:

voiceless<	simple:	p	t	c	k
	aspirated:	ph	th	ch	kh

voiced<	simple:	b	d	j	
	laryngealized:	ɓ	ɗ	ɟ	ɠ

c) Phonetic systems with consonantal clusters.

The most prevalent patterns are clusters with liquid consonants l, r, and semivowels w, j in the second position (if they are not being considered as medial phonemes). They exist in all Austroasiatic and Austronesian languages in the central highlands and the central mountain range, Truong Son. Besides there are other clusters with h, ʔ, ʕ, k, m in the first position. These consonants possibly are a vestige of ancient prefixes. They also create clusters with three consonants. Ede is a typical language with a great number of double and triple consonant clusters. The following are Bahnaric languages in the central highlands: Jeh, Rengao, Sedang, Bahnar, Hre.

2. Finals.

Final consonant systems can be divided into four types:

a) The most prevalent type in northern Vietnam are <u>systems with two contrasting sets of voiceless stops/nasal consonants</u>: -p, -t, -c, -k / -m, -n, ɲ, ŋ, and two semivowels -w, -j (Vietnamese, Pupeo, Yao). In Muong, Laha, Tay, Nung, and Thai languages, semivowel -ɯ also plays the role of a final.

b) <u>Systems with nasal/stop/non-stop consonants</u> are typical for languages in southern Vietnam. Besides the above mentioned final consonants, they still have a non-stop set: -l, -r, -s, -h, and sometimes a glottal stop -ʔ. In Katuic group and the Ede language, besides the glottal finals -ʔ and -h, there also exist the prepalatalized finals -iʔ, ih.

c) <u>Systems with nasal consonant</u>. In the Hmong language, although it has a great number of initial consonants, it can only have one final nasal consonant: -ŋ

d) <u>Open syllable</u>. The Kelao and Lachi languages in China conserve the nasal final -ŋ (and his distributive variant -n), as in Hmong. But in Kelao and Lachi of Vietnam, vowels in this combination are nasalized and syllables become open.

Writing basic consonants

Alphabets of ethnic minorities in southern Vietnam—and particularly alphabets of languages which are taught in the central highlands, such as Ede, Jarai, Bahnar, and Sedang—are convenient to use. Almost all letters correspond to every sound of the language. They are based on the Vietnamese alphabet, but overcome irrational use of some letters in it, caused by the phonetic changes of Vietnamese over the course of the three-and-a-half centuries since the creation of the Vietnamese alphabet.

Advantages of these alphabets are:

- 'k' is used for the sound [k] instead of the three letters c̱, ḵ, q̱ used in the Vietnamese alphabet; it is used for initial as well as final consonants.
- 'd' and 'đ' are used for writing [d] and pharyngealized [đ]. The ḏ in the Vietnamese alphabet is now pronounced [z] in northern Vietnam and [j] in southern Vietnam.
- 'j' is used for [ʒ] instead of g̱i used in the Vietnamese alphabet. In Vietnam it is now pronounced no differently from the 'd'.
- 'y̓' is used for the sound [j].
- 'c' is used for the sound [c], instead of c̱h used in the Vietnamese alphabet.
- 'q' is used for initial and final glottal stop in the Koho, Bru, and Pakoh languages.

In northern Vietnam, the letter 'q' is used in the Hmong alphabet for writing exactly the initial uvular stop [q], as in the transcription of Pupeo, Kelao, Lachi languages. But it is irrational in the alphabets of Tay-Nung, Thai, and Hmong where they use the letter 'd' for writing [z] and conserve three letters c̱, ḵ, q̱, for [k] and c̱h for [c] as in the Vietnamese alphabet.

Writing complicated consonants

1. Aspiration is written with 'h' in the second position in all alphabets: ph, th, ch, kh, bh, dh …

2. Prenasalization is written
   a) with 'm', 'n', 'nh', and 'ng' in the first position in the Koho alphabet: mp | nt, nd, ns, ns | nhc | ngk, ngg, ngkh
   b) with 'm' and 'n' in the first position in the Hmong alphabet: mp, mfl | nd, nt, nth, ns, nx, nz, nj, nkh, nq …
   This writing is simplified but not very exact.

3. Palatalization is written with 'i' after the consonant (Tay-Nung alphabet): ex: pia "fish", bióc "flower", phiắc "vegetable".

4. Affricates are written ts, tx, cx (Hmong alphabet).

5. Voiceless nasal and liquid consonants are written with 'h' in the first position: hm, hn, hnh, hng, hl (Hmong alphabet).

6. Preglottalisation: 'b, 'y, 'g, 'l, 'r, 'm, 'n, 'nh, 'ng (Sedang alphabet).

Writing consonant clusters

Writing consonant clusters is simple, by the way of joining the letters together.

Conclusion

1. Geographical classification.

By the above survey of phonetic typology, languages in Vietnam can be divided into two groups, one located in southern Vietnam and the other in northern Vietnam.

a) In northern Vietnam are located the tonal languages, with a system of basic vowels. They can be divided into two subgroups:

i) Viet-Mong and Tai groups with initial basic consonants and two sets of contrasting voiceless stop/nasal consonants in the role of final.

ii) Hmong, Kelao, and Lachi languages with sets of complicated initial consonants and one nasal final consonant or none.

b) In southern Vietnam are located languages with binary phonations reflected in complicated vowel systems, many initial consonants with secondary articulations, many initial clusters, and many final consonants.

2. Experiences for writing or transcription.

a) For the first group (Viet-Muong and Tai) it is not difficult to transcribe simple consonants, simple vowels, and even tones. This is because intellectuals of ethnic minorities understand the semantic differentiation of tones in their languages.

b) For the second group, transcription is not easy to realize. At first, basic vowels and basic consonants must be confirmed, then the type of secondary articulations can be defined.

For this reason, many individual wiritngs in northern Vietnam are made by ethnic intellectuals, while in southern Vietnam there are only alphabets created by specialists. Popularization of practical phonetics for ethnic intellectuals is very necessary for the conservation of ethnic minority languages and cultures.

References

Bauer, C. 1990. "Reanalyzing Reanalyses in Katuic and Banaric." *Mon-Khmer Studies* XVI-XVII, 1987–1988. Honolulu: University of Hawaii Press.

Butori, Noonpackdee. 1990. *Introduction au Thai*. Paris: Assimil.

Charoenma. 1983. "The Phonologies of a Lampang Lamet ang Wiang Papao Lua." *Mon-Khmer Studies* XI.

Cohen, P. 1979. *Jeh Vocabulary*. Summer Institute in Linguistics (SIL).

Điêu Chính Nhìm, and J. Donaldson. 1970. Ngữ vựng Thái - Việt - Anh, Sài Gòn.

Đoàn Thiện Thuật, and Mai Ngọc Chừ. 1992. "Tiếng Dao." NXB Khoa Học Xã hội Hà Nội.

Đoàn Văn Phúc. 1993. Ngữ âm Tiếng Êđê, Ph.D. diss., Hanoi.

Ferlus, M. 1983. "Essai de phonétique historique du Mon." *Mon-Khmer Studies* XII.

———. 1993. "Phonétique et écriture du Tai de Quy Chau (Vietnam)." *CLAO* XXII, N°. 1.

Fuller, E. "Chru Phonemes." *Chamis Studies*, Pacific Linguistics Series A, N°. 48, Canberra, Australia.

———. 1977. *Chru Vocabulary*. SIL.

Gregerson, Kenneth, and Marilyn. 1977. *Rengao Vocabulary*. SIL.

Hartmann - So, H. 1985. "Mophophonemic Changes in DAAI CHIN." *Southeast Asian Linguistic Studies presented to AG Haudricourt*, Bangkok.

Hayes, H. 1983. "The Register System of Thavung." *Mon-Khmer Studies* XII.

Headley, R.K. "Proto - Pearic and the Classification of Pearic."

———. 1977. "A Pearic Vocabulary." *Mon-Khmer Studies* VI.

Hoàng Tuệ (Chủ nhiệm công trình). 1986a. *Sách học tiếng Bru - Vân Kiều*. UBND tỉnh Bình Trị Thiên.

———. 1986b. *Sách học tiếng Pakôh - Taôih*. UBND tỉnh Bình Trị Thiên.

Hoàng Văn Ma. 1988. Vấn đề vị trí của tiếng Laha. Ph.D. diss., Hanoi.

Hoàng Văn Ma, Vũ Bá Hùng. 1992. "Tiếng Pupeo." NXB Khoa Học Xã hội Hà Nội.

Huffman, P. 1985. "The Phonology of Chong." *Southeast Asian Linguistic Studies presented to AG Haudricourt*, Bangkok.

———. 1990. "Burmese Mon, Thai Mon and Nyah Kur: A Synchronic Comparison." *Mon-Khmer Studies* XVI-XVII, 1987–1988. Honolulu: University of Hawaii Press.

Jazyk Muong (in Russian). 1987. "Materials of Soviet-Vietnamese Linguistic Expedition, 1979." Moscow.

Moussay, G. 1971. *Distionnaire Căm - Vietnamien - Francais*. Phan Rang.

Mundhenk, A. T., and H. Goschnick. "Haroi Phonems." *Chamis Studies*, Pacific Linguistic Series A, N°. 48, Canberra, Australia.

Nguyễn Phú Phong, Trần Trí Dõi, and M. Ferlus. 1988. *Lexique Vietnamien - Ruc - Francais*. Paris.

Nguyễn Văn Lợi. 1972. Một số nét về tiếng Mèo ở Việt Nam, Tim hiểu ngôn ngữ các dân tộc thiểu số ở Việt Nam, Tập I.

Nguyễn Văn Tài. 1982. Ngữ âm tiếng Mường qua các phương ngôn. Ph.D. diss., Hà Nội.

Ratanakul, S., and L. D. Ratanahongse. 1985. "The Phonology of Lawa." *Southeast Asian Linguistic Studies presented to AG Haudricourt*, Bangkok.

Remah, Dêl. 1977. "Từ điểm Việt - Giarai." NXB Khoa Học Xã hội Hà Nội.

Smith, K. D. 1972. "A phonological reconstruction of Proto - North - Bahnaric." *Languas Data*, Asian Pacific Series Nº. 2. SIL.

Tạ Văn Thông. 1985. Ngữ âm tiếng Kơho. Ph.D. diss., Hà Nội.

Thomas, D. 1990. "An Acoustic Study of Northern Khmer Vowels." *Mon-Khmer Studies* XVI-XVII, 1987–1988. Honolulu: University of Hawaii Press.

Thomas, D., and Thổ Sàng Lục. 1966. *Chrau Vocabulary*. SIL.

Thomas, Dorothy. "Popularising the Northern Khmer Orthography: Sociolinguistics in Action." *Mon-Khmer Studies* XVI-XVII, 1987–1988. Honolulu: University of Hawaii Press.

Trần Trí Dõi. 1986. Những vấn đề từ vựng và ngữ âm tiếng Chút. Ph.D. diss., Hà Nội.

Vy Thị Bé, J. E. Saul, N. F. Wilson, and Nung Phan. 1982. *Slihng - English Dictionary*. SIL.

Watson, Richard. 1964. "Pacoh phonemes." *Mon-Khmer Studies* I.

Watson, Richard, and Saundra Watson. 1979. *Ngữ vựng Pacoh - Việt-Anh*. SIL.