Hmong Complex Initials

Marlys A. Macken
University of Wisconsin-Madison

White Hmong, which belongs to the West Hmongic subgroup of the Hmong-Mien family of southern China and northern Southeast Asia, is a basically monosyllabic language with a rich system of fifty seven consonants/consonant clusters that occur at the beginning of a syllable.[1] These will be referred to as the complex initials of the language (see Table 1). Consider the coronal [-continuant] initials exemplified in (1) below.

(1) (a) Coronal [+anterior] initials

t [t]	*tub*	'son'
th [t^{h}]	*them*	'to pay'
nt	*ntub*	'wet'
nth	*nthuav*	'to open out, unfold'
d ?[d]	*dawb*	'white'
dh ?[d^{h}]	*dhia*	'to jump'
tx [ts]	*txob*	'pepper'
txh [ts^{h}]	*txhuv*	'hulled, rice'
ntx	*ntxuav*	'to wash (hands, body)'
ntxh	*ntxhua*	'to wash (clothes), scrub'

(b) Coronal [-anterior] initials

r [ʈ]	*roob*	'mountain'
rh [ʈ^{h}]	*rhiab*	'to tickle'
nr	*nres*	'to stop'
nrh	*nrhiav*	'to look for'
c [t^{j}]	*cub*	'to steam rice'
ch [t$^{j\,h}$]	*cheb*	'to sweep'
nc	*nco*	'to remember'
nch	*nch*	'to pour out'
ts [ʧ]	*tsev*	'house'
tsh [ʧ^{h}]	*tsheb*	'vehicle'
nts	*ntsuab*	'green, greenish blue'
ntsh	*ntshai*	'to fear'

	bilabial	lab/lat rel	lab/dent	[dental	fric rel	palatalized]	[alveolar	lamino-	post-alv]	palatal	velar	uvular	glottal
V-LESS UNASP STOPS	*p* p	*pl* p͡l		*t* t	*tx* t͡s	*c* c	*d* dː	*ts* tʃ	*r* tɾ		*k* k	*q* q	ʔ
V-LESS ASP STOPS	*ph* pʰ	*plh* p͡lʰ		*th* tʰ	*txh* t͡sʰ	*ch* cʰ	*dh* dːʰ	*tsh* tʃʰ	*rh* tɾʰ		*kh* kʰ	*qh* qʰ	
PRE-NASAL STOPS	*np* mb	*npl* mb͡l		*nt* nd	*ntx* nd͡z	*nc* ɲɟ		*nts* ndʒ	*nr* nɽ		*nk* ŋg	*nq* NG	
PRE-NASAL ASP STOPS	*nph* mpʰ	*nplh* mp͡lʰ		*nth* ntʰ	*ntxh* nt͡sʰ	*nch* ɲcʰ		*ntsh* ntʃʰ	*nrh* nɽʰ		*nkh* ŋkʰ	*nqh* NqʰG	
VOICED FRICS			*v* v					*z* ʒ					
V-LESS FRICS			*f* f	*x* s				*s* ʃ		*xy* ç			*h* h
VOICED NASALS	*m* m	*ml* m͡l		*n* n						*ny* ɲ	*g.* ŋ		
V-LESS NASALS	*hm* hm̥	*hml* hm̥͡l		*hn* hn̥						*hny* hɲ̥			
VOICED LIQUID				*l* l									
V-LESS LIQUID				*hl* hl̥									
GLIDE										*y* j			

Table 1: White Hmong Consonantal Phonemes (cf. Strecker 1987; Ratliff 1992)

The coronals in (1) are similar in that all have a noncontinuant obstruent as a component, singly or in combination. The [+anterior] initials are dentalized; the grapheme *x* represents a coronal fricative [s]. The [-anterior] initials are a three-way series of a retroflexed [t] (represented as *r*) set, a palatalized [tʲ] set (represented as *c*), and a palato-alveolar affricate set (represented as *ts*). In terms of features, each [anterior] set contrasts (i) unaspirated ([-spread glottis]) with aspirated consonants ([+spread glottis]), (ii) plain with affricated release, and (iii) with one exception, a plain consonantal onset series to a nasal onset series. Of importance is the asymmetry in the [+anterior] series. Here, the orthographic ***d*** - ***dh*** lack corresponding prenasalized consonants in White Hmong (**nd* and **ndh*) and are unusual in that they would appear to be the only noncontinuant obstruents that are voiced. Note too that the corresponding [-anterior] set (*c*, *ch*, *nc*, *nch*) contrasts not [voice] but [spread glottis] and is distinguished from its other [-anterior] consonant sets in a release feature (palatalized, as opposed to retroflexed or affricated), but not in a laryngeal feature.

In contrast, in Green Hmong (the second major dialect of Hmong) as shown in (2) below, the corresponding [+anterior] set is not asymmetric: we find in this dialect *dl*, *dlh*, *ndl*, *ndlh*; while these segments are thought to be voiced, there is no gap in the prenasalised series and the set contrasts to other [+anterior] sets in a release feature (lateralized as opposed to plain or fricated).

(2) Green Hmong

(a) *dl* corresponds to *d* in White Hmong
dlh corresponds to *dh* in White Hmong

ndl *ndluav* 'to throw out (liquid)'
ndlh *ndlhij ndlhuaj* 'sound of walking through mud'

(b) lacks the White Hmong voiceless sonorant series.

These coronals and the other initials present several

interesting issues regarding the nature of the underlying feature system and the representational question of whether these initials are underlyingly one complex segment or a sequence of two or more consonant segments. As can be seen in Table 1 and the data in (1), the language contrasts [spread glottis] throughout the phonological inventory, but the feature [voice] appears to be underlying in *d* - *dh* (and possibly in *z*) and perhaps in the prenasalized series where there is either phonological voicing /mb, mbl, nd, ndz, nd^{y} ,nd͡ʒ, NG/ (e.g. Strecker 1987, Ratliff 1992; see Table 1) or phonetic post-nasal voicing of underlyingly voiceless obstruents.

These asymmetries are puzzling for several reasons and in this paper, we focus on three questions: (i) What is the phonological structure and phonetic content of the laryngeal feature system in Hmong? (ii) What feature is contrastive in the obstruent series? (iii) What is the structure of the prenasalized series where, if [voice] is redundant in sonorants in Green Hmong, we find an inert feature triggering voicing? Evidence will include data from an acoustic phonetic study of White Hmong complex initials (section 3, below).

Before turning to these questions in Hmong, we must first look at a difference between two types of features, contrastive and redundant feaures (section 1), and second at a relevant typology, *NT, that has been proposed to account for voicing in nasal+obstruent clusters (section 2).

1.0 Contrastive and redundant features

There is a basic difference in two types of features: contrastive features operate in phonological rules while predictable, redundant features overwhelmingly do not. The phonological inertness of voicing in sonorants is classic evidence for underspecification of redundant features in rule-based theories (Kiparsky 1981; Steriade 1987, 1995). For example, in most languages sonorants do not contrast in voicing and do not participate in rules that operate on the features [voice]. This is