

**Tone, intonation, and sound symbolism in Lahu: loading the syllable canon**

**James A. Matisoff**

University of California, Berkeley\*

**1. Feature shuffling and tonogenesis in Sinospheric languages.**

The development of full-fledged tonal systems of the 'omnisyllabic' type seems to be unique to East and Southeast Asia. In a language with an omnisyllabic tone system, virtually every syllable occurs with a distinctive tone that is not predictable either in terms of the syntactic structure of its phrase or phonotactically in terms of neighboring syllables. These tones are not just oppositions of higher vs. lower pitch, but are complex bundles of prosodic features including pitch, contour, vowel length, and 'phonation type' (clear, creaky, breathy voice). Omnisyllabic tone languages usually have a minimum of three distinctive tones, and some have as many as 10 or 12.<sup>1</sup>

There appears to be a necessary connection between omnisyllabic tone and monosyllabic morphemes. The stronghold of these tone systems is precisely the monosyllabic languages that are typologically similar to Chinese: what I have called the 'tone-prone' or 'toniferous' languages of the 'Sinosphere'.<sup>2</sup> Some of these languages are genetically related to Chinese (those of the Tibeto-Burman family), but others (Tai, Hmong-Mien [Miao-Yao], Vietnamese) have developed their tones — and indeed their monosyllabicity — secondarily, through contact influence from Chinese.

Diachronically, the development of tonal contrasts — *tonogenesis* — has been shown to result compensatorily from losses or mergers in the

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<sup>1</sup> Tone systems elsewhere in the world — e.g. Africa or Mesoamerica — are generally much more rudimentary, in the sense that there are fewer contrasts (often just a two-way high vs. low opposition), a high degree of predictability in terms of neighboring syllables or position in the syntactic phrase, and/or a low functional load in distinguishing utterances. ('Pitch-accent' systems like that of Japanese are a limiting case.) Some Tibeto-Burman languages have intermediate systems, where the domain of tone is not the individual syllable but the dissyllabic word, i.e. there are fewer tone-pattern possibilities in dissyllables than the product of the possibilities in two separate monosyllabic words. One such language is Kham of Nepal (Watters 1985).

<sup>2</sup> The terms *omnisyllabic*, *toniferous*, *Sinosphere*, and *Indosphere* are introduced in Matisoff (in prep.).

consonantal system. Loss of a voicing contrast in prevocalic consonants can be transphonologized into a contrast between higher and lower tones; while loss of a postvocalic laryngeal ( $-ʔ$  or  $-h$ ) can lead to a phonemic contrast between rising vs. falling tone.<sup>3</sup> There is something about the tightly structured nature of the syllable in monosyllabic languages which favors the shift in contrastive function from one phonological feature of the syllable to another,<sup>4</sup> and the birth of tones is only the most spectacular of these 'feature shufflings'.<sup>5</sup>

Lahu is a typical omnisyllabic tonal language of the Loloish subgroup of the Tibeto-Burman branch of the great Sino-Tibetan family. The standard Black Lahu dialect has seven tones, five of them synchronically 'open' and 2 of them 'checked', i.e. accompanied by a glottal stop:

OPEN			CHECKED	
ca	33	[mid level]	'look for'	
cá	35	[high rising]	'to boil'	c âʔ [high] 'string'
câ	53	[high falling]	'eat'	
cà	21	[low falling]	'ferocious'	c àʔ [low] 'push'
cā	11(2)	[very low]	'feed'	

(The numbers 33, 35 etc. indicate relative pitch on a scale from 1 (lowest) to 5 (highest), with the first number representing the beginning, and the second the end, of the tonal contour. Note that the very low tone has a slight 'allotonic' rise in phrase-final position.)

Syllables under the checked tones derive historically from syllables with final stops  $*/-p -t -k/$ , though synchronically it is far preferable to regard the glottal stops as tonal (prosodic, suprasegmental) features rather than as postvocalic consonants. (For one thing,  $-ʔ$  disappears in *stngng*, as do all other tonal features.) In fact it is best to consider the open versus checked tones as two quite independent subsystems. The symbols  $/^{ʔ}/$  and  $/^{ʔʔ}/$  are to be regarded as unitary digraphs, with no connection implied between them and the open-tone marks  $/^{}/$  and  $/^{}/$ .<sup>6</sup>

<sup>3</sup> The first coherent explanation of these phenomena is due to Haudricourt 1954. The term *tonogenesis* itself was coined by Matisoff, and first appeared in print in 1970.

<sup>4</sup> Matisoff 1973, p. 78.

<sup>5</sup> The term 'feature shuffling' was introduced in Henderson 1985.

<sup>6</sup> The transmutation of syllable-final stops into tonal features is a gradual and ongoing process in the Loloish languages. An original final oral stop may decay until it has even less occlusion than a glottal stop, becoming merely constriction or 'creakiness' on the vowel; or it may ultimately leave no overt trace of its former stoppitude at all. This is what happened in the case of the Lahu high-rising tone, e.g. cá <sup>35</sup>, which is now totally open, with no

Since Lahu has no initial consonant clusters (syllables can also begin with no consonant at all), and no final consonants by this analysis, we are left with an extremely simple *CORE syllable canon*:

$$\begin{array}{c} \text{T} \\ \text{(C)} \quad \text{V} \end{array}$$

## 2. Intonation in an omnisyllabic tone language.

Even in languages with elaborate omnisyllabic tone systems, *intonation* certainly exists as a phenomenon independent of tone. Since intonational contours usually extend over a much larger stretch than a single syllable, and in any case are determined by 'fortuitous' syntactic structure rather than any inherent property of particular lexical items, the effect of intonation is to overarch the tones of the individual syllables in an utterance. In Y.R. Chao's felicitous metaphor, intonations are like ripples on the surface of the tone-waves.<sup>7</sup>

Still, there may also be highly perceptible intonational effects even on single syllables. Chao describes e.g. how Mandarin syllables under the fourth tone /˥˥/, which in 'neutral' intonation has a simple falling contour like 51, can acquire a complex rise-fall at the end under 'exasperated intonation':

qù 51 'go' / bù qù-ú-ù 5121 'I'm not going, dammit!'

Similarly, a Lahu syllable under one of the high tones /˥/ or /˥˥/ may acquire a lengthened vowel and a superhigh contour for special emphasis, which for male speakers may mean lapsing into falsetto:

ô 54 5 112 'over there'

ôôô 66 5 112 'wa-a-ay over there'.

In Lahu humorous or emotional conversation, in the incantatory style of animist prayers, and especially in women's speech, a special tripartite intonation is often encountered. Starting with the high-falling contour, it

glottalization, but derives historically from syllables with final \*/-p -t -k/ under special conditions where 'glottal dissimilation' applied (Matisoff 1970).

<sup>7</sup> Chao did pioneering work in comparing intonational phenomena in tonal and non-tonal languages (cf. Chao 1932). A recent contrastive study by Shen Xiaonan (1985) compares Chinese and French interrogative intonation.

rapidly descends to the very low tone, whence it rises again to the mid range:

pò-thô-ō-o 'Good grief!'<sup>8</sup>

For us non-native speakers of tone languages, dramatic cases of interference can arise between the tones of the target language and the ingrained intonational habits of one's own, non-tonal language. On the simplest level, anyone who has tried inserting a Chinese word into an English sentence quickly runs into trouble — e.g. when ending an English yes-no question with a quoted word in the Mandarin falling tone:

'Did you say qù ??'

Lahu has an interjection under an intonationally exaggerated high-falling tone *hâi*<sup>51</sup>, whose function is to indicate that one has not understood the previous utterance, and that a repetition is desired, much like English *huh?*. To American ears (or at any rate to mine) this interjection creates a bizarre first impression, simply because the falling tone of the particle sounds so positive or asseverative, not at all like the rise in pitch that we habitually associate with uncertainty or a request for repetition. (The strangeness of this word is accentuated by the allophonic nasalization of its vowel [*hâin*<sup>51</sup>], characteristic of syllables with initial *h-*, a phenomenon I have called *rhynoglottophilia*. See 6e, below.)<sup>9</sup>

### 3. Non-prosodic 'canonical' strategies for conveying affect in tone languages.

Although intonation certainly exists in tone languages, it seems clear that tonality favors the use of something else besides mere pitch or contour to help perform the communicative jobs that intonation handles in non-tone languages. Thus Lahu does not need to have a special intonation for interrogative sentences, since it has a set of sentence-final particles whose sole function is to signal various kinds of questions: *l â* 'yes-no question', *l e* 'substance (WH-) question', *nã* 'indirect or rhetorical question'. More

<sup>8</sup> This interjection is borrowed from Thai *phút-thôo* 'by the Buddha!' See Matisoff 1973 (GL), pp. 37-8.

<sup>9</sup> The mastery of this particle had an immediate payoff during my first period of fieldwork on Lahu in 1965. Before that time I had wondered why people were constantly barking [*hâin*<sup>51</sup>] at me whenever I tried to say anything! When I wanted to ask for a repetition myself I would painfully say something like [*â-thô?-ma qô? ve le*], literally 'What are you saying?' which was so unidiomatic that people usually gave up, or at any rate resorted to a simpler paraphrase. Once I learned [*hâin*<sup>51</sup>], however, people automatically repeated what they had just said, in exactly the same words. This marked the beginning of the end of my intonational dependence on English.

strikingly, omnisyllabic tone languages typically have a repertoire of particles whose only job is to convey the emotion or affect of the speaker — syllabic exclamation points, as it were. Thai has several of these, e.g. *ròɔk*, as in *mâj paj ròɔk* 'I'm not going!' (*mâj* 'not', *paj* 'go', *ròɔk* 'I'), while Lahu boasts many more, including *qôʔ-ma*, *lèʔ*, *vâ*, *nē*, *yâ*, *èʔ*, *qôʔ-yò-èʔ*, and several others, with sequences of three or four possible in the same clause.<sup>10</sup>

Such particles, it must be stressed, are fully canonical syllables or polysyllables, with meaty consonants and vowels in addition to their tones. They are indistinguishable in their phonological shape from ordinary items of root vocabulary.<sup>11</sup>

Many other subtle nuances of affect or attitude are conveyable by segmental particles in tone languages. Thai is well-known for its sentence-final 'politeness particles' (*kháp* for males, *khâa* for females). Lahu has several attitudinal particles whose meanings are so abstract that they are not readily apparent without many examples taken from elaborate contexts. At first I assumed that the morpheme *qha-pâʔ(-a)* was just another of the innumerable final emphatic particles, and translated it by such expressions as 'dammit!' or simply by an exclamation point, as in:

*âa, cho-há-pā là qha-pâʔ* 'Ah, here come the guys!'

*ḡà nâʔ chîʔ qha-pâʔ-a* 'My shot fizzled, dammit!'

Only gradually did it become clear that *qha-pâʔ* always refers to an *affective attitude toward auditory perception*, either its presence (a striking sound one hears) or its absence (a 'deafening silence' when an expected sound is not perceived). The above sentences should be translated something like 'Ah, I can hear the guys coming (they're making a racket)!'; and 'My shot fizzled (with a little anemic sound, instead of going off with a bang)!'. (See GL p. 681, n. 355.)

Similarly, in a raunchy Trickster story recorded in 1965-66 (see Matisoff 1979), as the Trickster, having been caught by his enemies, is tied

<sup>10</sup> See the section on "interjectory final unrestricted particles" in GL, pp. 383-4.

<sup>11</sup> We do not of course wish to claim that the existence of this type of particle is restricted to omnisyllabic tone languages. Japanese not only has an interrogative particle *ka*, but also a number of purely affective final particles that are fully syllabic (*wa*, *yo*, *sa*, *ze*, *zo*, *na*). Yet it seems safe to say that the proliferation of these entities is especially characteristic of the tonal languages of Southeast Asia.

to the rump of a waterbuffalo and is being dragged face downward over rocky ground, there occurs the sentence:

'qâ-cà?, qâ-cà?, qâ-cà?' qô? ve.

Clearly the thrice repeated qâ-cà? is an interjection of some kind, but the subject of the sentence is not expressed (qô? ve means only '[somebody] said'), and the situational context makes it equally likely for the speaker to be the Trickster or his enemies. At first I opted for the Trickster, and translated the sentence as

'Ouch, ouch, ouch!' he said.

Upon rechecking this in 1970, I was amusedly corrected by my informant, who explained that it was the enemies who were speaking, and the interjection was a gloating taunt, not a cry of pain, so that the sentence really meant

'Nyaah, nyaah, nyaah!' they said.

Note that qâ-cà? is a perfectly canonical dissyllabic word, and is not marked by any special intonational contour — in sharp contrast to the English taunt conventionally spelled *nyaah*, whose peculiar phonological features stamp it as an item of affective vocabulary: initial /ny-/ does not otherwise occur before [æ], the exaggeratedly prolonged vowel is strongly nasalized, and most notably there is a special 'singsong' intonational pattern that can be symbolized musically as *F D G F D* (where the key is B-flat, and the rhythm is quarter, dotted eighth, sixteenth, quarter, quarter).

So far, then, we have not had to stretch our basic Lahu syllable canon at all in order to accommodate these items of affective or interjectory vocabulary. We are still operating within the basic framework of

T  
(C) V .

and have not yet quite entered the realm of sound symbolism.

#### 4. Canonical onomatopes and attitudinals.

Languages like Japanese and Korean abound in reduplicated sound symbolic expressions, traditionally dichotomized by Japanese scholars into two great classes: on the one hand *giseigo* or *giongo* (lit. 'imitate-sound-

words') and on the other hand *gitaigo* ('imitate-attitude-words') (Amanuma 1974). *Giseigo* (e.g. *kotokoto* 'sound of muffled, scampering footsteps, as of a mouse or small barefoot child') correspond closely to our notion of *onomatopes*. For *gitaigo*, which express subjective attitudes toward aspects of visual or auditory experience, I suggest the translation 'attitudinals' (e.g. *pera-pera* 'fluently', *pocha-pocha* 'plump', *pika-pika* 'glittering').

Despite the huge number of these expressions in Japanese and Korean, they are certainly not infinite (they can be listed in dictionaries), and they are not freely inventable by the ordinary speaker. By and large they are also canonical in their phonological shape.<sup>12</sup>

In Lahu, *giseigo* are fairly numerous, though this is not a particularly salient feature of the language. They are mostly reduplicates:

- pôʔ-pôʔ* 'pop-pop' (fried millet); 'chug-chug' (motorcycle)  
*vɛ̃-vɛ̃* 'bzz-bzz' (bees); 'vroom-vroom' (motor)  
*tɛ̃ʔ-tɛ̃ʔ* 'scratch-scratch' (crabs on bamboo-sheaths)  
*qáɣ-qáɣ* 'arf-arf; yip-yip' (little dog)  
*qáw-qáw* 'bow-wow; woof-woof' (big dog)

Some Lahu *gitaigo* are non-reduplicated dissyllables, but the dissyllables as a whole may be reduplicated:

- pɛ̃-ʃɛ̃* *pɛ̃-ʃɛ̃* 'zigzag'  
*cɔ́-cɪ́* *cɔ́-cɪ́* 'tingly; prickly'

Rather similar, though not usually reduplicable, are 'intensified adjectives', where an adjectival root is coupled with an otherwise meaningless syllable that conveys a nuance of intensity (GL, pp. 295-7):

- nâʔ-tɔ́* 'jet-black' (*nâʔ* 'black')  
*cɔ́-nɛ̃ʔ* 'skinny as a rail' (*cɔ́* 'thin')  
*hɛ̃-tɔ́ʔ* 'hard but resilient (like a pig's sternum)' (*hɛ̃* 'hard').

Even more typically Tibeto-Burman are four-syllable 'elaborate expressions', where the first and third, or second and fourth syllables are identical, as in

<sup>12</sup> Though certain phonemes (e.g. Japanese *p-*) occur here with much higher frequency than in normal vocabulary. Some Mon-Khmer languages appear to have even richer sound symbolic systems, to the point where it is claimed that their 'expressive vocabulary' is *non-discrete* — i.e. freely inventable by native speakers via 'analog' rather than 'digital' processes, so that it would be impossible to list 'all' of them in any dictionary. See Diffloth 1976.

the following group with the symbolic morpheme *li-*, all having to do with dangling or bouncing, or with skewed or disorderly appearance:

<i>ɔ-li-a-li</i>	'jouncing from side to side'
<i>tú-li-pā-li</i>	'head over heels; tottering, stumbling'
<i>pɛ-li-khɔ-li</i>	'rough and uneven; bestrewn with extraneous objects (as a road with rocks)'
<i>pɛ-li-tâʔ-li</i>	'cluttered, messy; at sixes and sevens'
<i>hɔ-li-thɛ-li</i>	'zigzag; every which way'
<i>qu-li-çhɪʔ-li</i>	'dangling down, hanging free'
<i>ju-li-jâ-li</i>	'id.'
<i>də-li-dâ-li</i>	'id.'

Syntactically, all these canonical sound symbolic expressions function as adverbials, typically occurring directly before a 'dummy' verb of very general meaning for its adverbiality to rest upon, usually *qay* 'go' (e.g. *qáw-qáw qay* *ve* 'go bow-wow' — note the similarity to English idiom!), *phèʔ* 'be', or *te* 'do'.

## 5. Core and margin in the Lahu syllable canon.

As we have seen, the basic or core Lahu syllable canon is extremely simple — an (optional) initial consonant, one of nine monophthongal vowels /a i u e o ɛ ɔ ɛ̃ ə/, and a tone:

	T
(C)	V .

However, once we include a variety of 'marginal' phonological phenomena, several of them sound-symbolic in nature, we end up with a canon of considerably greater complexity:

*Lahu SECONDARY or EXPANDED syllable canon:*

		T	(y)
			(w)
(C)	(w)	V	(ʔ)
			(ɛ)
(N)			(:)

The parenthesized elements (except for the initial consonant) will all be discussed below. Here we simply assemble them for ease of reference, with the following remarks:



- T includes the glottal component of the checked tones /<sup>ˆ</sup>? <sup>ˋ</sup>?/. The parenthesized (?) refers to sound-symbolic imperative glottal stop. (6d)
- (N) (vowel nasalization) occurs in loanwords, in rhinoglottophilic syllables, and in sound-symbolic vivid adverbs. (6e)
- Postvocalic (y) and (w) appear in loanwords or as the result of the 'fusion' of two contiguous vowels in originally separate syllables. In the case of /-y/, some of these fusions involve sound-symbolic diminutivization. (6b, 6c)
- Prevocalic (w) occurs in loanwords, and in sound-symbolic fusions where a back vowel is deprived of syllabicity. (6c)
- The low front vowel (ɛ) occurs as second element of a complex vocal nucleus only if /ɛ/ precedes. Many of the words with this diphthongal vocalism /ɛɛ/ show diminutive sound symbolism. (6b)
- Lengthened vowels, symbolized by (:), appear in 'echo-vowel adverbials', still another sound-symbolic phenomenon. (6f)

**6. Exploitation of otherwise marginal phonetic features for sound-symbolic purposes.**

(a) A symbolic value for the Lahu high-rising tone /'/'.

There is much evidence to suggest that it is the lexically rarer tones in a language which are typically exploited for special jobs: in morphophonemic processes, in incompletely assimilated loanwords, or for affective/symbolic purposes.<sup>13</sup> The relatively low functional load of a rare tone ensures that these special tasks will not overburden the system by creating large numbers of new homophones — and the salience afforded by their very rarity makes them appropriate for grammatical or symbolic duty.

<sup>13</sup> Such diachronically secondary, and thus synchronically rare tones include Jingpho falling tone /'/, and Burmese creaky tone /'/, both of which figure prominently in morphophonemic processes. (See Matisoff 1974 and Thurgood 1981.) This phenomenon is reminiscent of the generalization of Germanic umlaut to be the marker of such grammatical processes as pluralization or diminutivization.

Tones may be lexically rare<sup>14</sup> synchronically because they arose under particularly constrained tonogenetic circumstances. The Lahu very-low tone /ˊ/ arose only from Proto-Lolo-Burmese (PLB) tone \*2 syllables that began with \*preglottalized or \*sibilant initials. As the rarest of all Lahu tones it is available to accommodate messy polysyllabic loanwords from English or Burmese: e.g. *kōmī tī* 'committee', *lōlī* 'motor vehicle' (< Eng. *lorry*), *šā-lā-gūn* 'doctor' (< Bs.), *šānlōn* 'olive' (< Bs.).

The second rarest tone, high-rising /ˊˊ/, arose from PLB syllables with final \*/-p -t -k/ that also had \*preglottalized initials, so that 'glottal dissimilation' could apply (Note 6). To its rarity it joins its highness, which makes it appropriate for a sound-symbolic *diminutive* function. A few high-frequency Lahu verbs of 'extensive' meaning have morphophonemically related variants that occur with the determiner *chi* 'this' to form NP's of extent, both neutral and diminutive. The diminutive forms are under the high-rising tone (GL, pp. 129-30):

EXTENSIVE VERB	NEUTRAL EXTENSIVE	DIMINUTIVE
ī 'be big'	chi hī 'this big'	chi hīE/hīy 'only this big'
mā 'be many'	chi ma 'this many'	chi mǎE/mǎy 'only this much/ many'
yǐ 'be long'	chi šī 'this long'	chi šīE/šīy 'only this long'
vǐ 'be far'	chi fī 'this far'	chi fīE/fīy 'only this far'

(b) *Diminutive fusional diphthongs with central vowels.*

I have recently reconstructed three homophonous palatal suffixes \*/-y/ for Proto-Sino-Tibetan/Proto-Tibeto-Burman, each of which can be shown to be a phonological reduction of a different root-morpheme (Matisoff 1989b). One of these putative suffixes had a diminutive/affective function, and I believe it to have been a reduction of the full morpheme \*za X \*ya 'child; baby; son'.<sup>15</sup> Each of the palatal suffixes is conceived of as having a more vs. a less stressed variant, with the latter showing a strong tendency to amalgamate with the preceding nuclear vowel.

<sup>14</sup> Tones may be lexically rare (i.e. occurrent in few lexical items) but textually quite frequent (if they occur e.g. in a few particles or other high-frequency morphemes).

<sup>15</sup> Other allofams of this etymon include \*dza and \*tsa. See STC, pp. 27, 30, 100, 111, 154, 158, 169, 188, 189.

Of the nine simple vowels (see Section 5), only the six non-front vowels seem to have been capable of taking the diminutive palatal suffix. (This seems reasonable on dissimilatory or saliency grounds: there is not much contrast between /i/ and /i-y/, or between /e/ and /e-y/, or even between /ɛ/ and /ɛ-y/.<sup>16</sup>)

The peculiar diphthongal vocalism of the Lahu diminutive extensives just cited (Section 6a) illustrates both degrees of fusion with the central vowels /ɛ/ and /a/.<sup>17</sup> The less fused variants (*hɛɛ*, *máɛ*, etc.) end in the mora /-ɛ/, which is undoubtedly to be identified with the free morpheme *ɛ* (< Proto-Lolo-Burmese \**ya²*) 'baby; small object', which occurs both independently with the *ɔ*-prefix (*ɔ-ɛ* 'baby') and as the last element in innumerable compounds designating objects which are 'smaller than the norm', or 'the smaller/-est of two or more comparable entities', as in *ɔ-ǵù-tɛʔ=ɛ* 'small intestine', *vàʔ-ɛ* 'piglet', *yá-ɛ* 'human baby', *lɔlɪ-ɛ* 'child's tricycle' ('little lorry').

In the more fused variants (*hɛy*, *máy*, etc.) the second mora is reduced to the palatal semivowel. Both degrees of diminutive fusion are also exemplified elsewhere in the lexicon with items of root vocabulary.

Complete fusion has occurred in words like *mɛʔ-ǵóy* 'hand-mirror' (< *mɛʔ-ǵôʔ* 'glass'), *ɔ-kɛy* '(little) scar' (< *ɔ-kɛ* 'scar'), *qáy* 'doubled or forked digit', as in *làʔ-nɔ=qáy* 'forked finger' (< *qá* 'branch').

Partial fusion in diminutive/affective vocabulary is especially common in syllables with barred-i vocalism and sibilant initials. Lahu has no /s/ or /ts/ phoneme, though [s] and [ts] exist in the language as allophones of /ʃ/ and /c/ before /ɛ/. In order to get an [s] — a sound which seems to play a major role in sound-symbolic processes worldwide<sup>18</sup> — the Lahu speaker must insert a barred-i /ɛ/ before any other vowel (much as a Japanese speaker must insert an *u* to get an [f], as in *fuirumu* 'film'). For whatever reason, we do find a large number of diminutive/affective vocabulary items with the partially fused diphthong /ɛɛ/ after phonemically shibilant (but phonetically sibilant) initials:

<sup>16</sup> Lahu does have a marginal distinction between long and short vowels, including -i vs. -i-i, though this is restricted to 'echo-vowel adverbials' (see Section 6f).

<sup>17</sup> As illustrated by the examples to follow, the mid-central vowel /ə/ admits only the more-fused palatal suffix /-əy/. The combination \*/əɛ/ seems not to occur at all in Lahu.

<sup>18</sup> E.g. in Japanese baby-talk, where [ch] is systematically substituted for [s], as in *chiichai* 'teeny-weeny' (< *chiisai* 'little'), -*chan* 'affectionate suffix' (< -*san* 'honorific suffix'), as in *Aya-chan* 'little Miss Aya'.

mû-yè	[ sɛ̃ɛʔ-sɛ̃ɛʔ ]	lâ	ve	'It's drizzling rain.'
RAIN	DRIZZLINGLY	COME	PRT	
gâʔ -	[ sɛ̃ɛʔ ]			'measles'
tɕ	[ tɕhɛ̃ɛʔ ]	te	ve	'to whisper'
WORDS	WHISPERINGLY	MAKE	PRT	

(c) *Diminutive fusional diphthongs with back vowels*.<sup>19</sup> (GL, p. 19)

One of the major sources of Lahu 'canon-busting' pre-vocalic /-w-/ is sound-symbolic in nature: the result of the fusion of a diminutive palatal suffix to a back vowel /u o ɔ/. When this happens, the back vowel is deprived of its syllabicity, but maintains its original height [ɯ ɔ ɔ̃]. The second, palatal element acquires the same vowel height as the original nuclear vowel, and this second mora becomes more prominent, yielding the rising diphthongs [ɯi ɔe ɔ̃ɛ], which I write abstractly as /wi we wɛ/.

The diminutivization of syllables with back vowels is a fairly productive process, and is applicable even to loanwords, as in the last 2 of the following examples:

ŋâ-ku	ɣ	ŋâ-kwi	'dried fish'
yê-mí-tɕ	ɣ	yê-mí-twɛ	'bear'
co	ɣ	cwe	'era, period of time' (< Shan)
lɕʔ	ɣ	lwɛʔ	'terraced field' (< Shan)

The diminutively fused variant usually conveys a more colloquial, vivid, or folksy tone than the variant with a simple vowel. In a few cases the monophthongal form has been completely displaced, as in *chɛ̃-pí-qwɛʔ* 'barking-deer' (but not \**chɛ̃-pí-qɔʔ*). (The barking-deer [*Cervulus muntjac*], a small species with delicious flesh, figures prominently in the Lahu imagination, and is regarded by all with hungry affection.)

The fusional diphthongs described in (6b) and (6c) represent the same basic morphophonemic process — suffixation of a palatal diminutive element. These phenomena furnish a further teeny-weeny bit of

<sup>19</sup> This discussion supersedes the treatment in GL (p. 19) and in Matisoff 1989a (pp. 169-70). In the latter article (which was actually written in 1980 though not published until 1989) the palatal element of these diphthongs is referred to unrevealingly as 'a meaningless extrusion or extension from the original nuclear monophthong. . . a benign bulging of the syllable's substance'. In general, I now feel my previous treatments of this phenomenon to have been ass-backward: instead of referring to 'pre-labialized' vocalic nuclei, I should have considered them to be 'post-palatalized'.

corroboration for the universal sound-symbolic connection between high-front vowels and notions of smallness.

(d) *Imperative glottal stop.* (GL, pp. 353-4)

Any Lahu action-verb that is under an unchecked tone may be imperativized by adding glottal stop. The onset of the glottal stop comes after the completion of most of the verb's tonal contour, so that there is no question of confusing imperative open-toned verbs with other verbs having intrinsically checked tones:

mɿ	'sit'	á-qhɔ	mɿ-ʔ	'Sit in the house!'
dò	'drink'	l à-gì	dò-ʔ	'Drink some tea!'
chê	'stay'	chò kàʔ	chê-ʔ	'Stay here!'

Verbs already under a checked tone may be used imperatively with no further particle (e.g. bɔʔ 'shoot', hâʔ bɔʔ 'hurry up and shoot!'). (One could of course claim that there is an underlying geminate glottal stop in these cases!) Clearly this imperative glottal stop is intonational, but it is also sound-symbolic: there is a nice iconicity between the brusque cutoff of phonation caused by a glottal closure and the abruptness of the 'imperative mood'.

Despite its special phonological shape, it is convenient to treat imperative glottal stop as a post-verbal particle, in the same class as several other morphemes of conventional segmental shape (e.g. a, yâ, vɿ). The glottal stop may in fact appear after one of these 'other' imperative particles, rather than directly after the verb:

ʃɿʔ-bá chi hâʔ yù a-ʔ 'Hurry up and give me that board!'

(e) *Vowel nasalization as a symbolic feature.*

Many Lahu syllables have nasalized vowels (symbolized by a lower-case 'n' written after the vowel), though the systematic status of this feature differs from case to case.

It is never true that a Lahu nasalized vowel reflects an inherited syllable-final nasal consonant \*/-m -n -ŋ/.<sup>20</sup> All these etymological final nasals disappeared in Lahu, usually after affecting the quality (but not the

<sup>20</sup> In this respect Lahu nasalized vowels are quite different from those of Modern Burmese, which do indeed go back to earlier syllable-final nasal consonants.

orality) of the preceding vowel. Thus PTB \*-am > Lahu -o, \*-an > Lh. -e, \*-aŋ > Lh. -ɔ.

Loanwords (from Tai, Burmese, Chinese, or English) with original syllable-final nasal consonants are sometimes pronounced with nasalized vowels, especially in the more careful speech of those who have a fair knowledge of the donor language: ɔ̃-yâ(n) 'time' (< Shan), ʃã-lã=ǰũ(n) 'doctor' (< Bs.), mē(n) '10,000' (< Tai < Chinese), ǰôšê(n) 'Goshen' (< missionary Eng.). The nasalization is always optional in these cases, though occasionally it is favored in a certain context to avoid confusion with an otherwise homophonous native word. Thus the pair ɔ̃-yâ 'child' / ɔ̃-yâ(n) 'time' would be ambiguous in such sentences as ɔ̃-yâ cò mã ve lã 'Is there much time?' / 'Do you have many children?'

Quite different is the phenomenon I have called *rhinoglottophilia*<sup>21</sup>: automatic, non-distinctive vowel nasalization in syllables beginning with h- or zero-consonant initial. This nasalization is particularly salient with the low non-front vowels /a ɔ/. and some speakers are more noticeably rhinoglottophilic than others: ʃ(n) 'four', ʃ(n)-qã 'water buffalo', ɔ̃-h ʃ(n) 'under', hɔ̃(n) 'elephant', h ʃ(n)? 'to coil', h â(n)?-h â(n)? 'quickly', etc. (As the last two examples show, this nasalization can occur simultaneously with the glottal occlusion characteristic of the stopped tones.) There is every reason to consider rhinoglottophilia to be grounded in universal articulatory fact — but at any rate it cannot be ascribed to sound-symbolism.

The one type of syllable where nasalization has a genuine sound-symbolic value is in 'vivid adverbials' (GL, pp. 302-3). A few verbs are adverbializable by nasalizing their vowels and postposing the particle kà?:

ŋá (V) 'spread open' > ŋán kà? qay ve 'go wide open'  
mê?-šĩ ŋán kà? qay ɔ̃  
'His eyes suddenly flew open!'

thê (V) 'straight' > thên kà? qay ve 'go straight'  
šĩ?-cê thên kà? qò? qay ɔ̃  
'The trees snapped back straight as arrows!'

Note that the dummy verb used after these adverbials is qay 'go', as is the case with other types of onomatopes and attitudinals (above, Section 4).

<sup>21</sup> Matisoff 1975.

Japanese occasionally makes similar use of nasality in its expressive vocabulary, where it sometimes conveys an intensitive meaning:

zukizuki itamu	'have a throbbing (head)ache'
zukinzukin itamu	'have a throbbing splitting (head)ache'

(see Amanuma p.168).

(f) *Echo-vowel adverbialization and secondary vowel length.*<sup>22</sup>

Finally, Lahu has another class of *gitaigo*-like adverbials which are characterized by a lengthening of their last vowel to 'a mora and a half', with the last segment usually ending up under the midtone. This secondary vowel-length is hard to hear (I was not aware of the phenomenon until my third fieldtrip in 1977!), but there are firm examples with all nine vowels:

i:	nɔ-vî-i	'light green'
ɨ:	kí-chì?-ɨ	'all scarred up'
u:	qhò?-tū-u	'emaciated'
e:	qè?-lè-e	'all scraped up'
ə:	ĩ-ló-mə-ə	'grandiosely'
o:	tè?-pô?-o	'stumpy, squat'
ɛ:	šâ?-qè-ɛ	'raspy-voiced'
a:	chê?-qâ-a	'too watery'
ɔ:	phɨ-phò?-ɔ	'grayish'

Again, the drawing or prolongation of the vowel has sound-symbolic significance, in the sense that it is consistently correlated with the expressive portion of the vocabulary, and occurs nowhere else.

## 6. The bulging monosyllable.

As we have seen, there is no reason to feel sorry for the lean little monosyllables of languages like Lahu. They are actually teeming with the seeds of new life, bursting with all sorts of marginal phonetic features that are just waiting to be exploited and transphonologized. Many of these acquire sound-symbolic functions along the way.

Once all these ancillary phenomena worm their way into the core of the phonological system, an explosive critical mass may be reached. Then one had better watch out, because

the syllable canon goes **Boom!**

<sup>22</sup> These echo-vowel adverbials are discussed at length in Matisoff 1989a.

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