

Star, Moon, Spirits, and the Affricates of Angami Naga:
 A Reply to James A. Matisoff*

by

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0. In a recent paper entitled "Stars, Moon, and Spirits: Bright Beings of the night in Sino-Tibetan" (1980), James A. Matisoff discusses the phonological status of the Angami Naga labiodental affricates and their ultimate importance in the wider context of Tibeto-Burman (TB) and Sino-Tibetan (ST) comparative reconstruction. Any paper, however modest its scope, dealing with the largest subgroup of TB, the approximately 60-80 Kuki-Naga (KN) languages, must be highly welcome because barely half a dozen serious scholarly works have appeared so far that significantly enhance our knowledge of KN. With the exception of languages like Tiddim Chin, Lushai, Tangkhul Naga and a few Southern Kuki languages, the whole field has been slumbering for the past 50 years or so.

In recent years local Indian agencies have attempted to improve the state of literacy among speakers of the smaller and lesser known languages of the border areas; hence, Tibeto-Burman philologists are getting a chance to scrutinize a tremendous wealth of descriptive data that might have a bearing on their TB and ST studies. However, with regard to the potential usefulness of recent Indian data on Angami, a language spoken by 43,569 people (Census of India, 1971) in Nagaland Province, now under the political administration of the Indian government, Matisoff's account as we shall see in this paper is too optimistic. To those acquainted with the KN languages Matisoff's arguments are not just unconvincing but unacceptable. In particular, it is not difficult to disprove Matisoff's claim that a medial bilabial element *-w- was the factor responsible for the development of labiovelar affricates in Angami.¹

1.0 First, we shall refute six general conclusions drawn in Matisoff's essay. After this, each of the etyma analyzed by Matisoff ('bee', 'dog', 'monkey', 'bitter', 'nine', 'twenty') will be considered in turn. Then, together with the treatment of all words having labiodental affricates comparable in terms of a strict comparative approach, we shall give our own interpretation of the history of labiodental affricates in Angami. Finally, we shall discuss the representations of words for 'star', 'moon', and 'spirit' in various TB languages and conclude that the proposed connection between Angami /²the³ma/ 'star' and Ancient Chinese *ngiwāt 𐑦𐑦𐑦 'moon' rests on extremely shaky phonological grounds.

*Editor's note: Matisoff will be given an opportunity to have the last word in our next issue.

Six points, cited in the order of their occurrence in Matisoff's paper, must be refuted because they contradict what is known about the Naga languages.

1.1 It is incorrect to say that the bi- and tri-lingual dictionaries of 18 KN languages published in the early 1970's by the Nagaland Language Society (Nagaland Bhasha Parishad) are (Matisoff 1980:3) "particularly excellent and copious sources of information". Matisoff's paper itself demonstrates that it is extremely dangerous to use these dictionaries if one is not personally acquainted with the languages in question. The defects of these dictionaries are not only the lack of tonal marks, as Matisoff himself complains, but also the wealth of printing errors², the numerous incorrect English translations, the very inadequate and un-systematic attempts to render complicated and not so complicated sounds into the Roman alphabet—a task for which even the IPA is badly equipped—and the entirely useless Devanagari transliterations of not the actual pronunciation but of the Roman letters. To illustrate the unreliability of these dictionaries, we first selected at random one language from within the Naga subgroup³ of which Angami is a member, Chakhesang (=Chokrī = Tšakrima = Chakrü), and then we chose some words from the NBP dictionary (Hindi Chakhesang English Dictionary (Chokri dialect), Kohima 1972) to contrast with our own phonemic forms:

<u>NBP</u>	<u>Phonemic</u>	<u>English</u>
Rüzhü	² _{re³_zw}	'to play'
Thegu	² _{the⁴_{vw}}	'crab'
Tekhüshe	² _{te²_{fr⁵_{se}}}	'banana'
Zhe	² _{ze}	'dao'
Ugi	² _{u²_{yi}}	'skin'
Mezüh	² _{me³_zr ²_{u²_{me²_zr}}}	'to urinate' 'urine'
Khrü	² _{tr} hw	'to wash (as dishes)'
Ve	⁵ _{ve}	'to be good'
Zü	² _t zw	'language'
Thishie	³ _{thi⁵_{se}}	'chillies'

In general, our impression of these dictionaries is that they are no better than the dictionaries, vocabularies and word lists published 50 and 100 years ago by the British (cf. Shafer 1957).

1.2 It is incorrect to say that Burling 1960 (1980:4) transcribes "the 5 tones [of Angami] accurately".⁴ A large number of tonal mistakes by the printer must be attributed ultimately to the choice of a notational system where diacritics are used; in addition, Burling himself was not able to differentiate level tones /3/ and /4/, the most difficult tones to hear in the Kohima dialect of Angami.⁵

1.3 It is incorrect to say that because of the non-existence of syllable-final consonants Angami somehow compensated by developing (p. 5) "a full-blown tonal system of the 'Central Loloish' type, with 5 contrasts". The strongest counterexamples are Zemei, Liangmei, and Khiamngan, which all have systems of final consonants and a large array of tones.

Zemei, with a 5-toneme pitch tone system, has the following rimes:

-p	-lp	-ap	-op	-lep
-t	-it	-et	-at	
-k		-ak	-ok	-iak -uak
-m	-im	-am	-um	
-n		-an		
-ŋ	-iŋ	-aŋ	-uŋ	-iaŋ -uaŋ
-i	-ei	-ai	-ui	-uai
-u	-iu	-au		-iau

The tones on CVP-syllables are restricted to three pitch heights; the pitches correspond exactly in frequency to pitch levels /1/, /3/, and /4/ of the smooth syllable types, e.g., /lkelkap/ '1. to crush, of heavy materials like stone iron plate, etc.; 2. to lose money in gambling or betting'; /lke³kap/ 'to shoot'; /lke⁴kap/ 'to measure with stretched-out arms'.

Liangmei⁶, with a 6-toneme contour tone system, has the following rimes:

-p	-ep	-ap	-op	-iap	-uap
-t	-it	-et	-at	-ut	-iat -uat
-k	-ik	-ek	-ak	-ok	-uk -iak -uak
-m	-im	-em	-am	-um	-iam -uam
-n	-in	-en	-an	-un	-ian -uan
-ŋ	-iŋ	-eŋ	-aŋ	-oŋ	-uŋ -ian -uan
-i	-ei	-ai	-ui		-uai
-u	-iu	-au	-ou	-iau	

In this language the tones on CVP-syllables are restricted to five level and/or contour tones, which acoustically parallel the tones of the smooth syllables: /-/ (higher mid level), /./ (higher mid falling contour), /./ (low to high sharp rising), /-/ (very high level), and /-/ (low falling-rising, with a wave-like contour), e.g.,

/-guat/	'to shave'	/-riak-/	'ten (in decades)'
/,khat/	'one'	/,sep/	'nest'
/,muat/	'to blow (by mouth)'	/-n,phiak/	'broom'
/-n-gek/	'a crow'	/-ka-cek/	'gold'
/-a.luak/	'brain'	/-pa.pək/	'half'

Khiangnan, an Eastern Baric language⁷ that the author recently discovered in North-Western Burma, with a 6-toneme system interpretable as either a contour or a pitch tone system, has the following rimes:

-p	-Ip	-ep	-op	-up	-Iup
-t		-et	-ot	-Ut	
-k		-ek	-ok	-Uk	-Iok
-?	-I?	-e?	-o?	-U?	-Io?
-m	-Im	-em	-om	-Um	-Iom
-n	-In	-en	-on	-Un	-Ion
-ŋ	-Iŋ	-eŋ	-oŋ	-Uŋ	-Ioŋ
-l		-el	-ol	-Ul	
-U			-oU	-qU	
-w	-Iw		-oIw		
-I?		-eI?	-oI?	-qI?	
-U?			-oU?	-qU?	
-w?	-Iw?				

The tonemes occurring with smooth syllable types are /1/ low, /2/ mid, /3/ high, /12/ low to mid rising, /21/ mid to low falling, and /23/ mid to high rising. The tones on CVP- and CV?-syllables are limited to the level tone /1/ and the contour tones /12/ and /23/, which are identical in frequency to the same tones on smooth syllables, e.g.,

/1 _o k/	'necklace'	/12 _{br} 1 _t ʔeI?/	'eight'
/12 _o 12 _{kop} /	'to fold'	/12 _o 12 _{tsU?} /	'to get up'

/¹²_o ²³ʂIp/ 'to fan' /¹²_o ²³tʂoʔ/ 'to be fat'

1.4 Matisoff claims (p. 6) that "Angami and its close relatives are rather atypical of the KN languages as a whole, where final consonants (even final liquids) are generally well preserved, and *tonal systems are usually on the rudimentary side (with only 2 or at most 3 contrasts)*" [italics added]. Actually, however, Angami must be judged as a rather *typical* Naga language, at least within the subgroup Naga-I. The number of phonemically relevant tones in languages analyzed so far is as follows:

Angami	5
Chakhesang	5
Khezha	3
Mao	5
Southern Rengma	5
Sema	3
Pochuri	no information

In addition, the Southern Angami dialect has 5 pitch level tonemes, the Southern Rengma dialect of Phenshünyu village has 5 pitch level tonemes, and many if not all Mao Naga dialects in the different villages in Manipur province have 5-toneme pitch level systems. Within the Naga-Kuki or 'Naga-III' transition group, there are Zemei with 5 tonemes, Rongmei with 5 tonemes⁹, and Liangmei with 6 tonemes. We thus see that 5-toneme systems are the norm among these languages; it is only Khezha and Sema which just have three tones.¹⁰

1.5 We disagree with the phonemic inventory of Angami consonants on page 5. Instead of Matisoff's single series of phonemic affricates in the apico-alveopalatal region, we set up both an apico-alveolar and a dorso-palatal series; similarly, in addition to the two dental sibilants, we also set up their palatal counterparts /ʃ/ and /ʒ/. Also, there is the phoneme /yh/, completely unrecognized in Matisoff's chart, which is found in words such as /ʂyha/ 'to raise one's hand', /2me3yhu/ 'to be restless'. Finally, /pf/ must be differentiated from /pfh/, adding one more unit.*¹¹

1.6 It is incorrect to say that the Angami labiodental consonants are (p. 8) "consistent reflexes of distinct entities that must be set up at various time-depths for Proto-Angami, for PTB [Proto-Tibeto-Burman], or for PST [Proto-Sino-Tibetan] itself". While this is trivially true for Proto-Angami, it no longer holds true at the very next stage of reconstruction, the Proto-Angami-Chakhesang stage. Matisoff maintains that all etyma with Angami initial /pf(h)-/ come from *kw- at least at

*Editor's note: The question of the phonemic status of [pf-] vs. [pfh-] is discussed at some length in Matisoff 1980 (p. 6ff), and Weidert is specifically cited.

the PTB stage. Similarly, he believes that the homologous labiodental nasal [mv], which occurs only before /a/, should be derived from * ηw -. It will be shown that such an assumption violates the sound correspondences within the Naga-I languages, within comparative Kuki-Naga, and within Tibeto-Burman as a whole.

2.0 As a starting point for our investigation, the tonal correspondences within Kuki-Naga must be established. Without such tonal correspondences the cognacy of many of the words in question is speculative. Much of the comparative uncertainty is due to the history of the unrounded velar vowels found in almost all present-day Naga languages (usually as [w]). Not surprisingly, these do not reconstruct as such at the KN stage; as a consequence, the tonal correspondences become increasingly valuable as evidence of cognacy. We refer to Weidert 1979 for the three tonal categories found with smooth syllables; to these we add a separate tonal category for syllables originally closed by *-s at the proto-KN stage, and another separate tonal category for those syllables originally closed by a final plosive. Schematically the tone categories are represented in Chart 1A and examples illustrating each category are found in Chart 1B.¹² (TC = tonal category)

	<u>TC-I</u>		<u>TC-II</u>		<u>TC-III</u>	<u>TC-IV</u> (*-s)	<u>TC-V</u> (*-P)
	a	b	a	b			
<u>Naga I:</u>							
Angami	2	3	5	1	4	2	1
Chakhesang	2	3	4	1	5	2	1
Khezha	1,2	1,2,3	1	2,3	2	2	2
Mao	1,5	2,1	3	4	5	2	1
Sema	(2)2/(1)13		(1)1/ (2)23	1	(1)1, (2)2, (1)12	(1)1, (2)2	(1)1, (2)23
<u>Naga III:</u>							
Zemei	1		4	2	5	2	-P
Rongmei	/\ /		/- /	*	/\ /	/- /	-P
Liangmei	/^\ /, /./		/\ /	**	/- /	/\ /	-P
Tangkhu	1		2	1	3	3	-P

Chart 1A: Kuki-Naga tonal correspondences.

In Rongmei (*), there are at least three different tonal representatives for verbs in this category: /[^]/ = very high level, /./ = sharp rising, and /\ / = mid-falling contour; the nouns in this category (**) have /./, and verbs have /\ /. In Liangmei, the accents stand for /[^]/ = high rising-falling, describing a wave-like contour, /./ = sharp rising, /\ / = low falling-rising, describing a wave-like contour, /\ / = mid falling contour, /- / = mid level.

The tonemes of the other languages have been represented by numbers because they match the definition of pitch tone languages; this definition is equivalent to Pike's 'register tone languages' and is not to be confused with the so-called register found in Austroasiatic languages.

The first five languages in the chart have, except for syllabic sonant nasals and the syllabic sonant /r/ in Angami, only open syllables. Thus, in Angami for instance there is no way of knowing whether syllables in the lowest tone /1/ are reflexes of TC-IIb, a smooth syllable provenience, or TC-V, a stopped syllable provenience.

	TC-I		TC-II		TC-III	TC-IV	TC-V
	a	b	a	b		(*-s)	(*-P)
Angami	² le	² the ³ ga	⁵ vo	¹ tshə	⁴ krie	¹ ke ² nie	² the ¹ tha
S. Angami				(¹ po '1')	⁵ ga ¹ po	² ke ² na	² te ¹ tha
Chakhesang	² lv	² thv ³ ya	⁴ vo	¹ thi	⁵ kra	² kv ² na	² tv ¹ tha
Khezha	¹ li	¹ e ² we	¹ wu	¹ e ³ təhuw	² tri	¹ ke ² nhi	¹ te ² tse
Mao	¹ lü	² o ¹ vu	³ vu	² o ⁴ so	⁵ kri	¹ ka ² hei	¹ tša ¹ tša
Sema	² lw ² vu ² i	² a ² va		¹ a ¹ si	² a ² ghe	² ki ² ni	¹ ta ¹ tse
Zemei	¹ ke ¹ lum	¹ he ¹ gum	¹ ke ⁴ guan	¹ he ² tei	⁵ hai	¹ ke ² na	¹ he ¹ set
Rongmei	lum	-sa ¹ yam	-yuan		-phai°	-ka ¹ nai	-ta ¹ sat
Liangmei	-a ¹ lum	-ka ¹ huam	-guan		-kai°	-ne	-ta ¹ cat
Tangkhu	¹ khə ¹ lum	¹ si ¹ nom		¹ sa	³ sa	³ khə ³ ni	¹ tši ¹ sət

'warm' 'a bear' 'come' 'animal, '100' 'two' 'eight'
meat'

Chart 1B: Examples of Kuki-Chin Tonal Correspondences.

As the tone chart shows, there is a 'tonal split' in TC-I and TC-II, which affects only the first four languages in TC-I, but which is found through all the languages in TC-II. Weidert 1979 attempted to explain TC-I, TC-II, and TC-III in terms of a system of final laryngeal units postulated for PTB. In this paper, we shall take as given that TC-I etyma are derived from a clear voice phonation, TC-II etyma from a creaky voice, and TC-III from a breathy voice. The earlier paper also attempted to explain the split of TC-II not just for KN but for Baric and Kachin as well. In this paper we attempt to explain the rather strange tonal split occurring in Angami and Chakhesang (cf. fn.25).¹³

Now the six etyma analyzed by Matisoff can be briefly reviewed. The basic tonal correspondences are shown in Chart 2, which is arranged as were Chart 1A and Chart 1B.

	TC-Ib	TC-IIa	TC-IV	TC-IIB		
	<u>'bee'</u>	<u>'20'</u>	<u>'monkey'</u>	<u>'nine'</u>	<u>'dog'</u>	<u>'bitter'</u>
Angami	² _{me} ³ _{pfhi}	² _{me} ³ _{pfə} ² _{te} ⁵ _{pfi}	² _{the} ⁵ _{pfə} ² _{te} ⁵ _{fə}			¹ _{pfhə}
Chakhesang	² _{me} ³ _{fi}	² _{mv} ³ _{tsw} ² _{te} ⁴ _{pfi}	² _{thv} ⁴ _{tsw} ² _{tv} ⁴ _{sw}			¹ _{khu}
Khezha		² _{me} ³ _{ki} ¹ _e ¹ _{kwi}	² _{te} ¹ _{ku}	¹ _e ² _{tshw}		¹ _{ke} ² _{khu}
Mao		² _{ma} ² _{kei}	¹ _{tso} ³ _{ku}	² _o ² _{si}		¹ _{ka} ⁴ _{kha} ^{-F}
Sema	² _a ² _{khi}	¹ _{mu} ³ _{ku}	¹ _a ¹ _{su} ² _{to} ³ _{ku}	¹ _a ¹ _{tsw}		¹ _{khu} •
		¹ _{ki}				
Zemei		¹ _n ¹ _{kai}	¹ _{he} ³ _{kui} ^{-T}	¹ _{he} ³ _{teu} ^{-T}		¹ _{ke} ¹ _{hia} ^{-T}
Rongmei	⁻ⁿ _{xuai}	⁻ⁿ _{sui}	^{-sa} _{kiu}	^{-sh} _i		⁻ⁿ _{xu}
Liangmei	^{-ma} _{khui}	^{-ma} _{kai}	^{-ca} _{kiu}	^{-ka} _{thi}		^{-kha ^{-F}}
Tangkhul	¹ _{khui}	¹ _{ma} ¹ _{kə}	¹ _{tʃi} ² _{ko} ² _{fə}			¹ _{ke} ¹ _{kha}

Chart 2: Tonal Correspondences for Matisoff's Etyma

Editor's Note: The superscript letters added to the above chart indicate either an irregularity in the tonal correspondence (-T) or an irregularity in the final (-F).

Additional notes on the above etyma:

- 'bee' - Kom (=Old Kuki) ²_{khui}; Lakher ²_ə ¹_{khei}; Matisoff also quotes Khonoma makwi (for which I have no record)
- 'twenty' - Northern Rengma ¹_{mi} ³_{gwɪ} (gw- = lax labiovelar affricate); Southern Rengma ¹_n ⁴_{ki}; Lotha ¹_{mi} ¹_{gy} (-y = German front rounded 'ü'); Sangtam ¹_{mu} ¹_{gyw}; Ao ²_{mu} ²_{tsw}; Mikir ²_{iŋ} ¹_{koi}; Manipuri kùn.
- 'nine' - Sinitic: Cf. AD 399 九 ¹_{kiəu} (shǎng); Baric: Nocte ¹_h-¹_{khu} (=mid level tone with final glottal stop), Tangsa ²_ʔ ²_{kau}?, Chang 'gw, Boro gu?, Khamgnan ³_l ¹_{gɔʔ}?, Garo sku (lack of final glottal stop unexplained). All tones indicate TC-II(b) (=Baric TC-IV cf. Weidert 1979 (Baric tone chart));

Kachin: $^1t\check{z}a^1khu$; Kuki-Naga: Lushai $\nu pa, kua$, Anal $^1tu^2ku$,
 Monshang $^2I^2kwu$ (not $**kw-u$ but $k-wu$ with a 'noisy' u-vowel),
 Lakher $^3sa^2tsa^3ki$, Northern Rengma $^1du^1gu$, Lotha $^1do^3kvu$ ($kv-$
 = lax labiovelar affricate), Ao $^3tu^3ku$, Southern Rengma
 $^1ta^3k\ddot{o}$; Lolo-Burmese: Written Burmese kui , Lahu $k\ddot{o}$,
 Akha $^1\gamma\phi$. All the above tones indicate TC-II.

'dog' - Tiddim Chin νi (contra Henderson 1965 who has $?wi$);
 Lushai νi ; Lakher 3i ; Northern Rengma $^1a^1fw$; Southern
 Rengma $^1ta^3hi$; Lotha $^3fw^3ro$; Sangtam $^2fw^3za$; Yimchunger
 or Yachumi $^2ki^1nu$; Ao $^3a^1zu$; Manipuri (Meithei) $h\ddot{u}i$.

'bitter' - the most tonally consistent etymon in TB and ST:

always TC-II. Sinitic: Cf. AD 421 $\check{z}k'io$, $sh\check{a}ng$ tone
 (characterized in Egerod 1971 as voiced and laryngeal i.e.,
 probably creaky); Baric: Nocte $kha?$, Tanisa 1kha (low tone
 accompanied by final glottal stop), Konyak $\rightarrow kaka?$, Garo $ka?-a$,
 both the tones and glottal stops indicate TC-IIb; Kachin:
 3kha ; Kuki-Naga: Tiddim finite νxa , non-finite νxak , Lushai
 I. kha , II. $khak$, Anal $^1i^2kha$, Kom $^2ka^1kha$, Lamgang $^1ka^1kha$,
 Lakher $^2kh\ddot{a}$, Lotha 2ko , Sangtam $^1a^2ka$, Yimchunger $^2a^2kw?$
 (= $/kw/?$), Ao $^3ta^1ku?$, Mikir $^2ke^2ho \sim keh\bar{o}$ (Grüssner's
 transcription) ($/2/$ has final glottal stop), Southern Rengma
 $^1kh\ddot{o}$, TC-IIb; Lolo-Burmese: Written Burmese $kh\ddot{a}$, Atsi $kh\ddot{o}$,
 Lisu $khw\ddot{a}$, Lahu $k\check{h}\ddot{a}$, Akha $^2yo^1xa$, TC-II; Karen: Bwe $kh\ddot{e}^-I$.

2.1 'bee'. With regard to 'bee', Matisoff (8-9) states: "In this
 root the labial element must be postulated at the PST level, since it
 is attested in Lolo-Burmese, Kuki-Chin-Naga, Nungish, and Himalayish".
 The claim implicit in this statement is that the initial and the coda
 of the reconstructed etymon for 'bee' should be:

$*kw- + -a.y$.

This is exactly what Benedict has reconstructed ($*kwa.y$) for PTB.

The problem with this analysis is that the $*-a$ rimes following
 Matisoff's $*-w-$ do not pattern like the rest of the KN $*-a$ rimes e.g.,

	'nine' (TC- <i>IIa</i>)	'chin' (TC- <i>IIb</i>)
Lushai	√ <i>pa</i> <i>kua</i>	' <i>kha</i>
Thadou	- <i>ko</i>	- <i>xa</i>
Tangkhuḷ	¹ <i>tṣi</i> ² <i>ko</i>	¹ <i>ə</i> ¹ <i>mə</i> ¹ <i>kha</i>
Mao	¹ <i>tṣo</i> ³ <i>ku</i>	¹ <i>mo</i> ⁴ <i>kho</i>
Zemei	¹ <i>he</i> ³ <i>kui</i> ^{-T}	³ <i>mi</i> ¹ <i>taŋ</i> ² <i>kei</i>
'Northern Rengma	¹ <i>du</i> ¹ <i>gu</i>	¹ <i>a</i> ² <i>ka</i> ² <i>kĩ</i>

It should be emphasized that the identical reflexes for *-a and *-ua in Naga-I languages like Angami, Southern Rengma, and Sema do not invalidate this claim. The languages in the Naga-I subgroup have undergone radical changes in their vocalism, setting them apart from all the other Kuki-Naga languages:

Angami	² <i>the</i> ⁵ <i>pfə</i>	⁵ <i>u</i> ² <i>me</i> ¹ <i>pfə</i>
Southern Rengma	¹ <i>tʌ</i> ³ <i>kö</i>	² <i>n</i> ² <i>sö</i> ¹ <i>kö</i>
Sema	² <i>to</i> ³ <i>ku</i>	¹ <i>a</i> ¹ <i>mu</i> ¹ <i>khu</i>

The correct analysis is suggested by the 'bee' forms in Lushai *-khuai* and Tiddim Chin *-xuai*, in which the -u- element appears as part of the vowel rather than as part of the initial consonant.¹⁴ In Matisoff's analysis, for example, a form like Lushai /√*pa* *kua*/ 'nine' derives from a provenience such as *kw- + *-a with a final *-a rime; however, as the above data shows, this *-a rime does not behave like the rest of the *-a rimes in KN languages. Instead of Matisoff's *-a, we posit a *-ua for a form such as 'nine'; in our analysis the non-parallelism of 'nine' (*-ua) and 'chin' (*-a) reflexes is not just explainable but expected.

In more general terms with respect to KN data as a whole, a consistent treatment requires that -a- and -ua- (as well as -ia-) be reconstructed; with respect to 'bee' in particular, the initial and the coda of the reconstructed etymon should be:¹⁵

*k(h)- + -uai.

This analysis is further supported by other etyma cited later in this paper to explain to origin of the Angami labiodental affricates.

2.2 'dog'. Matisoff again posits medial *-w-, cf. Benedict 1972 (henceforth STC) *kwiɣ 'dog'; and again most of the languages do not show the expected identity in the development of final *-i and *-wɨ. The solution is to differentiate PTB *-i from PTB *-ui where -u- is the vocalic element.¹⁶

We also disagree with Matisoff's explanation for the Angami f- rather than pf- initial (p. 10): "For this we can only give an ad hoc explanation, saying that this was the Angami solution for the simplification of the rare and complex consonant combination *dkw-". As will be explained below, the Angami reflex is a regular development from *s-xyui?.

2.3 'monkey'. These words cannot be related to *woy (STC #314),¹⁷ because the Baric and Kachin forms on which it is based indicate TC-I, but the Angami form /2te⁵pfi/ indicates TC-IIa; more specifically, Nocte lve, Tangsa ³voi, Kachin ²woi are TC-I, but the Angami is TC-IIb. Instead of *woy, the Khezha form with an initial voiceless unaspirated labiovelar affricate /kw-/ points to a solution similar to that for 'bee', positing a PTB *-ua-.

2.4 'bitter'. This word causes particular problems for Matisoff's medial *-w- hypothesis: no trace of a bilabial w-sound nor of a u-vowel can be found in any of the languages or in any of the reconstructed forms. The Lotha form *khoa* 'bitter' that Matisoff quotes from NBP as an example of a labiovelar manifestation of this root does not exist. The correct Lotha form is /2ko/; the tonal class is IIb and the final -o is a regular reflex of PTB *-a:

	<u>Lushai</u>	<u>Lotha</u>	<u>TC</u>
'meat'	'sa	¹ o ² so	IIb
'fish'	vsā'hŋa	¹ o ² ŋo	IIb
'five'	vpa'ŋa	¹ mo ¹ ŋo	I
'ear'	¹ khə ¹ na (Tangkhuł)	¹ e ¹ no	I
'moon'	tlha	³ tso ³ ro	III

Matisoff cited Lotha *khoa* not just as a labiovelar manifestation of this root but also as evidence of an earlier *ka-ba > *ka-wa > *kwa development. The non-existence of this form invalidates not only Matisoff's Lotha analysis but also his extension of it to Classical Tibetan.

This lack of a bilabial w-sound or a u-vowel for 'bitter' means that we have at least two sources for Angami labiodental affricates, the medial and final vocalic unit *-ua(-) and *-a.

2.5 'nine'. Matisoff (p. 7) speculates that this root may have had a suffixal *-a* element. This is unnecessary once the existence of the **-ua* provenience is recognized.

2.6 'twenty'. Despite the extreme variety in segmental reflexes, the fact that all the forms reflect a TC-II(b) etymon indicates that we are dealing with one and the same proto-form. A reconstruction with a final **-l* is needed **m-kul* (STC #397), but with a complex root initial consonant cluster to account for all the different reflexes.

2.7 'goat'. Matisoff (pp. 18-9) reviews this root in detail in order to relate the [mv-] sound of Angami /²te⁵mə/ 'goat' to a proto-form with initial **ŋw-* and final **-a*; however, the comparative evidence shows that the proto-rime was other than **-a*.

	'goat'	'earthworm'*
	(TC-IIa)	(TC-II)
Angami	² te ⁵ <u>mə</u>	² zo ⁵ <u>tshə</u>
Chakhesang		² sa ⁴ <u>thi</u>
Khezha	¹ e ¹ <u>mvu</u>	
Mao	¹ i ³ <u>Nhi</u> (voiced; released both nasally and orally)	
Sema	¹ a ¹ <u>ne</u> [ñe]	
Zemei	¹ he ⁴ <u>meu</u>	¹ ta ³ <u>seu</u> T?
Rongmei		<u>-n-su</u> -pa.lian
Tangkhu	² me	
Tiddim Chin		,ta ³ <u>teel</u> < *TC-III
Lakher	³ mi	¹ tshou ² <u>tshI</u> < *TC-III
Yimchunger	¹ mi ² <u>nu</u>	
(Chepang)	me ² chyā?	

Chart 3, showing the typical reflexes of **-a*, makes it clear that the etymon for 'goat' does not reflect a **-a* final.

Instead, the rime of the Zemei form ¹he⁴meu 'goat' requires a closed syllable provenience. Compare the forms below as well as

*Editor's note: STC reconstructs this form as **zril* 'worm' (cf. pp. 15, 16, 37, 171, 173).

	'five'	'hot'	'a sieve'	'ten'	'tooth'
	TC-Ib	TC-Ia	TC-Ib	TC-Ib	TC-Ia
Angami	³ pe ³ <u>ŋu</u>	² tshə	² za ³ <u>rə</u>	³ ke ³ <u>rə</u>	⁵ u ² <u>hu</u>
Zemei	¹ me ¹ <u>nei</u>	¹ ke ¹ <u>tei</u>	¹ n ¹ <u>rei</u>	¹ ke ¹ <u>rei</u>	³ mi ² <u>gei</u> ^{T?}
Tangkhu	¹ phə ¹ <u>ŋa</u>	¹ ke ¹ <u>sa</u>		¹ thə ¹ <u>ra</u>	¹ ə ¹ <u>ha</u>
Lakher	² pə ¹ <u>ŋo</u>	³ ə ³ pə ³ <u>sə</u> ^{T?}	³ bə ¹ <u>rə</u>	• ¹ hro	¹ ha ^{V?}
	'animal'	'a bow'	'chin'	'father'	'to eat'
	TC-IIb	TC-IIb	TC-IIb	TC-IIb	TC-IIb
Angami	¹ tshə		⁵ u ² me ¹ <u>pfhə</u>	⁵ u ¹ <u>pfu</u>	¹ tsə
Zemei	¹ he ² <u>tei</u>	¹ he ² <u>lei</u> [•]	³ mi ¹ tan ² <u>kei</u>	² pei	¹ ke ² <u>tei</u>
Tangkhu	¹ sa	¹ mə ¹ <u>la</u> [•]	¹ ə ¹ mə ¹ <u>kha</u>	¹ ə ¹ <u>va</u>	¹ ke ¹ <u>tsa</u>
Lakher	³ sə	¹ o ² <u>lo</u> (Lotha)		³ ɸo	
	'hundred'	'moon'	'wing'	'to build'	'to fall'
	TC-III	TC-III	TC-III	TC-III	TC-III
Angami	⁴ krie<*grya	⁴ krhə	⁴ sə	⁴ tshə	⁴ krə
Zemei	⁵ hai<*yr-ya	¹ he ⁵ <u>kei</u>		¹ ke ⁵ <u>tei</u>	
Tangkhu	³ sa			³ sa	² pi ¹ ke ² <u>ta</u>
Lakher	² zə	² tlhə	² mə ² <u>tlho</u>	² sə	² tlə

Chart 3: Reflexes of *-a.

the forms for 'earthworm' given above:

	'arm'	'male'	'kidney'	'liver'	'fingernail'
Zemei	¹ he ⁴ <u>beu</u>	¹ pe ³ <u>seu</u> ^{-T}	³ mi ¹ n ⁴ <u>keu</u>	³ mi ¹ n ⁵ <u>ceu</u>	¹ n ³ <u>ceu</u> ^{-T3} kua
Tangkhu	² pai		¹ ə ¹ mə ² <u>kei</u>	¹ ə ¹ mə ³ <u>thin</u>	¹ paŋ ² riŋ ³ kor
Angami			⁵ u ² me ⁵ <u>tsə</u>	⁵ u ⁴ <u>se</u>	<*rin
Chakhesang			² m ^v ⁴ <u>ki</u>		
Lakher	³ biə			² pə ² <u>thi</u>	¹ pə ² <u>ta</u>
Lushai	,baal	,pa,sal	,kal	,thin	,tin
*KN	*II _{baal}	*II _{sal}	*II _{mkal}	*III _{mthin}	*II _{mtin}

None of these rimes is satisfactory for 'goat' because of the Tangkhu and Lakher reflexes. However, the comparison with 'earthworm' provides a good reason to postulate a final *-eel (TC-II) for 'goat'.

A second TB 'goat'-root has *-eel, but appears in KN TC-III, cf. Lushai keel*, Lamgang lkeel, Monshang ²kiir, and in Baric TC-I, cf. Nocte lkean, Tangsa ³kel³kai.

In any case, 'goat' does not reconstruct with a final *-a; consequently, the proposed connection with 'cattle' (Kachin ²ga, Written Burmese nwā) breaks down.^{18,**}

3. The investigation of what actually caused the development of labiodentals will be split into a synchronic part which takes account of certain 'gaps' in the sound structure of Angami and a diachronic part which explains the historical stages.

3.1 Angami /pfh-/ can only be followed by the vowels /i/, /e/, and /ə/. From the statistical point of view, the labiodental affricates /pf-/ , /pfh-/ , and /pv-/ and the voiceless labiodental fricative /f-/ occur most often with the vowel /ə/; in addition, the unique labiodental nasal [mv-] occurs only with /ə/. On the synchronic level no obstruent ever occurs with the vowel /ə/, and labiovelar affricates occur mostly with /ə/. This kind of near-complementary distribution suggests that labiodentalization was caused by the unrounded velar vowel /ə/ [ɰ]¹⁹, but the labiodentals are no longer restricted to that environment synchronically.

This labiodentalization is explained by the peculiar nature of the vocalic nucleus which follows the originally non-affricated stop. This type of analysis is supported by the derivational stages of this change from non-affricated to affricated still found in the neighboring KN languages.

3.2 A historical explanation is needed for the following Angami and Chakhesang distribution patterns:

Pattern A.

<u>Proto-form</u>	<u>Angami</u>	<u>Chakhesang</u>
A ₁ : *velar stop + *-a	labiodental affricate + -ə	velar + -u
A ₂ : *bilabial stop + *-a	labiodental affricate + -ə	bilabial + -u

Pattern B.

B ₁ : *velar stop + *-ua(-)	labiodental affricate	labiodental affricate
B ₂ : *bilabial stop + *-ua(-)	labiodental affric.	labiodental affricate

*Editor's note: This is reconstructed in STC citing the Lushai form (*kye-l #339).

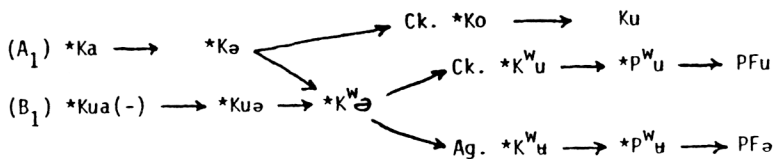
**Editor's note: The disyllabicity of the Chepang form me?chyā? suggests that both *-eel roots can be combined as a two-syllable etymon with the tonal discrepancies explicable in terms of tone sandhi.

Examples:

Patterns A & B:

	<u>Angami</u>	<u>Chakhesang</u>	
A ₁ : 'bitter'	¹ pfhə	¹ khu	
'chin'	⁵ u ² me ¹ pfhə	² me ¹ khu	
'a span'	¹ pfə	¹ ku	
A ₂ : 'search'	⁵ pfhə	⁴ phu	
'thin'	² rə ⁵ pfə	² re ⁴ pu	
'male/father'	⁵ u ¹ pfu ^{-F}	² u ¹ pu	
B ₁ : 'bee'	² me ³ pfhi	² me ³ fi	Sema ² a ² khi
'wait'	⁴ pfhe	⁵ fɿ	Sema ² khe
'monkey'	² te ⁵ pfɿ	² te ⁴ pfɿ	Sema ¹ a ¹ su ¹ ki
B ₂ : 'rainbow'	² pfe ² si	² fu ² sɿ	Liangmei -puan [^] siŋ
'carry baby on back'	¹ pfə	¹ βɿ	Sema ¹ pu

This difference in the development of labiodental affricates in Angami and Chakhesang can be explained by positing the following historical stages (K = any velar stop; P = any bilabial stop):*



The various developmental stages are recorded in different KN languages:

*Kə = Lakher, cf. ²khə 'bitter', ³khə 'span'.

*Ko = Mao, cf. ¹mo⁴kho 'span', ³pho 'search', ¹i³fo 'thin'.

*K^wə = Lotha, occurring as tense and lax i.e., voiceless and voiced, syllables /kfw/ and /kvw/, cf. ¹du³kvw 'nine'.

*Editor's note: This diagram should be taken as schematic and suggestive rather than as literal and definitive.

*K^w_u = Monshang (Old Kuki group), occurring as a separate vocalic nucleus /wu/ (besides ordinary /u/), where /w-/ stands for labiodental blockage and thus creates the acoustic impression of a 'noisy' vowel, cf. 2I²kwu (= k- + -wu) 'nine'.

*P^w_u and *P^w_u = Phenshünyu dialect of Southern Rengma, where /u/ is a high central vowel very similar to the vowel in Swedish hus [h_u:s], and [-w-] indicates a labialized 'noisy' glide, cf. below:

'bee': Phenshünyu ⁴khu, Southern Rengma ⁴khü ([Ü] = German ü).

'cloud': Ph. ¹n⁴mh_u, SR ¹n⁴mha, Ag. ²ki³mhu, Ze. ¹he¹mua

'chicken': Ph. ¹t_Λ¹ru, SR ¹t_Λ¹ro, Ag. ²pe²ra.

'dove': Ph. ¹n⁴sh_u, SR ¹n⁴sü, Ag. ²me³krhu.

'husk': Ph. ⁵t_Λ⁵ph_u, SR ¹t_Λ³phü, Ro. -phai.

'mithun': Ph. ¹gu, SR ¹gü, Ag. ²ke³wi, Se. ²a²vi, Ro. yuai-kui 'cow',
-yuai-saq 'mithun'.

The eleven etyma cited above are reconstructed below.

*-? (creaky phonation type) > TC-II

*-? + *-d^h (see Weidert 1979) > TC-IIb

*-^h (breathy phonation type) > TC-III

'bitter' PKN *kha? + *-d^h

'chin' PKN *mkha? (+*-d^h), cf. also Anal ¹pa¹kha, Tangkhul
¹a¹m_a¹kha, Sema ¹a¹mu¹khu, Yimchunger ²mu²kw?, Chiru (Old
Kuki) m_Λkha.

'span' PKN *ka? (+*-d^h). cf. also Mao ²ba⁴ko, Lotha ¹e²go,
Ro. .ku, Li. -mai.ben.kiu, Ze. ³mi³kei ('one's span'),
Lakher ³kha, Ao ³a³ka?.

'search' PKN *pfha? (+*-s > TC-IIa). cf. Mao ³pho, Se. ¹phu,
Ro. -phu, Li. -phu~-phiu, Ze. ¹ke⁴pei, Ta. ¹ka²pha,
Northern Rengma ¹gi¹pa, Southern Rengma ³f, 'to find',
Kz. ¹pfhw, Monshang ²I²pha 'find'.

- 'thin' PKN *pa? (+ *s > TC-IIa). cf. Ro. pu, Li. -apu ~ -apiu,
Anal ¹pi¹_i²pa, Ta. ¹khə¹_{ηə}²va (=lg-η-²val, l_ηk*r-).
- 'male, father' PKN *pa? cf. Se. ¹a¹pu, Ro. mai-pu ('one's father'),
Li. -apiu, Ta. ¹a¹va, NR ¹a²ba. (+ *-dh)
- 'bee' PKN *mkhuai
- 'wait' PKN *khua^h ~ *mkhua^h cf. Kz. ²kwhe, Mao ⁵khu, Ro. -nxuan,
Li. -nkhuan, SR ⁴kwhē (< *⁴kwhen), Ze. ¹ke⁵kua.
- 'monkey' PKN *skuai?
- 'rainbow' Proto-Naga-I *puan-sin > TC-I(a) on both syllables. The
f-sound on the first syllable of Ck. is unexplained.
- 'carry baby on back' PKN *pua? (+ *-d^h) cf. Kz. ²pfw, Mao ¹pfo, NR ¹gi²pvw,
Lushai I. pua, II. 'puak.

3.3 Pattern C: Peculiar initial and coda combinations

A number of proveniences with complex initials clusters such as the initial clusters of Classical Tibetan have a quite diverse set of reflexes. For example, compare the forms related to Classical Tibetan *brgya* '100'.

- Kuki-Chin languages: Lushai za, Thadou za, Anal ¹tsa¹ma, Kom ¹ra²zə*,
Lamgang ²tsa, Lakher ²zə, Tangkhul ³ša, Chiru razə. PKC *r-ya^h.
- Naga (I): Angami ⁴krie, Ck. ⁵kra, Kz. ²tri, Mao ⁵kri, SR tsi, Se. ²a²qhe,
(III): Ze. ⁵hai, Ro. phai*, Li. -kai*. Proto-Naga I *bɣrya^h, with *-y-
necessary to explain *h-* of Zemei, and the aspirated uvular/pharyngeal
stop *qh-* of Sema vs. unaspirated *kr-* in Angami (*bɣrya^h > *ɣr^hya
(TC-I = Se. /2/)), Ro. *ph-* < **b-*.
- Naga II: NR ¹mi²za, Lotha ¹n³zoa (= ¹n³zo+a, -a occurring also with
¹mo-³tzwŋ-²a 'one', etc.), Sangtam ²tsi, Yimchunger ¹tši. Except
for Northern Rengma, TC-II and TC-III are not differentiated in
Naga II; a possible reconstruction of Proto-Naga II is *m-gya?
(with -g- doubtful since any stop before -y- probably palatalized).
- Mikir: ²pha³ro, clearly *b-ra^h (*-h > Mikir /3/).
- Baric: Nocte ²tša*, Tangsa ²ša*, Garo rit-ca*. The tones of Nocte and
Tangsa indicate a TC-III etymon. PB *r-tša^h.
- Kachin: ¹la²sa, Proto-Kachin *r-tsa or *r-tsa^h (both TC-I and TC-III
lead to /2/).
- Lolo-Burmese: Written Burmese *ra*, Maru *yò*, Lisu *hyī*, Lahu *hā*, Akha *yá*.
PLB TC-I, PLB **hra*.

The reconstructions in the different subgroups suggest that Classical Tibetan *brgya* is close to the hypothesized PTB form, something like **br̥yā*^{h20}.

3.3.1 'nine'. For this etymon, Classical Tibetan has *dgu*, and the modern Tibetan forms indicate that -*g*- was indeed a voiced velar plosive, e.g., Dzongkha *gu*, Bumthang (= Central Bhutanese) *dogo*, etc. The assumption of voiced -*g*- is further supported by the fact that Kachin and Nöcte have aspirated stops (*lt̚ʰalkhu* and *l̥-khu*, respectively). The KN languages are ambiguous because (a) languages such as Lushai, Anal, Lamgang, Monshang, Lakher, etc. do not have /*g*/ in their phonemic inventories, (b) languages such as Northern Rengma and Lotha exhibit a merger of the voiceless unaspirated and voiced stops into the lax series, and (c) languages of the Naga-I group point to a voiceless stop which may or may not have to be reconstructed for common PKN. In addition, there is the troublesome variability of the prefixal element in most of the languages, a problem not encountered with the other word classes (nouns and verbs). While this might be because it is a numeral, there is also a phonetic difficulty with the alveolar affricates in a number of languages, cf. Kachin *lt̚ʰalkhu*, Mao *lt̚ʰo3ku*, Li. -*caŋkiu*, Ta. *lt̚ʰi2ko*, Lakher *3saʰtsa3ki*. The Garo form *sku* with prefixed *s*- and a tense velar stop (tense stops go back to aspirated stops) is another problem. These observations suggest three possible PTB and perhaps also PST reconstructions: (1) **dgua*? (a form difficult to reconcile with the data), (2) **sdgua*? **dsgua*? (explaining everything from affricated prefixal elements to Garo *sku* [*skhu*]) and the alveopalatal affricate in Ck. *2thv4t̚ʰw*), and (3) **tzgua*? (leading to the same explanatory result, but introducing a new prefixal element unattested in Classical Tibetan for which the TB comparative evidence is weak). In addition, the KN, Baric and Kachin languages point to a TC-IIa tonal classification, making the addition of a suffixal element such as *-*s* (Weidert 1979) likely.²¹

The explanation of the Angami labiodental affricate follows of course the pattern of group (B) etyma.

3.3.2 'twenty'. In addition to the KN forms cited above, there is Kachin *2khun* (clearly cognate because /2/ indicates TC-I), and the first syllable in Garo *kol-grik* (-*grik* unanalyzable). Khiamnang has *lk̚eI*, which looks like a cognate, but the tone does not fit with TC-I. The Kachin form suggests again a reconstruction with a voiced velar stop. This stop alone and a proposed rime *-*ul* is not enough to explain the labiodental affricate of the Angami form, the alveopalatal affricate of Chakhesang, the dental *s*- of Rongmei, the labiovelar lax (phonetically half-voiced) *gw*- of Northern Rengma, and the dento-alveolar affricate of Ao Naga. We therefore suggest **m-gywul* ~ **m-gwyul*, a form that explains everything including the tonal development of Ag. and Ck. TC-Ib which signals a proto-consonant cluster. Labiodentalization in Angami now has to be explained through the stages: **m-gwyul* > **m-gwul* > **m-gʷui* > **m-gʷa* **m-pʷa*.

3.3.3 'dog'. The following forms should be added to the KN forms already cited:

- Bodish: Classical Tibetan khyi, Bumthang khü-i, Tashigang (=Eastern Bhutanese) khu 'dog', phokhi 'male dog', mokhi 'bitch', Mon-pa khü.
 Baric: Khiamngan ²³tʂɿ, Chang ²gʌi, Nocte -hu, Tangsa ¹hi, Konyak (Tamlu dialect) ¹huha.
 Kachin: ¹gui.

The tones of Khiamngan, Chang, Nocte, Tangsa, and Kachin indicate TC-II, thus agreeing with KN TC-IIa. The simplest way to account for all the divergent initial consonant developments is to reconstruct PTB *xyui? for the stem element of the root. If the proposed connection between the TB *s-prefix and its representation as an unaspirated dental stop in Angami (Matisoff) is correct, we can simply add *s- to the stem, thus making it PTB *s-xyui?. Through the process of prefix-preemption, this form also explains s-forms such as Mao ʔoʔsi, etc. cited above. This time, the voiceless labiodental fricative /f-/ in Ag. (and also in Tangkhul, Northern Rengma, Lotha, and Sangtham) is explained through the stages: *s-xyui? > *t-xywə? > *t-xwə? > *t-5fwə, causing a change in the place of articulation. The other developments are straightforward: Tibetan *x- > kh- (or *xy- > khy-), *-ui > Classical -i, Tashigang -u; Khiamngan *xy- > *gy- > tʂ-, Chang *xy- > *ɣ-, Nocte/Tangsa *xy- > h-; Kachin *xy- > *ɣ- > g-, etc.

3.3.4 'female'. This etymon has the following forms:

- Ag. ²nuo⁵pfə 'daughter', (⁵u²nuo, KN *nau 'child'), Ck. ⁴βɿ, Kz. ²nu¹pi 'daughter', Li. -a.na-pui 'daughter', Lushai ,puɪ 'feminine suffix e.g., vok,puɪ 'sow', ʔar,puɪ 'hen', etc.). PKN *puɪ?

All tones indicate TC-IIa. The Ck. form is the immediate predecessor of the Ag. syllable; it makes the proposed derivation in 'dog' even more plausible. As a result, the labiodental affricates in Ag. are the final phonetic stage in a sequence of changes all synchronically observable in other KN languages. The labiodentalization in Angami has to be traced to an intermediate stage with a bilabial non-vocalic glide plus a velar unrounded vowel (*KWə and *PWə) which originated either from *-a(-) (in *-a and *-ua(-)) or *-i (in *-ui and *-ul > *-ui > *-wə).

3.3.5 There is a final etymon which appears to constitute a separate source of labiodentalization in Angami: 'cloth' Ag. 1pfhe, Ck. 1fr. Assuming that these forms are cognate to the forms in the other languages, these tones indicate TC-IIb; hence, an open syllable should be reconstructed. These forms suggest an earlier *pfhie, which is

synchronously excluded by the syllable structure constraints. Other possible cognates indicate not TC-IIb but TC-III:

Ro. phai, Li. -ka-pai ~ -ca-pai, Ze. ⁵pai, Southern Rengma ⁴phi, Manipuri phl, and perhaps Lakher ¹hma¹pho 'blanket'.

Tentatively we reconstruct PKN *phia? + *-d^h with vowel metathesis (as evidenced in the Naga-Kukj transition subgroup) and subsequent development from *-i to *-ie²²: Ag. *phja? > *phai? > *phaï? > (SR *phi?) > *phwie? > ¹pfhie = /¹pfhe/.²³

3.4 Pattern D: m-derivations. Three etyma must be considered: 'bedbug', 'goat', and 'star'.²⁴ For 'goat' a reconstruction such as *s-meel? (TC-IIa) has already been proposed; the derivation would be something like *s-meel? > *s-mei? > Ag. *t-mai? > *t-m^wai? > t-⁵m^wa. However, an etymon which immediately shows the fallacy in Matisoff's attempt at reconstructing *^hw- initials is 'bedbug'.

3.4.1 'bedbug'. Ag. ²r^a¹mā, Ck. ²r^x¹mu, Northern Rengma ¹a¹sa²ma, Southern Rengma ²r^x¹m^w, Li. -ka-mā, Lakher ²a²³si³hmou, Lamgang ¹a¹r¹maat. PKN *rmaad. The development of *-aa- in this root is identical with final *-a as seen above (*-a > *-ə, Ck. *-u).

3.4.2 'star'. Despite the tremendous variety of initial consonants in different KN languages, the identity of the tonal correspondences indicates a single etymon. The tone of the Angami form /²the³mā/ indicates TC-Ib. As has already been pointed out, the difference between /2/ and /3/ in Ag. and Ck. TC-I is historically related to the number of initial consonants: syllables with a single consonant became /2/ and syllables with a proto-cluster became /3/.²⁵ Similarly, the Chakhesang form /²the³n^x/ indicates TC-Ib.

The following forms show tonal agreement with Angami and Chakhesang:

Kz. ¹e²ye (¹e- 'noun prefix')
 Mao ²o¹vu (²o- 'noun prefix')
 Ze. ¹he¹gi (¹he- 'noun prefix')²⁶
 Se. ²a²ya²pu (²a- 'noun prefix')

The Sema form indicates a compound with two semantic elements /²a²ya-²pu/; had the word been a single morphological unit with an initial consonant cluster, the tone sequence would be /1-1-3/, but the actual /2-2-2/ indicates a compound. This means that at least the Proto-Sema form has to be reconstructed with a single consonant (for which the tone sequence in disyllabic nouns is /2-2/, cf. note 25). The /²a²ya-/ compares well with the Kz. and Mao forms.

The Zemei form with /g-/ suggests positing a voiced velar fricative.

The vowels in the four languages above indicate a closed provenience with either *-an or *-ar > *-an. These forms are actually found in Rongmei -yan-suaŋ-ŋa 'star' and Liangmei -kagan ~ -cagan 'star'.^{27,28} Further evidence for a complex initial cluster with a *-ar TC-I(b) rime is found in the following forms:

Bodish: Classical Tibetan skar-ma
 Kuki-Chin: Lushai -ar_{si} (-ar is TC-I)
 Naga-II: Lotha ¹sa³di³o (¹sa is TC-I)

The Lushai and Lotha forms are compounds where only the first syllable is comparable. Tibetan skar- can be interpreted as *sxar-. Lotha /-an/ originates from *-ar, cf. 'new':

'new': Tibetan gsar-ba, Lushai -thar (TC-I), Ag. ²ke³sa, Ck. ²kr³sa, Kz. ²ke³tshe, Mao ²ko²thu, Li. -ka¹san, Se. ¹a¹ki³the, Lotha ¹e¹tan, Tamang 'sā:r, Thakali sar, Gurung musā:qrā.²⁹

The Zemei form with /g-/ suggests positing an initial *γ-, but the Tibetan suggests *sx- was the initial. The Lotha form with its probable change *sx- > *g- shows that the medial *-x- was a weak consonant. The Gurung form cited above musā:qrā suggests the correct reconstruction: PTB *smxar ~ *msxar. In Angami this leads to *s-mxar > *s-mxan > *th-ma > th-mvə = /²the³mə/.³⁰

The above prefixed x- should be compared with an unprefix x- initial: 'vegetable/curry': Ag. ⁵ga, Ck. ⁴ya, Kz. ¹e¹ye, Mao ²o²vu ~ ²o²vü, Se. ¹a¹ye²zw, Lotha ¹o³han, Ro. -yan, Li. -ca¹gan, Lushai -an, Ze. ⁴gi; PKN *xan? (TC-IIa)

3.4.3 If 'star' has to be reconstructed as *smxar ~ *msxar on the basis of the Tibetan, Himalayish, and KN evidence, what remains of its equation with Chinese 月 'ngiwāt 'moon'? The most troublesome equation is the rime PTB *-ar contra Anc.Ch. -āt; it is impossible to posit an open-syllable rime in Angami and Chakhesang which would allow the etymological identity of TB 'star' and Anc.Ch. 'moon'. It is much more probable to connect TB 'moon' with Anc.Ch. 'moon'; and, Anc.Ch. 星 'sieng 'star' can be (AD 804) connected with the second syllables in the following forms:³¹

Lushai	-ar _{si}	'star'
Thadou	,a? _{si}	'star'
Kom	² ar ¹ si	'star'
Lamgang	¹ bur ² si	'star'
Lakher	¹ o ² si	'star'
Rongmei	-yan <u>-suaŋ</u> -ŋa	'star' (perhaps)

Other forms that support our reconstruction are:

- Baric: Khamngan ²³gIon-T²tsQ, Chang kan ṣau lit ṣau (lit < lit-ṣu 'moon', ṣau =suffix indicating small size, low tone of /kan/ = Baric TC-I = Kuki-Naga TC-I).
- Kachin: ³ṣa²gan (TC-I)
- Naga-II:³² Sangtam ¹tṣi¹hi (=tense /tṣ/, with aspiration, TC-I),
Yimchunger ²tṣi²ni¹ (=tense /tṣ/, with aspiration, TC-I),
Ao ²pu²ti²no (/t/ < *th-, no aspiration contrast in initial stops, TC-I).

These can be reconstructed with a rime *-ar/*-an, cf.:

	<u>Lotha</u>	<u>Sangtam</u>	<u>Yimchunger</u>	<u>Ao</u>	<u>Lushai</u>
'again'	¹ lan	¹ li ¹ 'to answer'			
'belly'	¹ n ¹ man	¹ mi ¹ bun			
'bring'	¹ han	¹ hi	² han		
'curry'	¹ o ³ han	² hi	² a ² o [=lil]	³ a ³ un	
'new'	¹ e ¹ tan	¹ a ¹ si	² so	² ta ² swan	-thar

This means that the Sangtam form has to be reconstructed as ¹tṣhin-¹hi (there is no **-in rime synchronically), Yimchunger ²tṣhin-(n)yi¹, and Ao ²pu²thin-²o; final *-n being preserved in opposition to 'new' because of its position within a compound.

Words that cannot be reconciled with this reconstruction are Northern Rengma ¹a¹ṣu¹tzi, Mikir ²ci³klo²lon²so (= 'moon-stone-small'), Nocte ¹me rit ~ ¹mi rit, Tangsa lik sai?, Garo a-ski, and Boro ha-tor?-ki?.

3.5 'moon'. Matisoff sets up several roots for 'moon':

- *kriy mostly Naga-I forms
- *lit Eastern Baric-I: Chang, Konyak, Phom

To these must be added Benedict's *s-gla (STC #144):

	<u>Quoted as:</u>	<u>Precise form:</u>	<u>Tone class:</u>
Tibetan	zla-ba		
Burmese	lá (Lolo *hla) ³³	lá	TC-III
Kachin	śata	³ śə ² ta	TC-I or III
Lushai	thla < *khla	<u>tlha</u>	TC-III

It is unnecessary, however, to have different TB roots for 'moon'; in fact, 'moon' is one of the most consistent roots in TB.

All KN languages indicate TC-III, all reflect a final *-a, and there is abundant evidence of a complex initial consonant.

	<u>'moon'</u>	<u>TC</u>	<u>Notes:</u>	<u>cf. 'brain'</u>
<u>Kuki-Chin:</u>				
Lushai	<u>tlha</u>	III		<u>tlhuak</u>
Tiddim Chin	xa	III	=,kha < *.klha	
Thadou	hla	I/III/IV		-hlo?
Anal	¹ trha	I/III		¹ a ² trhuu
Kom	² tha	I/III		¹ r ² thik
Lamgang	¹ hla	I/III		¹ ar ¹ hluu
Lakher	² tlha	III		
<u>Naga I & III:</u>				
I: Angami	⁴ krhə	III	/-ə/ < *-a regular	⁵ u ¹ krhu
Chakhesang	⁵ trhi ³⁴	III		¹ trhw
Khezha	¹ e ² trhw	III		¹ e ³ trhu
Mao	² o ⁵ krho	III		
Sema	¹ a ¹ qhi			¹ a ¹ qho
III: Zemei	¹ he ⁵ kei	III	-ei < *-a regular	³ mi ¹ n ⁴ kuak
Rongmei	bu	III	-u < *-a regular	<u>mai-buak</u> ³⁵
Liangmei	-ka-liu	III	-iu < *-a regular	
	~ -ka-hiu		(dialectal variation)	
I: Southern Rengma	⁴ so	I/III	-ö < *-a regular	² n ¹ so

[Matisoff's *kriy root, set up primarily on the basis of the above languages, represents a gross misunderstanding of the regular correspondences.]

	<u>'moon'</u>	<u>TC</u>	<u>Notes:</u>	<u>'brain'</u>
<u>Naga-IL:</u>				
Lotha	$\overset{3}{\underset{v}{tso}} \overset{3}{ro}^{36}$	II/III	-o < *-a regular (cf. 2.4)	$\overset{1}{gi} \overset{1}{\underset{v}{tso}}k$
Northern Rengma	$\overset{1}{a} \overset{2}{\underset{v}{sa}}$	III		$\overset{1}{a} \overset{1}{ha} \overset{1}{\underset{v}{su}}$
Sangtam	$\overset{2}{\underset{v}{tso}} \overset{1}{nu}^{37}$	III		
Yimchunger	$\overset{1}{ki} \overset{2}{nu}^{38}$	III		$\overset{2}{gu} \overset{2}{kyuk}$
Ao	$\overset{1}{i} \overset{1}{ta}$		definitely related	
<u>Baric:</u>				
Nocte	$\overset{2}{da}$	III		
Tangsa	$\overset{2}{\underset{v}{tza}} \overset{3}{poi}$	III		
Garö	ja		(/j/ half-voiced; dentoalveolar aff.)	
Boro	dan 'month'		suffixed -n	
Chang	$\overset{1}{lit} \overset{2}{nu}^{39}$			
Konyak (Tamlu)	$\downarrow \overset{1}{let} \overset{2}{nu}$			
Konyak (Wakching)	$\downarrow \overset{1}{le} \overset{2}{nu}^{40}$			
Khamnagan	$\overset{2}{\underset{v}{l}} \overset{23}{\underset{v}{le}} I?$		$\overset{2}{\underset{v}{l}} = \text{'weather prefix'} < *ran$	
Miju Mishmi	.lai			

The Chang, Konyak, and Khamnagan forms are extremely interesting because they suggest suffixation. The vowels in these forms are not the regular reflexes of final *-a. In Weidert 1979 these facts lead to a reconstruction proposed as PTB *sdlah and a Proto-Chang/Konyak/Khamnagan *sdlah-dh. The medial *-d- is due to Kachin 3ša²ta and Kaike (Bodish) dā. All Lolo-Burmese languages reflect TC-III; thus, all Kuki-Chin, Baric, and Lolo-Burmese languages reflect TC-III. The final laryngeal is supported by the following Himalayish languages:

Gurung laqyā:, Khaling syāh.oy, Chepeng lāh, as well as Bodish Sherpa ulāq.

In summary, only a single root for 'moon' need be reconstructed for PTB.

Let us examine once again AncCh. 月 *ngiwāt. A final suffixed -t is no problem; compare the Eastern Baric forms. Medial *-i- could be an immediate reflex of this or of a *-s suffix, cf. Miju Mishmi .lai (where the regular reflex of PTB *-a is /-a/). The proposed derivation for Chinese could be something like PST *sdlah (+ -d/*-s) > Sinitic (cf. KN forms!) > *sglah-dh/-s > *nglah-dh > (*-l- > *-w-) *ngwyat > *nywat.

3.6 The word for 'spirit/ghost/shadow' looks very similar to the word 'moon':

	<u>'spirit, etc.'</u>	<u>TC</u>	<u>Notes:</u>
<u>Kuki-Chin:</u>			
Lushai	<u>ˈtlha</u>	I	
Tiddim Chin	<u>-xa</u>	I	x- < *klh-
Thadou	<u>ˌhla</u>	I/III	
Kom	<u>1 r 2 tha</u>	I/III	
Lamgang	<u>1 p 1 hla</u>	I/III	
Monshang	<u>2 r 2 tha 1 sə</u>		
Chiru	<u>r 1 tha</u>		
Lakher	<u>1 tih 2 pə</u>	I	
<u>Naga:</u>			
Tangkhu	<u>2 m 1 la</u>	I	cf. Tamang 'māhng 'ghost'
Ao Naga	<u>2 ta 2 nw 2 la</u>	I	2 ta = frequent prefix
Rongmei	<u>-n bu-mai</u>	I/III	-n ba < *r-ba
<u>Baric:</u>			
Chang	<u>ˌsɔu 'soul'</u>	I	< *sa
<u>Kachin:</u>			
Kachin	<u>1 num 2 la</u>	I/III	*mun-la < *mur-la

Miju Mishmi ˌksa 'spirit'

Classical Tibetan hla 'the gods'

Garó ja

Ancient Chinese AD 159 廬 < ɣiəu TC-I 'shade, shelter'

All these words agree tonally and suggest a reconstruction such as PTB *mrgsla.

However, the existence of apparently related but tonally divergent forms presents difficulties:

<u>Naga I:</u>		
Angami	<u>5 krhə</u>	II
Chakhesang	<u>4 4 u trhi</u>	II
Khezha	<u>1 e 1 trhu</u>	II
Mao	<u>2 o 3 krhu</u>	II

Naga III:
Tangkhu^l ³ka² la 'shadow' II

Bodish:

Sherpa 'lhaq II

Jirel 'lhāq II

Baric:

Nocte ^lmΛ²da 'spirit' III

Tangsa ^lΛ²tsi² tza 'soul' III

Konyak [↓]ya-ha III

The initial consonant derives from *y-; the tones indicate TC-III.⁴¹

3.7 Pattern E. It can in fact be shown that no other vowels than *ua(-) and final *-a are able to generate labiodental consonants; as soon as the conditioning factors vary minimally, labiodentalization does not occur in Angami. Specifically, a final *-u or *-u- rime combined with initial labial or velar stops does not trigger labiodentalization.

'cold' 'to cough' 'fireplace' 'smoke' 'lung'

Naga I:

Angami	² me ³ ku	*r-	² ra ² khu	² mi ⁵ phu	² mi ¹ khu	⁵ u ⁵ phie
Chakhesang	² mv ³ ko		² ri ² kho	(⁵ mi 'fire')	² me ¹ kho	⁴ u ⁴ phɪ
Khezha	² me ¹ ki		¹ e ² khu			¹ e ¹ pʰho
Mao	¹ a ² ma ² ke		¹ a ² khe	² to ³ pʰhü		² o ³ pʰhu
Sema	² mu ³ ko-T		² i ² khi			¹ a ¹ phe
S. Rengma						² n ³ phē

Naga II:

Lotha	¹ e ³ kfw [kʰh-]
N. Rengma	¹ gi ² qu ¹ a ¹ ni ² pũ
Ao	² tw ² mu ² kunʃ

Naga III:

Tangkhu ^l	² mai ² phuŋ	¹ a ² phar ^{-V}
Zemei		³ mi ¹ n ⁴ pua
Rongmei		-mai-xau -mai-phuan
Liangmei	-ma.khu{*m-	-mi.kha -mai-phuan
Proto-Naga:	*mkuuŋ *khuŋ *phuŋ?	*khu? + *-d ^h *mphoor?
KN TC	Ib IV < *-s II	I Ib II
Mikir		² iŋ ¹ phor ^{-T}

	'bloom'	'to dry'	'be close'	'fish'	'pillow' 'head'	'defecate' 'stool', excrement'
<u>Naga I:</u>						
Angami	2 ^{pu} , 3 ^{nie} 2 ^{pu} 'flower' 2 ^{phie}		4 ^{kha}	4 ^{khuo}	2 ^{tse} 2 ^{khe} < 5 ^u 4 ^{tse}	5 ^{buo}
Chakhesang	3 ^{ne} 2 ^{βx}		5 ^{kha}	5 ^{fu}	2 ^{pi} 2 ^{khv} < 5 ^{pi}	4 ^{py}
Khezha	1 ² 1 ² 1 ² 2 ^{pa} 'fl.'		2 ^{tsu} 2 ^{khe}	1 ² 2 ^e 2 ^{khv}	2 ^{tse} 2 ^{khi}	1 ^{bu}
Mao			5 ^{khu}	2 ⁵ 2 ^o 2 ^{khv}	5 ^{pi} 1 ^{mo} 5 ^{khu} < 2 ⁵ 2 ^{pi}	3 ^{tzw}
Sema	2 ^{bu}	2 ^{phu}	2 ^{kha}	1 ^a 2 ^{kha}	1 ^{ba}	1 ^{ba}
S. Rengma		4 ^{pho}			1 ⁴ 2 ^{pe} 2 ^{khē} < 2 ¹ 1 ^{pe}	
<u>Naga II:</u>						
Lotha	1 ^{pvu} 3 ^{bum}		3 ^{kan}			2 ^{byo}
N. Rengma	1 ^{pū}		1 ^{gi} 2 ^{ki}			
Sangtam	2 ^{bi}					
Yimchunger	2 ^{bun} , 1 ^{san} 1 ^{bun} 'fl.' 2 ^{pu}					bi?
Ao	2 ^a 2 ^{pun}					
<u>Naga III:</u>						
Tangkhu	1 ^{khe} 1 ^{won}	1 ^{ke} 1 ^{phui}		3 ^{khai}	1 ^{bia} 3 ^{kum} -T	3 ^{pai}
Zemei	1 ^{ke} 1 ^{pa}					
Rongmei	1 ^{puan}			1 ^{xo}		1 ^{bo}
Liangmei	1 ^{pen}			-ca-kha	-ka-khum ~ -ca-khum	-ka-bo
		PKN *phou TC-I	PN *khaar-h	PN *khai-h	42 PN-I (m-)khum PN *bai? or *bya? -dh	III
<u>Kuki-Chin:</u>						
Lushai	1 ^{pa} 2 ^{paar} 'flower'	1 ^{phou}	1 ^{khaar}		1 ^{lu} 2 ^{kham} < 1 ^T 1 ^{lu}	(Mao and Lotha)
Lakher	1 ^{po} , 2 ^{po} 3 ^{pi} 'fl.'					
Manipuri	1 ^{po} 2 ^{pi} 'bud'		PKN *khaar?			

The vowel in 'lung' is on the basis of the Mikir form, making the Tangkhul vowel irregular. In the set 'to defecate; stool, excrement' the first reconstruction accounts for all the data except the Lotha and Mao forms; the second reconstruction is designed specifically with them in mind.

The forms for 'bloom; flower' reflect Matisoffian 'allofams':

- *pon = Tangkul, Yimchunger and most probably Angami, Chakhesang, and Khezha
- *pom = Manipuri and Lotha
- *paar = Lushai and Old Kuki languages
- *puŋ = Sema, Yimchunger, and Ao
- *puãŋ~*po(o)ŋ = Rongmei, Liangmei (?), Lakher

Footnotes

¹The data upon which this essay relies heavily was collected during several field work periods from 1973-78, under the auspices of the Deutsche Forschungsgemeinschaft in Bonn whose financial support is gratefully acknowledged here.

²All books are printed by a printing firm in Vanarasi, a place far away from the potential users of these dictionaries. The whole language project of the Nagaland Bhasha Parishad must be viewed from two angles: a commercial one--most of the money annually pumped into Nagaland by the Indian Central Government flows back into the pockets of Indian entrepreneurs--and a political one--the government has learned from a twenty-year, undeclared war against the Nagas that the knowledge of the Naga languages is essential for combatting the Naga underground (see Nibedon 1978). Thus the potential users of these dictionaries are definitely not the Nagas but the Indian army occupying the hills as shown by the arrangement of glosses starting with the Devanagari akshara order.

³The whole subgroup has been variously dubbed 'Western subgroup' (Linguistic Survey of India, vol. III, pt. 2), 'Southern Naga' (Benedict 1972), 'Eastern Branch' (Shafer 1967-74). In Weidert 1979 the term 'Naga-I' was chosen and it is comprised of the following languages: Angami (Ag.), Chakhesang (Ch.), Khezha (Kz.), Mao (= Imemei = Sopvoma), Southern Rengma (SR), Sema (Se.), Pochuri (also called 'Sangtam', but not identical with the Sangtam language of the 'Naga-II' subgroup which is comprised of Lotha, Ao, and Yimchunger in addition). The Northern Rengma (NR) (= Ntenyi) language agrees in its phonological structure with the Naga-I languages, that is, open syllables only, but in vocabulary predominately with Lotha Naga. The Zemei (= Zeliang = Empeo = Kačča Naga) language is usually grouped with a Naga-III or Naga-Kuki transition group consisting of Rongmei (= Nruanghmei = Kabui), Liangmei, and Tangkhul (= Shafer's 'Luhupa'), but its rather close ties with Angami must not be overlooked.

⁴Thus, on the first page of Burling's word list, the following mistakes occur:

<u>Burling</u>	<u>Actual phonemic form</u>	
pètékô (= our 2-5-1)	² pe ⁵ te ² ko	'all'
phré (= 5)	⁴ prhe	'all of them'
nù (= 2)	⁵ nu	'at'
thâyîê (= 2-1)	⁴ tha ¹ yie	'banana'
ràkhuu (= 2-3)	² rə ² khu	'cough'
úmèrə́ (= 5-2-5)	⁵ u ² me ³ rə	'chest'

⁵Burling (1960:54): On several vowels as noted above, this and the preceding tone are not distinguished from each other, and these vowels do not therefore appear in my transcription with /'/. When associated with vowels for which this tone is distinguished from the preceding one, /' / is characterized by what seems to an English speaker as a normal speaking voice, while /' / has more of a singing quality or is more resonant.

The claim that the neutralization of tonemes occurs with certain vowels is wrong.

Regarding the tonological correspondence Angami /3/ = Chakhesang /3/ within tonal category (TC) TC-I of the comparative KN TC-system, there are 40 words which Burling renders with /' /, and 30 words which he has rendered with /' / . Regarding the tonological correspondence Ag. /4/ = Ck. /5/ within TC-III of the KN TC-system, there are 44 words with tone /' / and only 6 words with tone /' / in Burling's word list. Statistically speaking, it has been easier for Burling to identify tone /4/ syllables than tone /3/ ones. The net result is, however, one of total confusion of the tone /3/ and /4/ words; they cannot be used for comparison with other languages.

In order to prove my point, here are eleven words selected at random and compared with Chakhesang:

<u>Burling</u>	<u>Actual phonemic form</u>	<u>Chakhesang</u>	
lǎ	³ la	³ la	'again'
chəziě	² tshə ³ zie	² thi ³ ze	'barking deer'
məkhǒ	² me ³ kho	² mɪ ³ kho	'basket'
pē	³ pe	³ pɪ	'bridge'
kĩmhūu	² ki ³ mhu	² kɪ ³ mɪɪ	'cloud'
məkū	² me ³ ku	² mɪ ³ ko	'cold'
puòmhǒ	⁴ mho	⁵ nhɪ	'above'
mərǎ	² me ⁴ rha	² mɪ ⁵ rha	'basket'
rəlǔ	² rə ⁴ lu	² rɪ ⁵ lo	'bathe'
dū	⁴ du	⁵ do	'cut'
thēsâ	⁴ te ² sə	⁵ tɪ ² sɪ	'pull'

⁶The structural gaps in the -ip and -up slots are most probably accidental; the analysis is based only on a corpus of ca. 1000 words.

⁷

Eastern Baric-I = Chang, Konyak, Phom, Khiamngan; Eastern Baric-II = Wancho, Nocte, Tangsa; Western Baric = Boro, Garo, Dimasa, Lalung, Rabha.

⁸[ɪ] = in between the cardinal values of [i] and [e], [ɛ] = in between the cardinal values of [e] and [ɛ], [ɔ̃] = a raised and centralized variety of [a], [q] = in between the cardinal values of [o] and [ɔ], [ʊ] = in between the cardinal values of [u] and [o], [-w] = bilabial half-voiced or almost voiceless fricative. Additionally, there is a vowel phoneme /ɾ/ occurring only in certain prefixes and grammatical markers; regarding closed syllables, it can only occur with glottal stop.

⁹The 5-toneme contour tone system of Rongmei can be traced, however, to an underlying theoretical 3-toneme system.

¹⁰I am confident of my Sema Naga analysis which also agrees with the analysis offered by Bor/Hutton 1927 (where, astonishingly, most of the words are quoted in the wrong tones though the number of tones is correctly analyzed as three); however, there still remain misgivings about the Khezha Naga analysis even after the same data were repeated after a long break.

¹¹We prefer to write /pv/ rather than /bv/ for the voiced labiodental affricate (and similarly /tz/ for /dz/, /kv/ for /gv/, etc.) in conformity with the principle of 'elimination of phonetic redundancies in phonemic and graphemic spellings' (Weidert 1977).

After I read Matisoff's paper I purposely mispronounced /pfh/ in /2me3pfhi/ 'bee' with /pf/ i.e., without aspiration and /pf/ in /2te5pfi/ 'monkey' with /pfh/, which because of its large quantity of aspiration at first appeared to me like a simple voiceless fricative /f/. The result was immediate correction by the Angami speaker, and her laughter indicated her belief that my Angami knowledge was poor.

¹²In this and the following groups of words we need not bother about the tonal representatives of the so-called 'preformative' syllables; their tonological plausibility is explainable in purely synchronic terms.

¹³See 3.4.2 and footnote 25.

¹⁴This is the ultimate error in the analysis of Henderson 1948. Though /ua/ and /ia/ plus the rimes in which they occur are correctly cited in the list of phonetic finals, the error starts where the first elements are related to two features termed Yotization and Labio-velarization. These unnatural features have the effect of splitting apart /ia/ and /ua/ into consonantal y- and w- plus the remaining vowel -a. This kind of underlying interpretation distorts the essence of the sound structures of Tiddim and Lushai; there is no longer any way to understand why, e.g., /hria/ 'know' becomes reduced to /hre/

¹⁵A prefixed *m- has to be added, as the KN languages amply demonstrate: PKN and PTB *m-khuai. Of course, it still can be argued that medial *-w- is the original unit for the PST reconstruction, explaining Lushai and Tiddim as exceptional developments:

*m-kh^wa·i > Lushai and Tiddim khuai. The arguments against this are: (a) the consistency with which *-a-, *-ua-, and *-ia- in all possible rimes (that is, with final consonantal elements such as *-l, *-r, *-m, *-n, *-ŋ, *-i, *-u (= diphthongs), *-s) are kept apart from rimes such as *-ai, *-au, etc., in most of the languages analyzed so far, (b) it is phonetically more plausible to explain a change from -ua- to -wa- than vice versa, and (c) if one sticks to the medial *-w- hypothesis, a bilabial medial element has to be created from nowhere with regard to the development of final *-a in Angami in pf-syllables (cf. 2.4).

It should be noted in passing that 'bee' must be reconstructed with a prefixal *m-, not only because many KN languages have still preserved *m-, but also because the tone of the main syllable is /3/ rather than /2/ in Angami (cf. note 25).

16

An example of an etymon with a final *-i is 'horn' (TC-IIb):

Angami	¹ kie	Zemei	¹ pe ¹ ki ^{-T}
Chakhesang	² u ¹ ka	Rongmei	-ka, sai
Khezha	¹ e ³ t ³ si	Liangmei	-pa, ke
Mao	² o ⁴ kei	Tangkul	¹ a ¹ ŋa ¹ tsi
Sema	¹ a ¹ ki ¹ bo		
	Lamgang (Old Kuki)	¹ mar ¹ ki	
	Lakher	² ra ¹ ke	
	Lushai	'ki	

17

The correspondence of KN TC-II to Baric/Kachin TC-I in supposedly cognate sets raises the problem of conditioning factors. As demonstrated in Weidert 1979, KN TC-I etyma usually correspond to Baric and Kachin TC-I etyma.

18 A final doubt remains, however, about the proposed derivation of the Angami 5ma-syllable from a rime such as *-eel. Were it not so remote, we might be inclined to compare it with Boro b̥rma? and derive 5ma- from a proto-rime *-ma?.

19 As already observed by Matisoff, it is not possible to trace /ə/ to underlying /u/ as is the case in Lahu and Lotha Naga where the velarity of /u/ and labiality of initial stops mutually condition each other so that different stops/affricates and vowels are generated.

20 Except for the final laryngeal, CT b̥rgya may even be identical with *byrya^(h), because (a) the Tibetan script does not clearly indicate the order of the initial consonantal elements, and (b) there is no way of indicating velar fricatives in the Tibetan script, so *γ > Tibetan "g",

(and *x > "k", cf. 3.3.3 below). The difference in the Lolo-Burmese TC is explainable as 'breathiness dissimilation' (cf. Sema 2a2qhe = TC-I), with the stages *yrah > *hrah > *hra (leading to LB TC-I). Editor's note: The Old Burmese form for '100' is ryā, with the h- a secondary development:

<u>Old Burmese</u>	<u>Lahu</u>	<u>Lisu</u>	<u>PLB</u>	
ryā	ha	h'yá ⁴	*rya ¹	'100'
ryā	he	h'a ⁴	*rya ¹	'(dry-crop) field'
ryak	há	h'yá ⁶	*ryak	'day; night, spend the night TSR #174'
ryap	hú	h'i ⁶	*ryap	'stand TSR #175'

²¹Such a final *-s could be the explanation of Chinese -j- in 'kiau' 九. The palatalization effect of *-s has also been observed for Southern Kuki (Löffler, personal communication) and for the verbal paradigm of the Kuki-Chin and Eastern Baric-II languages by Weidert 1979.

²²Cf. comparative KN 11a mi 'man', Angami 2the¹ mie and many more. Given the similarity of endings with '100', there is also the plausibility of reconstructing palatalized *phya?, thus making it a word with a-rime and explaining the Lakher vowel.

²³Cf. 'fish' below, but notice the fricative in Ck. 5fwa and the aspirated labiovelar in Southern Angami 2o4kfhw (in contrast to Ag. 4khuo) which indicate affrication from an intermediary *khai > *khwai stage.

²⁴There is another good etymon which unfortunately I was unable to elicit from the Angami informants, viz., "themvü" 'hand cotton spindle', cited in Hutton 1921. The comparison with Lushai hmui, Kz. 2lulmi, Ro. -mui, Li. -ka'mui signals a classification as a TC-II etymon, so the pronunciation should be */2the⁵ma/. The -ui rime in the related languages suggests a development similar to 'female', cf. 3.3.4.

²⁵This tonal development is unique in TB linguistics. There are two independent pieces of evidence for it.

(1) Cf. the Sema Naga TC-I tone representations in the KN comparative tone chart. The tone is /2/ for monosyllabic verbs and /2-2/ for nouns in their surface structure (the first syllable is usually /2a/; there are no monosyllabic nouns). If there is a prefixal element which usually also occurs in the other Naga-I languages, there will be a /1-3/ tone sequence for verbs (thus making them disyllabic in their surface structure) and /1-1-3/ for nouns (thus making them trisyllabic in their surface structure). The first group requires reconstruction of a single consonant, the second reconstruction of a consonant

cluster.

(2) Within Angami itself, there is a small group of adjectives in tone /2/ which change this tone to /3/ if transativized/causativized by means of prefixed /²pe/ (most of the prefixal syllables and grammatical markers have tone /2/, making /2/ the 'neutral' or unmarked tone in Angami; the statistical frequency of /2/ in running text is 40-45%):

'sour'	/ ² krho/	'make (it) sour'	/ ² pe ³ krho/
'fat'	/ ² luo/	'make (it) fat'	/ ² pe ³ luo/
'laugh'	/ ² nə/	'cause to laugh'	/ ² pe ³ nə/
'thin'	/ ² we/	'make (it) thin'	/ ² pe ³ we/

Presumably one of the elements of the proto-consonant cluster was a voiced consonant.

²⁶The prefix comparison shows that Ze. ¹he- consistently agrees with Kz. ¹le-, Mao ²o-, Liangmei -ka ~ -ca and Rongmei having no prefix at all. The Angami and Chakhesang representatives are in most cases dental stop prefixes. The occurrence of these prefixes is irrespective of the tonal category of the stem and of the word class, cf.

Naga I:	'war/enemy'	'cloud'	'crab'	'elephant'	'boundary'	'to borrow'
Angami	² te ³ rhə	² ki ³ mhu	² se ⁵ guo	⁵ tso	² the ⁵ rie	² the ¹ pu
Chakhesang	² the ³ ri	² ki ³ mhu	² the ⁴ vu	⁴ pru	² thi ⁴ ra	² the ¹ po
Khezha	¹ e ² ri	² ke ³ mhu	¹ e ¹ wu	¹ e ¹ tru	¹ e ¹ ri	¹ te ² pu
Mao	² o ¹ ru	² ka ² he	² o ³ vo	¹ i ³ pre		¹ tso ¹ pe

Naga III:

Zemei	¹ he ¹ reu	¹ he ¹ mua	¹ he ⁴ ga	¹ he ³ pua	¹ he ⁴ rai	³ ke ¹ he ¹ pok
Liangmei	-ca ¹ ri		-ca ¹ gu	-ka ¹ puaŋ		-a ¹ pok

Kuki-Chin:

Lushai	-raal		tsak ¹ aai		ri
*KN	TC-I(b)	TC-I(b)	TC-IIa	TC-IIa	TC-IIa

Cf. also 'moon' (3.5) and 'eight' (p. 7).

²⁷In Rongmei, /ɣ/ vacillates between [g] and [ɣ], thus there is no phonemic opposition. The second syllable of Ro. is semantically unanalyzable just like the last syllable of the Sema form; the whole word is a compound historically. The third syllable is the conditioned form of a suffixal element which appears more commonly under the shape -na:

'baby'	-n̄ŋə̄-na	'bird'	-n̄.ruai-na
'cat'	-ām̄iau-na	'lizard'	-tam/lian̄ŋa
'winged white ant'	-tālum̄ma		

28 In Liangmei, -ka which varies freely with -ca is a very frequent prefix:

'mug'	-ka^pian ~ -ca^pian
'paddy rice'	-ka.lo ~ -ca.lo
'spear'	-ka^ŋiu ~ -ca^ŋiu

29 The ending is probably influenced by the Indo-Aryan Nepali tārā 'star'. The Khaling form 'sāngngār is explainable through the stages *sxar > *syar > *sŋyar > *s(a)ŋgar.

30 I have come across one example which looks like an exception to the postulated development *maC > /ma/, viz., 'price'

Angami	² ma	Rongmei	-ka.man
Chakhesang	² u ² ma	Liangmei	-pa-man
Khezha	¹ e ² me	Lushai	man (non-finite form of man 'to be cheap')
Mao	² o ⁵ mu		
Sema	² a ² me		

This noun clearly has something to do with TC-I, but the tone correspondence Ag. 2, Ck. 2, Kz. 2, Mao 5 is unexplained so far. An ordered time sequence of rime changes appears likely, such that *-a > *-ə first, then *-aC > *-a refilling the structural gap created by *-a > *-ə: 'bedbug', 'goat', and 'star' followed the first, 'price' the second change. Such an explanation follows recent findings in Chinese, cf. Chen/Hsieh 1971.

31 The only form that can possibly be related to *ngiwāt is Miju Mishmi ṅa-ci 'star'.

32 The Wakching word for 'star' is /ɬsa-ha/. The last syllable of the Lotha form lšan3di30 'star' is a suffix:

	Lotha	
'pig'	wok- ³ o	Lushai vok
'chicken'	¹ hon- ³ o	Lushai aar
'nose'	³ ken- ³ o, Sema	² a ² n ³ gi, Kz. ² nhə ¹ ka, Ze. ³ mi ¹ n ³ kie
'a fly'	¹ ben- ³ o	Northern Rengma ¹ a ³ li ³ bɪ

³³Editor's note: The h- initial in the Loloish forms reflects the former presence of a velar prefix reconstructed for Loloish as *k-. This change has reflexes in Lahu, Lisu, and Akha. The Lisu examples are:

<u>PLB</u>	<u>Lisu</u> (Anonymous)	
*k-luk	ho ²	'maggot'
*k-la ³	ha ⁴ ba ⁴	'moon'
*k-lay ¹	-he ⁴	'wind'
*k-yim ¹	he ⁴	'house'
*k-r-wak	he ² phw ⁵	'rat; rodent'

³⁴/-i/ < *-a after alveolar and retroflex affricated initials is regular, cf. 'disease/pain/hot': Ag. 2ke3tshə°, Ck. 2kr3thi°, Lushai ʔsa.

³⁵b- < *blh- < *glh- is regular. Cf. also Rongmei ʔmai-bin 'marrow' and Lushai ʔtlhiŋ.

³⁶-3ro is a final suffix. Cf. 'baby' 3na3ro, 'bird' 2vo3ro, 'dog' 3fw3ro, 'a few' 2ma3da3ro, 'finger' 3ywn3ro.

³⁷The form -1nu is a final suffix. Cf. 'arm' 2ba1nu, 'bean' 2xo1nu, 'bedbug' 1mw2nu.

³⁸The form -2nu is a final suffix. Cf. 'pig' 2kyak1nu, 'dog' 2ki21nu, 'goat' 1mi2nu, 'hen' 2tu2nu, 'bird' 1u2nu, 'rat' 2pi21nu. Also cf. notes 36 and 37.

³⁹The form -ñu is a final noun suffix. Cf. 'bridge' ʔheñu, 'sun' ʔtzañu, 'tree' ʔbuñu, 'elephant' ʔtuñu, 'snake' ʔbeñu.

⁴⁰The forms -ñw and -ñu are final noun suffixes in the Konyak dialects of Tamlu and Wakching, respectively:

	<u>Tamlu</u>	<u>Wakching</u>
'tiger'	ʔsaʔ-ñw	ʔsaʔ-ñu
'widow'	ʔwam-ñw	ʔwam-ñu
'elephant'		ʔmɿ-ñu

⁴¹There are also strong traces of a *me ~ *mia ~ *miao etymon, which could explain the prefixed m- in the other languages:

Naga I:

Mao	¹ a ² ma	I	'spirit'	
Sema	¹ a ¹ yu ³ ŋu	I	'shadow'	< *r- ^I ŋu

Naga II:

Lotha	¹ o ³ mon		'shadow'	suffixes -n
N. Rengma	¹ a ¹ sa ³ mu	I	'shadow'	< *r- ³ mu 'soul'
Sangtam	¹ a ¹ nɔw [mb-]	I	'shadow'	
Yimchunger	² me	I	'shade, shadow'	

Naga III:

Tangkhu	³ ka ³ miau	III	'spirit'	
Zemei	³ mi ⁵ mie	III	'shadow'	
Rongmei	-bu, mən	I/III	'soul'	
Liangmei	-mai-mən	III	'one's picture'	


Other:

Manipuri	mɪ		'shadow'	
Khiamngan	² l mɪ ¹ Un	I	'spirit'	
Garo	meɪ-mən	II	'spirit'	
	mik-kim	II	'shadow'	< *miɪ-kim

AncCh. AD 593  ɕmuâ I 'devil, demon' p'ing = TC-I

⁴²Proto-KN *-ai leads to Angami -uo. Cf. 'crab':

Naga I:

Angami	² se ⁵ guo	Proto-KN	*tz-ɣai? (TC-II)
Chakhesang	² the ⁴ vw		
Khezha	¹ e ¹ wu	AncCh. AD 366	 ɕɣai
Mao	² o ³ vo		
Sema	² a ² tʂu ³ a		

Naga III:

Zemei	¹ he ⁴ ga	g- < *ɣ-
Rongmei	-ɣo	
Liangmei	-ca, gɑ	

Kuki-Chin:

Lushai	tsak, aai
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