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Stars, Moon, and Spirits:

Bright Beings of the Night in Sino-Tibetan

James A. MATISOFF
Department of Linguistics
University of California, Berkeley

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Introduction.[1]

The Kuki-Chin-Naga [KCN] language families now offer us one of the richest fields for comparative study in all of Tibeto-Burman [TB] and Sino-Tibetan [ST] linguistics.[2] Modern data on dozens of TB languages of India are becoming available through the fieldwork of Indian and foreign scholars working in Arunachal Pradesh, Mizoram, Meghalaya (capital Shillong), Nagaland (capital Kohima), and Manipur (capital Imphal). Some of this research is now coordinated by the

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1) This paper was originally presented at the Eleventh International Conference on Sino-Tibetan Languages and Linguistics, University of Arizona (Tucson) in October 1978, and again at the Tenth International Congress of Anthropological and Ethnological Sciences (New Delhi and Mysore, India) in December 1978. Section 4.3 was written in August 1979.

I shonld like to thank Jim Bauman for letting me xerox his copy of Marrison 1967. My thanks also to LaRaw Maran, Boyd Michailovsky, and Alfons Weidert, for additional information on particular languages, and to Paul K. Benedict for his general comments and constructive criticism. I am especially grateful to Professor Tsu-lin Mei (Cornell University) for his invaluable information on the connections between stars and spirits in ancient Chinese philosophy. Finally, sincere thanks to Professor Hajime Kitamura and Mr. Y. Nagano for arranging this publication and for preparing the typescript for the present published version of this paper.

2) In this paper we assume the genetic relationship of Chinese and Tibeto-Burman, which together descend from a superstock called Sino-Tibetan (see Benedict 1972a, henceforth abbreviated as "STC"). Kuki-Chin-Naga, vast as it is, is only one of the major linguistic areas of Tibeto-Burman.

Central Institute of Indian Languages (established in 1969), based in Mysore with four Regional Language Centres elsewhere in the country.[3]

This paper depends heavily on two particularly excellent and copious sources of information : (a) a series of bi- and trilingual dictionaries of 18 Kuki-Naga Languages published in the early 1970's by the Nagaland Bhasha Parishad [henceforth NBP], or Linguistic Circle of Nagaland (Kohima) ; [4] and (b) an unpublished doctoral dissertation submitted to London University (School of Oriental and African Studies) by Geoffrey Edward Marrison, entitled "The Classification of the Naga Languages of North-east India" (1967). This monumental study (752 pp.) presents sets of forms from over 30 languages and dialects, correcting the data to be found in Grierson 1903 and incorporating the author's own fieldwork and textual study of 10 of the languages in the area. In recognition of the jewel-like value of this work, we shall abbreviate it by GEM, the author's initials (rather than by the title "CNLNEI").

Comparative KCN studies are still in their infancy, and it will be some years before "micro-linguistic" work of the kind now possible in Lolo-Burmese[5] can be attempted. In particular, we are still hampered

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3) For a careful review of some recent Indian publications on Angami Naga, see Michailovsky 1925. See also Matisoff (in preparation). New data on the Chin subgroup of languages, spoken mostly in Western Burma, are much harder to come by, the last major contribution being Henderson 1965. But now see Osburne 1975.

4) In these slim dictionaries the Kuki-Naga words are provided with a one-word Hindi gloss, and usually with a one-word English gloss as well. The entries are usually alphabetized according to the Hindi gloss, though a few books in the series present the entries in Roman alphabetical order according to the Kuki-Naga word itself. (These latter are much harder to use.) See Michailovsky 1975.

5) See Matisoff 1978 a.

by the lack of tonal information for almost all of these languages.[6] (Neither the NBP dictionaries nor GEM mark tones at all.) Nevertheless, even now the KCN languages stand ready to cast an abundant light on the recesses of the Proto-Tibeto-Burman [PTB] lexicon and, as we shall see, even on the history of Chinese itself.

2.0 Angami Naga labiodentals and earlier labiovelars.

The Angami are the dominant Naga group in the district of Kohima, with an estimated population of 43,319 (1971).[7] Their language is relatively well known. Burling (1960) presents a phonemic analysis and lists about 450 words, transcribing the 5 tones accurately. GEM gives the Angami forms in the Kohima and Khonoma dialects for hundreds of words;[8] for 60 additional words he provides forms in the "minor" Dzuna, Kehena, Mezoma, and Mima dialects as well. (Unfortunately no tonal distinctions are indicated for any dialect.) There is an NBP Dictionary and a CIIL Phonetic Reader (Ravindran 1974), as well as a recent study from the viewpoint of general phonological theory (Weidert 1977) Finally, the presence at Berkeley of Mr. Vikuosa Nienu, a brilliant Angami doing graduate work in archeology, made possible an intensive field methods course in the Berkeley linguistics department in 1974-75.

To the Lolo-Burmese specialist, the general phonological flavor of Angami is decidedly familiar. It has a rich array of syllable-initial

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6) The few available KCN materials where tones are indicated include Bhat 1969, Bright n.d., Burling 1960, Henderson 1965, Löffler 1970 and 1973, Stern 1963, Weidert 1975, some of the CIIL *Phonetic Readers*, and a copy of Lorrain's famous Lushai dictionary where the tones for all the entries have been added by hand by a native speaker, Siamkhima Hkawlhring, formerly a student of F.K. Lehman at the University of Illinois.

7) Ravindran 1974, p.1.

8) Other languages in the Angami group for which GEM provides full information are Chokri, Kezhama, Mao, and Sema.

consonants, including r-clusters with velars and labials, voiceless nasals and liquids, and a full series of labiodental spirants and affricates. There are ten vocalic nuclei, comprising 6 simple vowels and 4 diphthongs. On the other hand, Angami has no syllable-final consonants at all. As if to compensate for this lack, the language has developed a full-blown tonal system of the "Central Loloish" type,

Figure 1. Angami Naga Phonology (Kohima)

Syllable Canon: $(C_I)\ (r)\ V^T$

Initial Consonants (C_I)

k	kh	g	ŋ	–	h			
kr	khr						r	rh
c	ch	j	ñ	ñh	–	y		
t	th	d	n	nh	s	z	l	lh
f	pf	bv	mv			v		
p	ph	b	m	mh	wh	w		
pr	phr							

Vowels (V)

i				u
		ə		
e [ɛ]				o [ɔ]
		a		
	ei			ie
	ou			uo

Tones (T)

Name of tone	*Utterance final*		*Phrase initial*		*Example*	*Gloss*
High	˥	53	˥	55	sé	'use'
Mid	˧	42	˧	42	sē	'liver'
Mid resonant	˧ˀ	342	˧	34	sě	'three'
Low falling	˩	31	˩	22	sè	'plant'
Very low	˩	11	˩	11	se̲	'very'

with 5 contrasts. See Figure 1.[9]

Phonologically speaking, Angami and its close relatives are rather atypical of the KCN 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).[10]

The analogy between Angami and Central Loloish may be pushed further. For what it is worth, Angami and Lahu (Central Loloish) sometimes reflect the loss of a proto-final consonant by a very similar change in the quality of the nuclear vowel. Thus PTB **um*> Lh. ɛ / Ang. *e* [ɛ] ('use' PTB **zuṃ*> Lh. *yɛ̂* / Ang. *sé*, 'three' PTB **g-sum*> Lh. *šɛ̄* / Ang. *sě*), and PTB **aŋ*> Lh. ɔ / Ang. *o* [ɔ] ('you' PTB **naŋ*> Lh. *nɔ̀* / Ang. *nō*).

Both Angami and Lahu have a series of labio-dentals, though their functional status is somewhat different in the two languages. In Lahu /f/ and /v/ are independent phonemes, but the labiodental affricates [pf, pfh, bv, mv] are merely the allophonic realizations of /p, ph, b, m/ before the vowel /u/, which is itself unrounded to [ɯ] in this environment:

/pu/ ——————→ [pfɯ], etc.[11]

In the Kohima dialect of Angami, on the other hand, all analyses

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9) Figure 1 is a composite of the analyses worked out by Burling, GEM (Vol. I, pp. 26–7), and our Berkeley group. The three analyses agree closely. Minor notational differences include Burling's use of /əi/ and /uu/ instead of /ei/ and /ou/.

The tonal values and transcriptional symbols are those of the Berkeley group. Burling notes that the "mid" and "mid resonant" tones contrast only under the vowels /e, ie, ə, u, ou/.

Note that a syllable may begin with a vowel.

For differences in the handling of the labiodental series in the various sources, see below.

10) The "divergence" of the Angami group from the typical KCN pattern is clearly recognized by Burling (p. 1).

11) See Matisoff 1973 a, pp. 2–4.

agree that /pf/ is at least marginally distinct from both /p/ and /f/.[12]

However, the nasal labiodental /mv/[13] seems to appear only before the vowel /ə/ (*thèmvə̌* 'star,' *thèmvə́* 'goat,' *mvə́* 'gather,' etc.)[14] In this environment it clearly contrasts with /v/ (*və̄* 'beat, hit'), but not with /m/, which apparently never occurs before /ə/. Synchronically, therefore, we could call [mv] an allophone of /m/: /m/ ——→[mv] /___ə.

Burling recognizes no voiced labiodental affricate, but both Ravindran and Marrison set up a /bv/ phoneme, also restricted to the pre-shwa position, but contrasting there with its voiceless counterpart.[15]

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12) It is true that Kohima /pf/ occurs mostly before *ə* and *i*, but it also occasionally comes before *u* and *e* (e.g. *thèpfûmiè* 'man, male', *thèpfêñə̀* 'banana leaf'), where it contrasts with *p* (*pú* 'say,' *pē* 'fat'), and it contrasts with *f* before ə (*tèfə́* 'dog,' *thèpfə́* 'nine') and with *ph* before *i* (*úphì* 'foot,' *mèpfǐ* 'bee').

13) Both Burling and Ravindran write the nasal labiodental with the unitary IPA symbol, ɱ.

14) Neither Burling, Ravindran, nor Marrison points out this fact, though Weidert does.

15) In fact, both authors offer the same word as an example: *kebvə* 'to disturb' (Ravindran, p. 30); 'confuse' (GEM II. 30).

Weidert writes this voiced affricate more abstractly, as /pv/, though he notes that it is "fully voiced in both elements." He has been able to find four examples, all before the vowel /ʉ/ (=/ə/ in our transcription): ²*tho* ⁴*pvɯ* 'hornbill', ²*ke* ⁵*pvɯ* 'to disturb' ²*pe* ¹*pvɯ* 'to puff up the feathers like a sick chicken' [Ravindran also has *bvə* 'swollen' and *rəbvə* 'to swell'] and ⁵*u* ²*ñu* ⁵*pvɯ* 'womb.'

Our Berkeley group found the contrast between plain /pf/ and aspirated /pfh/ to be elusive, though Weidert recognizes it explicitly (but only before the vowels i, e, ʉ). At any rate, whether or not the Kohima dialect has a firm *phonemic* contrast between /pf/ and /pfh/, its voiceless labiodental affricate is usually accompanied by some kind of *phonetic* aspiration. Both Ravindran and Burling arrange *pf* in the same line as /ph, th, ch, kh/ in their charts, and Burling remarks (p. 2), "Although it is not phonetically precisely coordinate with the aspirated series..... /pf/ is at least a rather explosive phoneme (or cluster)."

In fact it is probably best to regard the aspirated/non-aspirated contrast in labiodental affricates to be *neutralized* in present-day Kohima, though it perhaps existed at an earlier stage. The fact that Lahu keeps [pf] distinct from [pfh], as allphones of /p/ vs. /ph/, shows that it is phonetically possible for a language to maintain such a contrast.

In the following discussion we shall offer eight PTB and/or PST etymologies for Angami words with *f*, *pf*, or *mv*. We shall find, to our amazement, that this series of phonemes, marginal as it is from a strictly synchronic viewpoint,[16] is of considerable comparative-historical importance.[17] The Angami labiodentals, it turns out, are consistent reflexes of distinct entities that must be set up at various time-depths for Proto-Angami, for PTB or for PST itself. These ancestral sounds were not labiodental, but rather *labiovelar*.

We shall then zero in on one particular etymon – represented by Kohima Angami *thèmvə̀* STAR – and show how it is cognate to the Chinese word for MOON 月.

2.1 BEE

Angami has at least two words for BEE. One of these, *kə̀və̀*, is perhaps to be referred to PTB **was* 'bee/honey' [STC n. 62, p. 17], with a secondary velar prefix not yet attested elsewhere in TB (**k-was*).

The other Angami word for BEE is *mèpfi̯* (Kohima), *makwi* (Khonoma) [GEM II. 25]. This is certainly a direct descendant of PTB **kwa·y* [STC # 157][18], represented by Written Burmese *khwâi* 'dammer-bee,' Lushai *khuai~khoi*, Tangkhul *khui*, Lakher *əkha*, Nung *kha*, Gurung *kwe*, Thakali *koy* 'bee'. In this root the labial element must be postulated at the PTB level, since it is attested in

16) Marginal both in terms of its functional load within the Kohima dialect, and also in terms of its limited distribution among the various Angami dialects taken as a whole. The only dialect besides Kohima that GEM records as having labiodental affricates is Kezhama.

17) The Lahu labiodental affricates, on the other hand, are of no comparative significance whatsoever, since they are a late development internal to Lahu.

18) This root is incorrectly numbered as "159" in the English-TB Index to STC (p. 210), where the reconstruction is also printed erroneously as **kwa·y* instead of **kwa·y*, implying that the *y* is a suffix.

Lolo-Burmese, Kuki-Chin-Naga, Nungish, and Himalayish.[19]
The Angami *-i* vowel is the regular reflex of PTB **-ay* or **-ay*, as illustrated by WHIRL **wa·y* [STC #90] > Ang *hwi*; BUFFALO **lwa·y* [STC #208] > Ang. *rə̀lì*; TAIL **r-may* [STC #282] > Ang. *ú-mí*; and SPLEEN **p (l) ay* [not in STC][20] > Ang. *ú-prì*.

The *mè-/ma-* prefix in Ang. *mèpfi/makwi* is not yet attested else-where, so that the allofam **m-kwa·y* can so far only be projected back to the Proto-Angami level.

2.2 DOG

No TB animal name has a more complex-looking array of initial consonant correspondences than DOG. Benedict gives a rather over-simplified reconstruction of this etymon as **kwiy* in STC # 159, offering the following forms:

> "Written Tibetan *khyi*, Kanauri *kui*, Thebor *khui*, Vayu *uri*, Chepang *kwi*, Bahing *khli-tśa*, Limbu *khi-a*, Digaro *nkwi*, Jinghpaw *gwi*, Jili *təkwi*, Nung *təgi*, Written Burmese *khwê*, Koch and Ruga (Garo) *kui*, Dimasa *si*, Lushai (and general Kukish) *ui*, Mikir *hi* <**khi* (obsolete word recorded by Robinson, 1849) 'dog' (TB **kwiy*)."

To these forms we may add Lahu *phî* (with labial stop) and a curious set of Karen forms with dental stop plus *-w-* (Taungthu *thwí*, Bassein [Pho and Sgaw] *thwì*, Moulmein [Pho and Sgaw] *thwí*?) [Jones

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19) Benedict speculates that this root might ultimately be shown to be an old loan from Austro-Thai, though this is irrelevant to the present discussion. Even if it is from AT, it must have been borrowed into PTB with the *-w-*. See note 42.

Bodman (1978) has now found a soild Chinese cognate to this root: 蜂 'kind of small wasp', reconstructed in Karlgren 1957 (351c) as **klwâr/kuâ:*. (Bodman prefers the reconstruction **kway* for the Archaic Chinese stage.) We may now trace the labiovelar element in this root all the way back to the PST stage.

Michailovsky points out that Ravindran gives two forms where Angami shows a variant *-fi* of the same morpheme to be found in *mèpfi*, viz. *tèmèfi* 'wasp' (p. 32) and *fidí* 'kind of black bee' (p. 49).

20) For a discussion of this root, see Matisoff 1978 b, pp. 217-219.

1961, ♯31].[21]

This is obviously a root that has undergone many prefixations and metanalyses in the course of its long history. Of the forms cited in STC, the only ones that may be straightforwardly derived from the simple **kwiy* prototype are WT (*-y-* is a secondary Tibetan development from **-w-*), Kanauri, Thebor, Chepang, Limbu, Jinghpaw, WB, and Garo.

Digaro *nkwi* reflects a recent nasal accretion to this root, so far not attested elsewhere (**n-kwiy*).

More widespread is a variant with dental prefix, **d-kwiy*, underlying Jili *təkwi* and Nung *təgi*. (From this allofam we may then derive the Karen forms by "prefix-preemption": **d-kwiy* > **twiy*.[22] In this group of dental-prefixing languages we must also include Angami, where the word for DOG is *tèfə́* in both the Kohima and Khonoma dialects [GEM II. 74 gives *tefü*]. Again Angami responds to a *labiovelar by a labiodental, but this time with the spirant *f* rather than the affricate *pf*. 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-*.[23]

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21) These forms are cited in my portion of STC n. 83 (p. 26).

22) For discussions of this process, whereby a prefix drives out the root-initial consonant, see Matisoff 1969, 1972 b, 1973 c, and 1978 b.

We select the voiced symbol **d-* (rather than **t-*) out of convention, probably because Written Tibetan [WT] has /b- d- g-/ prefixes but not /p- t- k-/. There is also tonal evidence in Loloish stopped syllables for the existence of voiced obstruental prefixes at the PLB stage. These are indicated by the cover-symbol "C-" in Matisoff 1972 a ("TSR").

23) The Angami *-ə* in *tèfə́* is paralleled in several other **-iy* etyma,

LAUGH **m-nwiy* [STC ♯191] > Ang. *nə̀*

SMALL **ziy* [STC ♯60] > Ang. *tsə́*

EGG/WATER **twiy* [STC ♯168] > Ang. *dzə̄* 'egg' ≷ *dzə́* 'water'),

but at least as often PTB **-iy* becomes Angami *-ie*:

BLOOD **s-hwiy* [STC ♯222] > Ang. *thə̀zié*

MAN/PERSON **r-miy* [STC pp. 107, 119, 158] > Ang. *thə̀miè*

PUS **m-tswiy* ≷ **r-tswiy* [STC ♯183] > Ang. *rə̀zië*

FOUR **b-liy* [STC ♯410] > Ang. *dié*

BARKING DEER **d-kiy* [STC ♯54] > Ang. *tsə̀zié*

We are still far from having figured out every detail of Angami phonological developments.

The Angami development is closely paralleled by the Lahu form *phî*. Up until recently I had thought this to be the only example of a Lahu labial reflex of an earlier labiovelar. However, in Mpi, a recently discovered Southern Loloish language, alongside the word *khuu*^{1} 'dog', there is a form *ʔa*^{3}*-khuu*^{6} meaning NEST, which corresponds perfectly to Lahu *ɔ̀-phi* 'nest,' thus establishing a second labiovelar root for Proto-Loloish:

DOG: PLB **k^{W}iy^{3}* > Mpi *khuu*^{3}, Lh. *phî*

NEST: PLB **k^{W}iy^{1}* > Mpi *khuu*^{6}, Lh. *phi*.[24]

Especially interesting are Kuki-Chin forms like Lushai *ui* and Tiddim Chin *ʔwi*. Here, as Benedict suggests [STC n. 83], there has apparently been a reanalysis of the velar element as a prefix (perhaps the "velar animal prefix" that has been so much discussed in the recent literature),[25] which was then free to drop:

**kwiy* > **kᵊ-wiy* > **wiy*.

The strange Dimasa (Bodo-Garo group) *si* might represent a reprefixation of *s-* to such a reduced root, which then preempted the *w*:

**s-wiy* > **siy*.[26]

Bahing *khli-tsá* and Vayu *uri* present a further complication. Vayu, like Lushai, has dropped the velar element entirely, and perhaps the Bahing-Vayu liquids can best be explained in terms of *r* ≷ *w* variation, (that I have called the "wittle wabbit syndwome"[27]) :

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24) See Matisoff 1978 a, p. 6. The Angami from *krú* 'nest' [GEM II. 174] looks as if it might be indirectly related to the Lahu and Mpi forms, though the vowel is "wrong" (neither *-ə* nor *ie*), and the second element is *-r-*, not *-w-*. For the possibility of *r* ≷ *w* variation, see the remarks on Bahing-Vayu, below. Mao has a form *okre* 'nest,' where the vowel looks closer to the Loloish forms.

25) Cf. STC n. 301 (p. 107); also Matisoff 1969 and Smith 1975.

26) The *s-* prefix also occurs widely as an animal prefix in TB (cf. STC p. 107), though it must be admitted that Dimasa usually has an *m-* prefix with animal names (*ibid.*). Cf. Digaro *nkwi*, above.

27) See Matisoff 1978 b ("VSTB"), p. 56, and note 24 above.

**k-wiy* ≷ **k-riy*.

In sum, rather than simply setting this root up as **kwiy*, some more complex effort like the following seems to be called for :

$$* \left\{ \begin{array}{l} \left\{ \begin{array}{l} \text{d} \\ \text{n} \end{array} \right\} \text{- k -} \\ \text{s -} \end{array} \right\} \text{wiy} \lessgtr \text{*k-riy.}$$

At any rate, the velar element must be set up for PST itself, and cannot be considered secondary, since it is present in the Chinese cognates 犬 **k' iwən / k'iwen* [GSR 479a-d] (with *-n* suffix), and 狗 **ku / kəu* [GSR 108d] (with unaspirated initial reflecting a lost prefix) [see STC n. 428, p. 158].

2.3 MONKEY.

At least two roots for MONKEY may be reconstructed for PTB. One of these, **d-m-yuk* [TSR ♯133 ; STC n. 314, p. 112], is irrelevant in the present context.[28]

The other root is represented by a Kohima Angami form with a labiodental affricate, *tèpfí*. In the Khonoma dialect [GEM II. 166] the form is *tekwi* [glossed "monkey (macaque)"], and there is an identical word *tekwi* in the closely related Chakhesang or Chokri dialect [NBP]. These words are to be referred to a root set up as **woy* in STC ♯314, represented in its unprefixed form by Jg. *woi* ~ *we*, Nung

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28) Besides the 12 Lolo-Burmese forms cited in TSR ♯133 (e.g. WB *myok*, Lahu *mɔ̀ʔ*), the following cognates are given in STC :
(a) with no prefix : Chepang *yuk*, Shangge *yok-vi* [this latter form is listed under STC ♯314 — see below]
(b) with labial prefix : Bhramu *pəyuk*, Bahing *moro*
(c) with superadded dental prefix : Digaro *təmyu*, Gurung *timyu*.
Benedict rather arbitrarily reconstructs this root with medial **-r-* instead of **-y-*, though *-y-* is better attested in TB as a whole.
By the Lolo-Burmese stage the **m-* prefix had completely fused with the root-initial, so that the etymon behaves as if it began with an "intrinsic" PLB **my-* cluster, as, e.g. in EYE (PLB **s-myak*).

əwe, the first syllable of Moshang *vi-sil* and the last syllable of Shangge *yok-vi* [see note 28]. Several other forms Benedict cites show that this root has been repeatedly prefixed in the history of the family - by a labial, a dental, and / or a velar : [29]

(a) **b-woy* > Mikir *ki-pi*, Miri *si-be*[30]

(b) **d-woy* > Jili *təwe*

(c) **g-woy* or **k-woy* > Kadu *kwe*, Trung (Nungish) *a-koi*.

We can now see where the Angami and Chakhesang forms fit into the picture. They descend from a doubly prefixed prototype :

(d) **d-k-woy* > Ang. (Kohima) *tèpfí*, Ang. (Khonoma) *tekwi*.

Of all these prefixes, the velar must be of the greatest antiquity, in view of the likely Chinese cognate 猿 **gi̯wăn / yi̯wɒn* [GSR 256 c ; STC n. 213, p. 68], with suffixed *-n*, perhaps < **g-ywo-n* < **g-woy-n*.

The reader will not have failed to notice that all three sets so far discussed are animal names, where the ultimate source of the velar element in the initial labiovelar cluster may have been the ancient "animal prefix" [note 25].

2.4 BITTER.

The Kohima Angami form *pfə* BITTER came as a surprise when it was elicited in our field methods class, since it looked so utterly different from the classically simple and universally attested PTB root **ka* [STC # 8], represented by WT *kha*-ba, Jg. *kha*, WB *khâ*,

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29) With his characteristic conservatism, Benedict here reconstructs only one of these prefixes, **b-*, for PTB (n. 213), though the velar and dental prefixes are even more widely attested.

30) It is highly likely that the first syllables of these words represent "dimidiated" (i.e. fully vocalized) forms of later prefixial layers, viz. **k-b-woy* and **s-b-woy* respectively, though we would have to know much more about Mikir and Miri phonology to be sure.

Lahu *qhâ*, Garo *kha*, Lushai *kha*.[31]

Yet a little further thought makes it clear that the Kohima form descends from an allofam of this same root, with labiovelar initial: **kwa*.

The vowel is no problem, since the most common Angami reflex of **-a* is *-ə*:

EAT: PTB **(d)za* [STC #66] > *tsə*

MEAT/FLESH/ANIMAL: PTB **sya* [STC #181] > Ang. tshə

NOSE: PTB **s-na* [STC #101] > Ang. *ú-ñhəcá*

LISTEN/HEAR: PTB **r-na* [STC #453] > Ang. *rəñə*

RAIN: PTB **r-wa* [STC #443] > Ang. *tí-rə*, etc.[32]

What then is the source of the **-w-* that underlies the Kohima

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31) The Angami forms are cited in GEM II. 30 with a velar prefix: *kepfü* (Kohima), *kekhu* (Khonoma). There also exists a causative form (elicited in class), *pèpfə* 'make bitter, embitter,' with the productive Angami causative prefix.

This labial causative prefix *pè-* is productively used with dozens of Angami verb roots, and has nothing to do with the labial prefix posited by Benedict for the PST etymon **b-ka-n* or **m-ka-n* 'bitter/liver.' This prefix is set up in STC in order to accommodate both the Chinese words for BITTER 苦 **k'o/k'uo*: [GSR 49 u] and for LIVER 肝 **kân/kân* [GSR 139-L] in the same word family, the non-aspiration in the latter being explained by the former presence of the prefix: BITTER < PST **ka*, but LIVER < PST **b/m-ka-n*. The only direct evidence for the labial prefix is from Bodo-Garo, with forms like Garo *kaa* 'bitter,' *bika* 'liver'. For the plausible semantic interconnections of BITTER and LIVER (via the GALL BLADDER), see Matisoff 1978 b, pp. 202–209.

Incidentally, the Angami causative prefix *pə̀-* is undoubtedly derived from the PST verb **biy* 'to give' [STC #427]. (cf. the causative function of the Thai verb *hâj* 'give'.) Michailovsky reports a causative auxiliary *pa* in Hayu, which may have the same origin. (Coincidentally, there are widespread causative morphemes with labial stops in both the Austroasiatic and Austronesian families.]

32) So far two other Angami reflexes of **-a* have been found, with one example each:

**-a* > Ang. *-a* in BIRD: PTB **bra* ≋ **bya* [STC #177] > Ang. *pə̀rà*;

**-a* > Ang. *-u* in TOOTH: PTB **s-wa* [STC #437] > Ang. *ú-hù*.

form? Fortunately we have a word from another Naga language that supports the reconstruction of a labiovelar variant of this root for an earlier stage of KCN. This is Lotha *khoa* [NBP 1971, p. 42]. This diphthongal form, I wish to claim, represents an intermediate stage in the reduction of a bisyllabic prototype **ka-ba* to a monosyllabic **kwa*. The ancestral two-syllable form includes the verbal-noun or "infinitive" suffix *-pa* ≷ *-ba* [cf. STC p. 96] which crops up all over TB and is directly attested for this root by WT *kha-ba* 'to be bitter ; being bitter'. It is easy to imagine a development like the following, where the intervocalic labial stop is "lenited" by easy stages, first to a voiced fricative, then to a *-w-* which can fuse with the velar initial of the first syllable : [33]

ka-ba* > **kaβa* > **kawa* > **kəwa* (orkoa*) > **kwa* > **k^{w}a* > Ang. *pfə*.

In this case, then, the labiovelar initial underlying the Angami form is clearly secondary from the viewpoint of PST or PTB.

2.5 NINE.

This root is reconstructed in STC ♯13 as PTB **d-kuw* on the basis of WT *dgu*, Kanauri *zgŭi* ~*gŭi*, Nung *təgö*, Jg. *džəkhû*, WB *kûi*, Garo *sku*, and Lushai *kua* ~ *pəkua*.

Again we can now see, thanks partly to the Angami data, that this reconstruction is an oversimplification, both with respect to the prefixes which have been added to the root and the vocalism of the root itself.

The dental prefix is only one of three attested for this root,

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33) The "*-wa* stage" of this old suffix (which is related to the gender or agentive suffix **-pa*) is well attested in various Himalayish languages. As a random example, the Sherpa word for 'Sherpa' is *šer-wa*.

Alfons Weidert (personal communication, December 1978) points out that the regular Lotha reflex of **-a* is *-o*, although *a* is the Lotha descendant of the old suffix **-pa* ≷ **-ba*. Thus Lotha *khoa* is to be segmented as *kho-a*.

underlying only the WT and Nung forms in this data:

(a) **d-kuw* > WT *dgu*, Nung *təgö*.

At least equally well attested is an allofam with sibilant prefix:

(b) **s-kuw* > Garo *sku*, Kanauri *zgŭi*. To this variant we should probably also assign the Jinghpaw form *džəkhû*.[34]

(c) The Lushai form *pəkua* (which is also of interest for other reasons, as we shall see in a moment), reflects a third prefix, **b-*.

Other languages furnish indirect evidence for some prefix or other, though we cannot tell which: WB *kûi* (and Lahu *qɔ̂*), being unaspirated, reflect a PLB voiced initial, **guw*, which might imply an earlier voiced prefix which preceded the voiceless root initial.[35] Similarly, the Chinese congnate 九 **kịug / kịəw* [GSR 992 a-d], since it has an unaspirated initial, reflects some kind of prefix (cf. the words for LIVER [note 31] and DOG 狗 discussed above 2.2).

The vocalism of this root also presents complications. In the index to the STC (p. 217), Benedict lists a variant **d-gaw*, but this is not discussed anywhere in the text. Rather than this variant, which has no apparent support,[36] I would like to suggest **b-kwa* ≳ **s-kwa*. This would account not only for the Lushai form cited above, *pəkua* (which the STC here sweeps under the rug without comment),[37] but also for the Kohima Angami form, *thèpfó*.[38] Here again, as in

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34) Jinghpaw has a productive causative prefix *šə* (< PTB **s-*), which automatically appears as *dž̌ə-* if the initial consonant of the verb root is aspirated. Thus *káp* 'adhere to'/*šəkáp* 'stick something onto' vs. *khràt* 'fall'/*dž̌əkhràt* 'drop something.'

35) Actually we might well have to set up *k* ≳ *g* alternation in this root even at the PST level (cf. the WT, Kanauri, and Nung forms).

36) Benedict may have posited it to account for the old loan from Chinese into Tai (Siamese *kâw*).

37) Elsewhere there is a brief parenthetical mention of a "Kuki-Naga" variant **d-kua* (p. 95).

38) This is given as *thepfü* in GEM II. 176, alongside the Khonoma form *theku*.

BITTER [2.4 above], Kohima *-ə* is the reflex of **-a*. The aspirated prefix *thè-* is apparently a frequent Angami development of PTB prefixial **s-* as in BLOOD: PTB **s-hwiy* [STC # 222] > Ang. *thèzié*, SEVEN : PTB **s-nis* [STC #5] > Ang. *thèniè* [see also GOAT and STAR, below].[39] And as always, the Kohima *pf* may be taken as a faithful indicator of an earlier labiovelar.

We may now offer a composite reconstruction of all the allofams so far discovered for this etymon :

$$* \left\{ \begin{matrix} \text{d-} \\ \text{s-} \\ \text{b-} \end{matrix} \right\} \text{kuw} \gtrless * \left\{ \begin{matrix} \text{s-} \\ \text{b-} \end{matrix} \right\} \text{kwa.}$$

It is perhaps permissible to speculate that the forms in *-kwa* arose through the fusion of a suffixial element *-a* to the basic root: **-kuw-a* > **-kwa*.

2.6 TWENTY.

An unanalyzable root for TWENTY (much like the English word *score*) is set up for PTB with the shape **m-kul* [STC # 397], on the basis of Jg. *khun*, Garo *khol* ~ *khal*, Dimasa *khon*, Mikir *iŋkol* ~ *iŋkoi*, Siyin *kul*, and Haka *kul* ~ *kwe*. The **m-* prefix is confirmed by several Naga forms cited in STC p. 119 : Ao *mətsə*, Sema *muku*, and Tangkhul *məgə*.

To these we may now add the Angami forms *mèpfə̌* (Kohima) and *meku* (Khonoma : GEM II. 279). The Kohima and Haka (Central Chin) developments here are very reminiscent of Burmese, where PTB **-ul* often becomes *-we* (after presumably passing through an intermediate stage like **ui*) :

BODY HAIR : PTB **s-mul* ≷ **r-mul* [STC # 2] > WB *mwê*

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39) As we have seen in the sets for DOG and MONKEY, the Angami *un*-aspirated *tè-* prefix is to be referred rather to PTB **d-*.

SNAKE : PTB **s-b-ru-l* [STC #447] > WB *mrwe*

SILVER : PTB **d-gul* [STC pp. 15, 173] > WB *gwe.* [39-A]

We must then posit a labiovelar in TWENTY on the testimony of Haka and Kohima Angami, at least as an allofam on the proto-KCN level : **m-kul* ≳ **m-kwul.* (The strange Ao affricate *ts* in this root is probably also to be referred to an earlier labiovelar.) [40]

2.7 GOAT / CATTLE.

We are now finally approaching the stars, though we shall have to make a brief detour through the barnyard first.

The Kohima word for GOAT, *thèmvə́*, is identical, except for tone, with the word for STAR, *thèmvə̌.* [41]

It is by now, I hope, clear that Kohima *pf* comes from **kw.* By the same token, we would expect the homologous labiodental *nasal,*

39-A) To these three examles [given in STC n. 55, p. 15], we may add SWEAT : WT *rgul*, WB *khrwê*, Lahu *kɛ̀.* The initial consonant here is to be set up as **ʔkr-* for the PLB level, though the PTB reconstruction is still problematical.

40) Note that Khonoma Angami does not preserve the *-w-* in roots where the vowel has become *u* in the dialect. Thus we have Khonoma *kekhu* 'bitter,' *theku* 'nine,' and *meku* 'twenty.'

41) They are written identically as *themvü* in GEM. However, Michailovsky (personal communication ; January 1979) has recorded *tə̀mvə́* for GOAT, and points out that the NBP Angami Dictionary has *themvü* 'star' vs. *temvü* 'goat'. Whether this reflects an earlier **s-* for STAR versus **d-* for GOAT remains to be seen.

In other Naga languages the words for GOAT and STAR are somewhat different [GEM II. 110]:

	GOAT	STAR
Angami (Khonoma)	thenü	themü
Chokri	tunyü	thümvü
Rengma	tenü	shengü
Sema	anyeh	aiyeh

Although these two words must apparently be reconstructed slightly differently for P-KCN, it would be premature to attempt to do so on the basis of present knowledge.

mv, to derive from **ŋw*. Since Kohima *thè-* comes from **s-*, and *-ə* usually from **-a*, we would like to refer the word for GOAT to a proto-type **s-ŋwa*.

We do not have far to look! In STC #215 there is a root meaning CATTLE, reconstructed as **ŋwa* on the basis of Jg. *ŋa*, Nung *ŋwa* ~ *nwa* ~ *ŋa*, WB *nwâ*. This is obviously the prototype for our Angami form, and the meaning shift from CATTLE to GOAT should not strain the credulity.[42] (Angami has quite a different word for CATTLE, *mithu*, which has widespread relatives in other Naga and Bodo-Garo languages: Ao *masü*, Chang *masu*, Konyak *mahu*, Lotha *mangsü*, Ntenyi *amesu*, Phom *mithü*, Rengma *methu*, Sangtam *misü*, Tangsa *mansu*, Wancho *maihu*, Dimasa *musu*, etc. [GEM II. 49][43]

The posited **s-* prefix in **s-ŋwa* is undoubtedly to be referred to the animal prefix derving from PTB **sya* [cf. 2.4 above], which appears regularly in Lushai: *sa-kei* 'tiger,' *sa-va* 'bird,' *sa-vom* 'bear' *sa-hŋa* 'fish' [cf. STC p. 107].

3.0 Angami STAR and Chinese MOON.

It is my contention that Kohima *thèmvə̌* 'star' is a near-perfect cognate to the Chinese word 月 'moon,' reconstructed for Archaic / Ancient Chinese by Karlgren as **ngiwə̌t / ngiwɔ̂t* [GSR 306 a-f].

On the basis of the same reasoning outlined above under GOAT,

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42) Benedict's observation that this etymon has a "restricted eastern distribution" in TB (STC n. 164, p. 50) must now be revised. Whether or not this root is ultimately a loan into TB from Austro-Thai (*ibid.*) is not relevant to this discussion. See note 19.

The variation here between *ŋw-* and *nw-* in the daughter languages is highly characteristic for TB nasals before *-w-* and *-y-*. See below, section 3.1.

43) This word is certainly a loan from Indo-Aryan. The *mithan* or *mithun* is a long-horned bovine native to India. There is no connection at all between **s-ŋwa* and the other two roots for GOAT that have been reconstructed for TB: PTB **kye·l* ≷ **kyi·l* [STC #339] and PLB **V-cit* or **tsit* [TSR #27].

we would refer the Kohima form to PTB **s-ŋwa*.

We then face the following phonological and semantic problems in reconciling the TB and Chinese sides of the equation:

(a) [FINAL] The Chinese word ends in a stop, while the Angami form reflects an open-syllable prototype.

(b) [PREFIX] Angami reflects an **s-* prefix, but Karlgren reconstructs no prefix for Chinese.

(c) [SEMANTIC] The Angami word means STAR, but 月 has meant MOON or MONTH throughout the history of Chinese, from the earliest recorded texts.

Before tackling these problems, however, we must first establish that Ang. *thèmvə̌* reflects a genuine PTB root (no such root appears in STC), by demonstrating that it has cognates and / or allofams in other TB languages.

As a data base I have assembled the words for STAR and MOON in over 100 TB languages.

3.1 Putative TB cognates to Angami thèmvə̌ 'star.'

To start with the closest thing to Angami, we have Chakhesang *themvü*, with an intact labiodental nasal.

Konyak has *sha-nha* 'star' [NBP], *sha-ha* [GEM]. (The voiceless nasal in the NBP form suggests an earlier **s-* prefix.)

Other Kuki-Naga languages have simplified the proto-initial in one way or another. Some show no trace of the initial nasal, beginning instead with *w-* or *v-*.[44]

Thus, Mao has *ovu* (the *o-* is a common noun-prefix in Mao) [GEM p. 247],[45] and Lotha has *shantiwo*. With *a*-vocalism we have

44) Something very similar has also happened in Mandarin, where the reflex of Archaic/Ancient Chinese **ŋ-* is usually simply *w-*. (E.g. 我 'I' [GSR 2a-g: **ngâ/ngâ:*] > Mand. *woo*, but Cantonese *ngoh*, etc.)

45) The Mao form for STAR given in NBP has four syllables (*o-ra-che-vu*), and I believe it to be morphologically complex, with a meaning like 'moon and stars.'

Meluri *awachi*, Ntenyi *awachi*, and Maring *sorwa*. Although the precise *Lautgesetze* are far from having been worked out, it does seem plausible to refer all these forms to a prototype **-ŋwa-*.

So far there is no evidence for any final consonant in this etymon. Fortunately, the Pochury and Ntenyi languages come decisively to the rescue. Pochury has the beautiful form *awutsi* 'star' (NBP).[46] This is reinforced by Ntenyi *aghutsi* (apparently a doublet of the Ntenyi form just cited, *awachi* ..... both appear on the same page in GEM [247], separated by a comma).[47] To account for these forms with final *-t*, we are now entitled to set up the proto-allofam **ŋwat*. (It is also possible that the second syllable of Magari *gya-hot* 'moon' fits in here.)

The Sangtam form *chinghi* 'star' [GEM, *ibid.*] is to be syllabified *chi-nghi* (and not **ching-hi*), as demonstrated by Yimchungrü *chining*.[48] The trigraph "ngh" probably represents the voiceless velar nasal /hŋ/, which is an excellent reflex for our posited **s-ŋ-*.

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46) *-si* occurs as the last syllable in the word for STAR in several other Naga languages (e.g. Puiron *insi*, Tangsa [Moshang] *risi*, Tangsa [Yogli] *liksei*). It is undoubtedly to be referred to the widespread TB root **sey* [STC #57] 'round object; fruit,' which also occurs in, e.g., the formal or poetic Lahu words for STAR (*mə̀ʔ-kə-šī*) and MOON (*ha-pa-šī*).

A distinct root, **s-ki*, is perhaps also to be set up for STAR. See below, section 4.2.

Alfons Weidert has somewhat dampened my enthusiasm for this Pochury form by claiming (personal communication; December 1978) that Pochury has no syllable-final consonants! The form as given in NBP is not syllabified, but apparently should be segmented as *a-wu-tsi*.

There remains, however, considerable evidence for a stop-finalled allofam of this root [cf. the data from Lolo-Burmese and from STC #221, below].

47) The Ntenyi digraph *gh* represents the voiced velar fricative [ɣ]. *w* and ɣ are both plausible reflexes of a labiovelar nasal **ŋw-*. Cf. the correspondence Lushai *r-* / Tiddim Chin *g-* / Siyin *ŋ-*, pointed out by Ōno Tōru 1965, and discussed by Solnit 1978.

48) We cannot tell whether Sangtam *-nghi* descends from an open or closed syllable. The *chi-* in Sangtam and Yimchungrü is to be related to the third syllable of Mao *orachevu*, as well as to the last syllable of Meluri and Ntenyi *awachi* (above). It may be connectible to the Pochury syllable *-tsi* just discussed (note 46).

The high front vowel *ɪ* looks problematical at first, though it may well be a regular Sangtam development from **a*. (The shift **a* > *i* is found elsewhere in TB open syllables.[49])

So far we have been relying mostly on forms from languages whose phonological history is still not well worked out. But now we can introduce a reflex of our posited **-ŋwat* from a language whose history is very well known indeed: the Central Loloish tongue known as Lahu.

The Black Lahu word for STAR is *mə̀ʔ-kə*, the first syllable of which has hitherto not been relatable to anything else.[50] I wish now to claim that *mə̀ʔ* is the regular Lahu reflex of **ŋwat*. An exact phonological parallel is provided by the well-established Lolo-Burmese root for HUNGRY [not in STC], reconstructed [TSR # 132] as **mwat* on the basis of the following forms:

WB *mwat*, Lahu *mə̀ʔ*, Akha *meh* LS, Ahi *ni* 44s, Sani *n* 22s, Hani *me* 21c, Lisu *mrghe*$_{6}$, Bisu *bɛ̀*, Woni *me* 33, Nasu *ñi* 55.

To these forms we may now add a doublet within Burmese itself (not in TSR # 132): *ŋat* ငတ် . Like its co-allofam (or co-doublet) *mwat* မွတ် , it may refer to a craving either for food or for drink: *re ŋat* ရေငတ် 'to thirst, be thirsty' (an OV construction with *re* 'water') [Judson 1966, p. 322]; *cha-ŋat* စားငတ် 'be hungry or thirsty; be in want of food' (a verb+verb compound with the free verb *cha*[51] [*ibid.*; on p. 405, Judson glosses this as a synonym of *cha-mwat* စားမွတ် 'be hungry for rice or other food']. Most inter-

49) E.g. in the Loloish languages of the Ulu group (Benedict and Shafer 1939-41, Volumes on Burmese-Lolo), and in Hsi-hsia (Nishida 1975). The final *-ng* in Yimchungrü *-ning* is a real problem, though perhaps it only indicates allophonic vowel nasalization in a syllable with a nasal initial.

50) We shall discuss the possible affiliations of the second syllable *-kə* below (section 3.25).

51) *cha* is glossed (Judson, p. 405) as 'to be hungry; to feel uneasiness from want of food, or any similar sensation; to feel a slight...lameness in a limb, particularly in the thigh.'

estingly, *ŋat* and *mwat* also appear together in a single compound: *ŋat-mwat* ငတ်မွတ် (glossed as a synonym of *cha-ŋat*, Judson p. 322).[52]

The Lolo-Burmese root for HUNGRY / THIRSTY thus shows the same labiovelar interplay for nasals that we wish to posit for the etymon STAR.

The Lolo-Burmese languages do in fact show considerable variability in the point of articulation of nasals before the semivowels *-w-* and *-y-*. The shift from *velar to dental nasal is illustrated by CATTLE (PTB **ŋwa* > WB *nwâ* [STC # 215]). The shift from *labial to dental is found in Northern Loloish before both *-w-* and *-y-*, as in the following roots:

EYE [TSR # 145]: PLB **s-myak* > WB *myak*, Lahu *mɛ̀*ʔ; but Ahi *nie* 44, Sani *ne* 44, Lu-chüan *na* 22 s, Nasu *na* 32 s, Lisu (Nu-chiang dialect) *nie*$_3$;[53]

MONKEY [TSR # 133]: PLB **myok* (<**d-m-yuk* [see section 2.3 above]) > WB *myok*, Lh. *mɔ̀*ʔ; but Ahi and Sani *nu* 55, Lu-ch'üan *ɲu* 55c, Nasu *mɔ* 34 ~ *nu* 44;

HUNGRY [TSR # 132]: PLB **mwat* > WB *mwat*, Lh. *mə̀*ʔ; but Ahi *ni* 44 s, Sani *n* 22 s, Nasu *n̄i* 55.[54]

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52) This sort of 'incestuous' rhyming compound, where the constituents are co-allofams (i.e., descendants of co-members of the same proto-word-family), has been discovered elsewhere in TB, and I believe such entities must be posited for the proto-language as well. Cf. the PTB compounds for LUNG set up in Matisoff 1978 b, p. 123: **swap-prwap*, **pwap-swap*, etc.

This phenomenon is closely related to the Chinese reduplicational process that Boodberg 1937 called *dimidiation* (see below).

Gérard Diffloth (personal communication; July 1979) feels that these rhyming compounds in TB may reflect an Austroasiatic influence.

53) Nu-chiang is a northern Lisu dialect described in Anonymous 1959. In the dialect of Fraser 1922, the word retains its labial nasal: *mya*$_3$.

54) Ahi and Sani have also developed dental clusters from labial *stop* plus semivowel. See TSR # 68, and STC # 177.

In the etymon PENIS (PTB **m-ley* [STC # 262]), Lahu has assimilated the labial nasal prefix to the following dental lateral, driving it out by "preemption": *ni*.

In any event, the initial cluster **ŋw-* is quite rare in TB, and is only reconstructed for two roots in STC: CATTLE **ŋwa* [# 215; see also section 2.7 above] and COUSIN / IN-LAW **ŋwap* [p. 50]. Evidently, Lahu has merged **ŋw-* (STAR) and **mw-* (HUNGRY) to the simple labial nasal *m-*. The relatively rare Lahu vowel *ə* developed mostly from proto-syllables with initial *labial or *(—) *r-*.[55] Lahu has no native syllables of the shape *nə* or *ŋə*,[56] so the assimilatory shift from pre-Lahu **ŋwəʔ* to *məʔ* is highly plausible.

The tone of the first syllable of Lahu *mə̀ʔ-kə* is LOW-STOPPED (`ʔ) which means that it descends from a simple nasal (**ŋwat*), and not from a nasal preceded by the **s-* prefix (**s-ŋwat*), which would have pushed it into the HIGH-STOPPED class (ˆ ʔ), as in EYE (Lh. *mɛ̂ʔ* < **s-myak*).[57]

There is now every reason to relate our TB etymon **s-ŋwa-t* to the root set up as **hwa-t* in STC # 221, following a recent suggestion by Benedict [personal communication; fall 1978]. The STC presents this set as follows:

Bahing *hwa* 'light' Lepcha *o-m* 'shine', *om-bo* 'illuminating', *a-om* 'light, brightness', Written Tibetan *'od* < **ʔwad* 'light, shine, brightness', *'nyi-'od* 'sunlight', Written Burmese *ne-at* 'sunlight' (archaic), Thado *wat* 'shine' (TB **hwa-t*).

This set shows the same variation between an open-final and a dental stop-final that we have already observed above. The semantic

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55) Cf. BLOW [TSR # 143], PLB **s-mut* > WB *hmut*, Lahu *mə̂ʔ*; REAP [TSR # 169], PLB **ri·t* > WB *rit*, Lahu *gə̀ʔ*. There is much interplay between (-) *w-* and (·) *r-* in Lolo-Burmese (the "wittle wabbit synd-wome"). See Matisoff 1978 b, p. 56.

56) With the possible exceptions of *ŋə̀* 'to pour' and *a-ŋə* 'frost', for neither of which has an etymology yet been found.

57) See TSR, pp. 24–5. This does not at all vitiate the argument, since there are many cases where the **s-* prefix is attested in some but not all of the LB languages. Cf. BEAN [TSR # 140], BLACK [TSR # 142], and EYE [TSR # 145], in all of which the WB forms reflect a plain nasal while most Loloish languages tonally reflect the **s-* prefix.

connection between LIGHT / SHINE and MOON / STAR is also excellent. (The only unconvincing aspect of this set, in my opinion, is the Lepcha forms, since the nasal final *-m* has not been accounted for.)

3.2 Phonetic, graphic, and semantic affiliations of Chinese 月 MOON / MONTH.

We now embark upon the sea of Chinese characters in search of phonosemantic interconnections with the word 月. In this lunatic voyage, my frail bark is guided by the shining lodestar of Peter Boodberg, and buoyed up by the friendly help of Tsu-lin Mei and William G. Boltz.

Boodberg's discussion of 月 MOON / MONTH (Boodberg 1937, pp. 371-2) makes at least two key points:

(a) in spite of Karlgen's reconstruction of this word with a simple nasal initial (GSR 306a-f: **ngi̯wa̯t / ngi̯wɔt*), there is evidence for a more complex initial cluster involving a sibilant element as well; and

(b) some members of the ramified word families to which 月 belongs had final velars instead of dentals.

Evidence for both of these points is to be found in the words 夕 NIGHT, 肉 MEAT, and 朔 NEW MOON:

3.21 NIGHT.

The character 夕 NIGHT, whose pronunciation is reconstructed in GSR 796a-d as **dzi̯a̯k / zi̯äk* [Boodberg (*ibid.*) notes a variant reading **si̯uk*] was often confused in the oracle bones with 月 MOON [Mei 1977, p. 6], and in fact Karlgren declares that the graph 夕 is actually a drawing of the moon [GSR p. 209]. The relationship

MOON.....NIGHT

is thus established both phonetically and semantically from the ear-

liest recoverable period for Chinese.[58] The moon has always been the Queen of Night.

3.22 MEAT.

The graphic identity of 月 MOON and 月 (<肉) MEAT [now conventionally called "radical 130" or the "flesh radical" by users of Chinese dictionaries] is "one of the most vexing problems in Chinese epigraphy" [Boodberg, *ibid.*]. The word 肉 is reconstructed as **ńiôk / ńźi̯uk* in GSR 1033a, but here too Boodberg posits a protoform with a sibilant cluster, **źńi̯uk*, apparently already for the Old Chinese period.

However, the main interest of this connection,

MOON.....MEAT,

is a semantic one, with the linking concept being the notion of CUT / SLICED (see below 3.24).

3.23 NEW MOON

The word 朔 'first day of the moon' is reconstructed in GSR 769a as **sâk? / sâk*, with the remark that "the phonetic history of this word is obscure."[59] The phonetic of the character is 屰, which is reconstructed with a velar nasal in GSR 788a: **ngi̯ăk / ngi̯ɐk* 'refractory, disobedient.' This supports Boodberg's reconstruction **sngâk* for 朔 NEW MOON [*ibid.*]. Boodberg's sibilant-plus-nasal hypothesis

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58) The PTB root **s-ryak* 'day of 24 hours' [STC ♯203 and n. 154], which developed into PLB **ʔrak* 'night; spend the night' [TSR ♯174], seems to be related both to Chinese 宿 [GSR 1029 a-b: **si̯ôk/si̯uk* 'pass the night' and to 夕 **dzi̯ăk/zi̯ăk*, and I would claim to 夜 [GSR 800 j-k: **zi̯ăg/i̯a* 'night' as well.

However, no evidence has yet been found on the TB side for any initial nasal in the etymon **s-ryak*.

59) Karlgren meant this observation to apply to the rhyme (the Middle Chinese rhyme is irregular), not the initial, though one might argue that the obscurity extends throughout the etymon.

is further buttressed by the two "dimidiated binoms" he cites as 縮肭 **sịuk-nịuk* and 仄匿 **tsək-nək*, both glossed as 'first appearance of the moon in the east.'

Boltz (1974) has devoted an entire dissertation to an intricate word-family he calls CRUX / CUSPIDATE, which he sets up in the abstract phonological shape */ ZNGA-G /. Central to his discussion are the characters in Group 788 of GSR, including 㕣, 逆, 遡, etc. The unifying semantic content of all these etyma are notions like *turning-point, bending back on itself, crucial moment, brusque change.* The moment of the new moon (朔) marks a turning point between one phase of the monthly cycle and the next.

It seems therefore that 月 MOON is associated both phonetically and semantically with a large number of other Chinese etyma for which sibilant nasal initials may reasonably be reconstructed. These interconnections are already mighty complicated and elusive — and we are not through yet by a long shot!

3.24 CUT/SLICED/BROKEN OFF/DEFECTIVE/INCONSTANT.

We have already mentioned the graphic similarity between MOON and MEAT (above 3.22). According to Boltz (pers. comm., May 1978), the semantic basis for this association is the notion of a *slab, slice,* or *cut-off piece*, since the shape of a crescent or half-moon suggests a porkchop or other hunk of meat.

There are also, in fact, strong *phonetic* similarities between 月 **ngịwăt* and a large number of other words referring to cutting or breaking :

刖 or 跀 'amputate, cut the feet' [GSR 306h : **ngịwăt / ngịwɐt* ～ **ngwat / ngwat*] ;

抈 'to break' [GSR 306g : **ngịwăt / ngịwɐt*].

Without the graphic element 月 , but with reconstructed rhymes similar or identical to it, we have the following "incisive" words :

伐 'strike, hew' [GSR 307a : **b' ịwăt / b' ịwɐt*] ;

戍 'kind of ax' [GSR 303a: **gi̯wăt / ji̯wɒt*];

絶 'cut off, break off' [GSR 296a: **dz' i̯wat / dz' i̯wät*];

脆 'brittle' [GSR 296c: **ts' i̯wad / ts' i̯wäi-*].[60),61)]

For these last two words with affricate initials we may now offer a close Lolo-Burmese relative, the root reconstructed as **tsat* ≷ **¢-tsat* 'break in two; cut through; conclude' [TSR #40], on the basis of forms like WB *chat* 'brittle,'[62)] Lahu *chê?* 'break, snap in two, be broken off,' Akha *tseh*ˆ, etc. In Lahu, the verb *chê?* is used with the noun *ha-pa* 'moon'[63)] in expressions like *ha-pa-chê?* 'the new moon, the invisible moon' and *ha-pa chê? e ve* 'the moon wanes' (lit. "the moon gets more and more broken off"[64)].

From the notion of 'broken off' to the idea of 'incomplete, unstable, defective, wanting,' it is but a short step in semantic space. Western man has sometimes poetically perceived the moon as fickle and untrustworthy because of its variable appearance. In the immortal words of the Bard of Avon:

> 'Oh, swear not by the moon, th' inconstant moon,
> That monthly changes in her circled orb,
> Lest that thy love prove likewise variable.'
>
> [*Romeo and Juliet* II. 2, 109-111.]

In ancient China also, the fickleness of the moon was contrasted to the constancy of the sun:

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60) Other characters with 月 as phonetic and meanings related to cutting or breaking are 鈌 **ngjwat*, 刖 **ngwât*, and 朏 **ngwat*. Thanks to Bill Boltz for providing me with these three characters, which I have not been able to find in GSR.

61) Boltz also supplies a form 兀 **ngwət* 'cut off the feet."

62) For some reason I did not include this WB form in TSR #40, though it goes perfectly with the Loloish forms cited there.

63) For the affiliations of Lahu *ha-*, see below, section 4.1.

64) The verb particle *e* may be used to show the progressively greater realization of a state. See Matisoff 1973a, pp. 318-9.

月闕也，日實也。 'The moon is defective, the sun is faithful.' [65]

The word 闕, which appears in early texts with meanings like 'gate; opening, breach; shortcoming, defect, defective; diminish; omit' is reconstructed as **k' i̯wăt / k' i̯wɒt* [GSR 301h], and clearly belongs in the word family we have been discussing, as does another allofam with velar initial, 缺 [GSR 312h: **k'i̯wăt / k' i̯wät* ≍ **k' iwat / k' iwet*] 'break, splinter; defective, incomplete.' Again there are solid relatives on the TB side. Written Burmese has the simplex / causative verb-pair ***kyûi*** ကျိး 'be broken' / ***khyûi*** ခြိုး 'break in two' (PLB Tone *2), as well as a derivative in the creaky tone, ***khyui'*** ခြိုဲ့ 'defective, wanting, incomplete.'

Finally, there are WB forms in this semantic area with labial initials, that may be compared directly to Chinese labial-initialled forms (like 伐 above): WB ***prat*** ဖြတ် 'be cut in two; be cut off, ended; be broken' [simplex] / ***phrat*** ဖြတ် 'cut in two, sever; break off; decide' [causative]. [66]

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65) I am indebted to Bill Boltz for this citation, which appears in *Shuo Wen* and is later copied by the *Shih Ming*.

Axel Schuessler has provided me with another quotation in this vein from Western culture, this time from medieval Latin:

O Fortuna, velut luna, semper variabilis! (Carmina Burana) ["O Fortune, like the moon, always changeable!"]

66) Graphological evidence for a labial element in the initial of 月 (or, at any rate, for the interplay between labial and velar nasals before semivowels — see above, 3.1) crops up here and there. Thus 月 seems to be phonetic (as well as semantic?) in 明 'light, bright' [GSR 760a: **mi̯ang/mi̯wɒng*], and possibly also in 名 'be called; name' [GSR 826a-c: **mi̯ĕng/mi̯ăng*], where 夕 is an allograph of 月 (above, 3.21).

The association MOON — BRIGHT does not seem to be otherwise attested in Chinese word families, though it is worth noting that the second element in the modern Mandarin compound for moon, 月亮 *yueh. liang*, is a morpheme meaning 'bright, clear.'

Note also the interconnection between SHINE/LIGHT (STC #221) and STAR/MOON discussed above (3.1).

On both the Chinese and TB sides of the equation, therefore, there are allofams with labial, palatal, and velar initials. All forms cited in this section seem genuinely relatable to each other on the phonological level. The semantic interconnections between MOON on the one hand, and CUT / BREAK / DEFECTIVE on the other, also seem real. However, these associations may well be folk-etymological confusions of originally distinct though phonologically similar etyma.

3.25 PASS / ELAPSE and SEPARATED / EXTENDED.

Tsu-lin Mei (1977) proposes still another semantic association for 月 MOON, by comparing it to WT *skyod* 'to pass, elapse (of time).' The phonetic correspondence is not bad, since WT *-o-* is usually < *-*wa-* (***skywat*). Mei further speculates (p. 5) that 月 belongs to the same word family as 歲 YEAR[67] and 越 PASS OVER, the unifying notion being something like MARKER OF THE CYCLICAL PASSAGE OF TIME:

越	'pass over'	***gjot* > **gwjat*
歲	'year'	***s-gjots* > **skwjadh*
月	'moon / month'	***N-gjot* > **ngwjat*.

Mei's suggestion is excellent, though I would now like to 'extend' it a bit further. Another meaning for 越 [GSR 303e : **gi̯wăt / ji̯wɐt*] is 'extend; disperse; spread far.' It looks in fact as if it belongs in the same word family as 闊 [GSR 302q : **k'wât / k'uât* 'distant, widely apart, separated.'

The stars and moon are far off, and the stars are scattered all over the firmament, with vast stretches of black empty space between them. The Burmese word for STAR, *krai* ကြယ် , has a strong phonological resemblance to several other words in the language with

67) Boodberg 1937 (p. 372) had already grouped 歲 into the same word family as 月.

meanings in the area of SEPARATED / EXTENDED:

krâi ကြဲ 'scatter, throw about ; sow, as seed' ;

kyai ကျယ် 'wide, broad' ;

kyâi ကျဲ 'be wide apart' ;

krûi-tûi-krâi-tâi ကြိုကြွဲကြဲကြဲ 'with cracks or spaces between.'

I would now claim that the second syllable of the Lahu word for STAR, *mə̀ʔ-kə*, is directly relatable to WB *krai* (<PLB *ʔ-*gray*$_1$).[68] The original meaning of *mə̀ʔ-kə*, was therefore "extended luminous-body" (as opposed to the *compact* luminous-body, the moon).[69]

4.0 Semantic interconnections among heavenly beings of the night.

4.1 MOON and SPIRIT

The only root for MOON / MONTH set up in the STC is **s-la*

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68) Lahu front velars (*k*, *kh*) correspond regularly to WB *kr*, *khr*. Both the Lahu and WB forms reflect PLB Tone *1, though the Lahu mid-tone points further to a glottal prefix (undoubtedly < PTB **s-*). The shwa vocalism of the Lahu form has been influenced by the medial *-r-* (see note 55).

69) LaRaw Maran (personal communication ; October 1978) confirms the close semantic association between STAR and SPREAD OUT in Burmese. In Northern Burmese slang, /tšɛ/, written either ကြယ် (*krai*) or ကျယ် (*kyai*) means 'woman with a large vagina' (i.e. with a large spread), while the word for STAR has become dissyllabic, /sətšɛ/, written ဆကြယ် . Cf. the use of *broad* for 'woman' in vulgar American English.

Timothy Light points out (personal communication ; October 1978) that Chinese 星 *sieng/sieng (GSR 812 x) 'star' is a fusional word deriving from a dissyllabic compound meaning 'the spread-out one'.

Boyd Michailovsky cites Buck 1949 (p.56), who mentions a widely held view among Indo-Europeanists that the PIE root **ster* 'star' is derived from the homophonous root **ster* 'spread out'.

≷ **g-la* ≷ **s-gla*[69-A] [STC #144], on the basis of forms like WT *zla-ba*, Nung *səla*, and WB *la'*. Elsewhere [STC #475] Benedict sets up a distinct PTB root **(m-) hla* 'spirit, soul,' on the basis of WT *hla* 'the gods,' WB *hla'* 'beautiful,' Jinghpaw *minla~numla* 'ghost, spirit', *sumla* 'picture, idol,' etc. He is not very enthusiastic about this: "This reconstruction is most uncertain...perhaps **s-hla* or **s-kla* is to be preferred" [note 361, p. 132]. He observes (*ibid.*) that Lushai has the same form *thla* for both 'moon, month' and 'a spirit; one's double.'[70]

It is in fact my contention that MOON and SPIRIT represent allofams of one and the same etymon — regardless of exactly how we reconstruct the two proto-variants. Lushai is not alone in showing identical syllables for the two concepts. Lahu has *ha*-pa 'moon' and *ɔ̀-ha* 'soul, spirit, image.' Garo has the single word *ja*, glossed in Nengminza 1972 (p. 70) as 'moon; month; spirit; an apparition; a phantom.'

Clearly we are dealing with some sort of supernatural beings that have been associated with the moon by the Tibeto-Burman peoples. Nengminza (p. 72) glosses the Garo compound *ja-jong* as 'moon; the moon god.' The phrase *ja-jong nawang minoka* refers to 'the demon which is believed to swallow the moon at eclipses.' Leaping over to the Loloish branch of TB, we find that the Lahu

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69-A) The velar allofams are posited to account for Mikir *tśiklo* and Magari *gya*-hot (STC, n. 137) [to these one may add Garo *ja* and Tiddim Chin *kha*]. Benedict also uses this velar element to explain TB forms with dentals, like Jinghpaw *śəta*, Nung *səda*, Lushai *thla*, Meithei *tha*. Additional forms from Naga languages, however, indicate that it is preferable to set up a separate proto-allofam **s-ta*: Puiron *tha*, Nocte *da*, Ao Chungli *i-ta*, but also Ao Mongsen *la-ta*, Yacham-Tengsa *lu-ta*, Kuki [NBP] *lha-tha* (all 'MOON'), Phom *li-tha* 'star.' These last four compounds seem to reflect **s-la* as their first syllable and **s-ta* as their second — the same sort of "incestuous" coupling of co-allofams that we discussed above (see note 52).

70) These forms are quoted erroneously as "*khla*" in STC, note 361.

also associate the moon indirectly with evil spirits. They believe that lunar eclipses are caused by a frog eating the moon (*ha-pa thàʔ pā câ ve*, just as solar eclipses are caused by a tiger eating the sun (*mû-ni thàʔ lâ câ ve*). The moon sheds blood during its eclipses. When the gory drops fall to earth they engender the malevolent *mè* and *jɔ* spirits, which tempt human beings to untimely deaths.[71]

Yet clearly the gracious Queen of Night has also had pleasant supernatural associations for the Sino-Tibetan peoples. WT *hla* 'the gods' and WB *hla*' 'beautiful' suggest a lovely moon-goddess. Boltz (1974) points out that one of the Chinese names for the moon-goddess, 嫦娥 **zjang-nga* (a dimidiated expansion of his basic root *ZNGA), is associated with words meaning 'elegant, beautiful' (雅 **ngǎ* or 義 **ngia*).

The character 魄 [GSR 782$_0$: **pʻăk / pʻɒk*] 'the animal soul of man'[72] is used as a "loan" for 霸 [GSR 772b-d: **pʻăk / pʻɒk*] 'an aspect of the moon' — though the phonological identity of the readings of these characters suggests that there is a genuine semantic relationship between the two concepts.

4.2 MOON and STAR.

I have collected the words for MOON and STAR in about 100 TB languages and dialects. In addition to the two roots set up in STC (**s-kar* STAR [STC #49] and **s-(g) la* MOON [STC #144], the outlines of several additional roots and subroots are beginning to emerge.

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71) See Walker 1976.

72) This is conceived of as in dialectical opposition to 魂 'the spiritual soul of man that ascends to heaven after death.' See Matisoff 1978 b, Figure 11 a (pp.268-9) "Taoist interconnections among the viscera, the rest of the body, and the universe."

The Lahu believe that a person has anywhere from 3 to 9 souls, some of which stay close to the body and others of which are prone to fly off at the slightest provocation (the "slow-moving" vs. "fast-moving" souls). See Walker 1972.

Sometimes these new etyma seem to mean either MOON or STAR, but not both:

**rik* ≷ **lik* STAR

Nocte *merik*, Khunggoi (Tangkhul) *marik*, Yogli (Tangsa) *liksei*, Khoibu (Maring) *tikron*.

**kriy* MOON

Angami *khrə̌*, Chakhesang *khri*, Kheja *khrü*, Mao *o-khrou*, Kezhama *ekrü*, Sema *akhi*, Zeliang *hekei*, Yimchungrü *khinu* (all 'moon'), Lahu *ha-pa-khi* 'moonlight.'

**lit* MOON

Chang *litnyu* [GEM], *lidnpu* [NBP]; Phom *linnyü*, Konyak *linnyu* (with assimilation to the following nasal in Phom and Konyak). It is too early to say whether this root is related to **rik* ≷ **lik* (above).

**s-ki* STAR

Garo *a-ski*, Zeliang *hegi*, Tangkhul *sira*, Kuki [NBP] *ahsi*.[73]

Others of these new roots mean MOON in some TB languages, but STAR in others:

**pV*

Tangsa *yapi* (Moshang), *yapoi* (Yogli) 'moon;' Nruanghmei *bu* 'moon;' Sangtam *püti* 'star;' Sema *ayepu* 'star;' Ao *petinü* 'star;' Lahu *pə̄-tɔ̂*ʔ 'morning star,' *pə̄-qɛ̀* 'evening star.'[74]

Another etymon occurring both in words for STAR and MOON, but which cannot safely be reconstructed without more detailed infor-

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73) This root seems distinct from the morpheme for 'round object/fruit' (above, note 46).

74) This Lahu morpheme is probably related to Lahu *-pí* 'evening,' as in *yàʔ-pí* 'tonight, this evening.'

mation on the phonology of the Naga languages, is represented by Kheja *yhe* 'star' (Kezhama *eghe*), Zeliang *he-gi* 'star' and *he-kəi* 'moon,' Rengma *shye* 'moon' and *shyenyü* 'star,' Sema *aiyeh* or *ayepu* 'star.'

It must be emphasized that these reconstructions are still highly tentative. Consider the following forms:

> Chang *litnyu*, Konyak *linnyu*, Phom *linnyü*, Sangtam *chonu*, Liangmai *cha-hiu* (all 'moon'), but Rengma *shyenyü* [NBP] or *shyengü* [GEM] 'star.'

In the absence of detailed knowledge about these languages, one might want to set up a root for MOON/STAR, based on these forms, of the shape **s-nyu* or **s-ŋyu*.[75] Yet Alfons Weidert points out that *-nyu* is a common noun-formative in Chang.[76] Checking this in Imlong Chang's dictionary (1956), I found that Weidert's contention was indeed correct, and that Chang has many nouns like the following:

> *amnyu* 'mat', *chinyu* 'centre', *henyu* 'ladder', *janyu* 'sun' (cf. STC # 187), *ji* ~ *jinyu* 'brass' (cf. STC # 39), *lamnyu* 'road' (cf. STC # 87), *pinyu* 'snake', *saunyu* 'tiger', *thaunyu* 'post, pillar,' *thonyu* 'elephant', etc.

The syllable *-nyu* also appears in Chang compounds denoting female kin terms or female animals:

> *latnyu* 'widow', *anyumaunyu* 'aunt', *penyu* 'sister-in-law', *keinyu* 'bitch', *aunyu* 'hen', *oknyu* 'sow'.

In fact, the Chang word for MOTHER is *anyu*. It seems clear that this is the original Chang meaning for this morpheme,[77] and

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75) As indeed I did in the first version of this paper (Tucson, October 1978). Boodberg 1937 (p. 371) had reconstructed an etymon for MOON of the shape **TSN(G)u*, with two different finals, *-t* and *-k*.

76) Personal communication (Mysore; December 1978).

77) Perhaps it will eventually be relatable to the TB root **niy* ≷ **ney* 'mother-in-law' (STC # 316).

that later its semantic content became vaguer and more general until it has become a meaningless noun formative,[78] a syllable added merely to give "phonological bulk" to a monosyllabic root.

4.3 STAR and SPIRIT

The stars have always had a terrific fascination for mankind. Their mysterious beauty, utter remoteness, and regular movements must mean that they are divine. It has occurred to both Western and Eastern thinkers that the soul of a human being might become a star after his death.[79] Human events could be foreshadowed or reflected in celestial movements or configurations. The birth of Jesus was heralded by a nova.

Tsu-lin Mei has convincingly demonstrated[80] the close association in early Chinese thought between the words 星 (Mand. ***hsing***^{1} < ****sieng / sieng*** [GSR 812x] 'star' and 精 (Mand. ***ching***^{1} < ****tsi̯ĕng / tsi̯äng*** [GSR 812g'] 'vital essence; spirit; semen; exquisite, subtle'. Mei quotes passages that had been culled from Han and pre-Han texts by Yang Shu-ta[81] to show how the graph 精 is somtimes used instead of 星 to mean STAR. This graphic interchange had its roots in Chinese metaphysics, where the stars were conceived of as incorporeal essences, alive, immortal, and luminous — as opposed to gross corporeal matter (形) which is subject to decay. The ***Shuo Wen*** glosses the word 星

78) This is a common development for morphemes meaning MOTHER. The PST suffix ****-ma*** may have such an origin. Cf. also the use of Thai ***mɛ̂ɛ*** and Lahu ***-ma-pə̄*** in compounds.

79) See Schafer 1977, especially Chap. VII "Embodied Stars" (pp.120-162). Schafer's book is a brilliant study of what the stars and the other heavenly bodies meant to the minds and hearts of the ancient Chinese.

80) In his mimeographed handout "Early Taoism as Ch'u thought", as well as in a series of personal communications (fall 1978).

81) 楊樹達. The work that Mei consulted is entitled 積微居金石小学論業「釈星」.

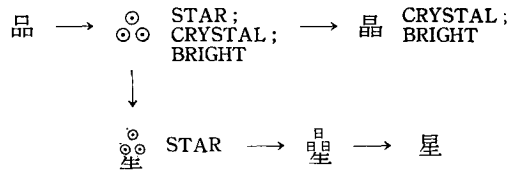
via the concept of 精 :

「星」: 萬物之精, 上為列星
["STAR : The vital essence (精) of myriads of things makes the arrayed stars (星) above."]

Again, in the Nei Yeh (內業) of Kuan Tzu (管子) :

凡物之精, 比則為生	As to the vital essence (精) in things, when it comes together it produces life ;
下生五穀, 上為列星	Below it gives birth to the five cereals, and above it makes the stars (星) in array ;
流於天地之間, 謂之鬼神	When it flows between heaven and earth, it is called ghosts and spirits ;
蔵之胸中, 謂之聖人	A person who stores it in his breast is called the sage.

The connection between STAR and SPIRIT in ancient China was powerfully reinforced by phonological resemblance. The original Chinese word for STAR was probably not 星 (see note 69), but rather 晶 (a word which now means CRYSTAL or BRIGHT). This word 晶 has been an exact homophone of 精 from earliest times ; both are now pronounced *ching*[1] in Mandarin, and both are reconstructed identically for older stages of Chinese (GSR 820a / 812g' : **tsi̯ĕng / tsi̯äng*). Mei explains how the graphic shape of 星 is itself derived from 晶. The original shape of the graph in the oracle bones was three squares, (coincidentally like the modern character 品 *p'in* 'actions, conduct ; kind, class, series, degree, rank'), where each square represented a star. This then developed into ⊙⊙⊙, which meant either STAR or CRYSTAL / BRIGHT, and which is the direct ancestor of the modern graph 晶 BRIGHT. In the sense of STAR, the graph acquired the element 生 as a phonetic, yielding ⊙⊙⊙ 生 and then 日日 生. Finally, the character was simplified by reducing the three 'stars' or 'suns' to one, giving the modern form 星 :



The concepts of STAR and LUMINOUS SPIRIT are thus inextricably bound up together in early Chinese thought. The moon and stars were alive and had souls and were worthy of worship.[82]

4.4 Diagrammatic representation and the "organic semantic approach"

In Matisoff 1978 b, I introduced a kind of diagram called "metastatic semantic flowcharts," intended to illustrate the interconnections of concepts in semantic space, as revealed by comparative investigation of words in a given semantic field. In that study, the subject of inquiry was body-part words. Here I offer a similar "organic" diagram for the heavenly bodies. See Figure 2.[83]

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82) Mei observes that the proto-Chinese peoples were "not particularly fond of the sun". (There exists a myth wherein a hero shoots down nine out of the ten suns in the proto-sky.)

James Placzek notes (personal communication; October 1978) that the Thai classifier *duaŋ* ดวง is used both for heavenly bodies and for the human soul. Haas 1964 glosses this morpheme as follows: "Classifier for certain round shapes or objects, e.g. seals, stamps, spots, stains; for sources of light, e.g. lamps, stars, the sun, the moon; for the eyes; for the soul".

83) A straight line between two points indicates a semantic association, as revealed either within a single language or across languages. A curved "Yin-Yang type" of line,  , indicates an "association by opposition." A bulge where two lines cross,  , is intended to show that the two lines are "not really touching" (as in electrical wiring diagrams). For extended discussion of these flowcharts, see Matisoff 1978 b, pp. 193 ff.

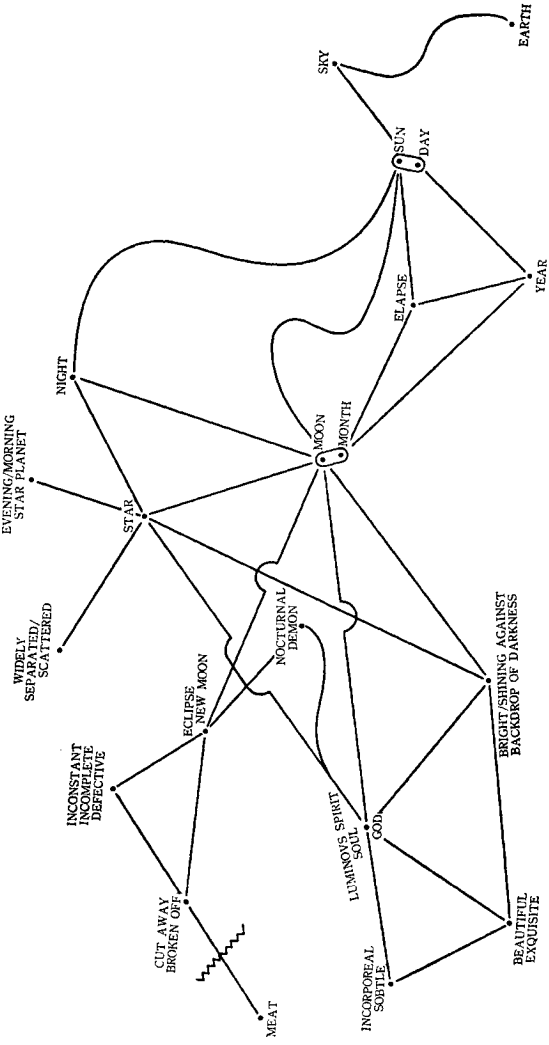

Figure 2. Metastatic flowchart of celestial semantics

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