OUT ON A LIMB: ARM, HAND, AND WING IN SINO-TIBETAN[1]

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This paper[2] is another illustration of the 'organic semantic' approach to Sino-Tibetan [ST] reconstruction (Matisoff 1978, 1980). The key to this method is the recognition that cognate identifications must take account of variation, both on the phonological and the semantic levels. On the phonological side, we operate with word-family alternants ('allofams') that may differ from each other by choice of prefix, voicing of the initial consonant, presence or absence of a medial glide or suffix, etc. Semantically, our etyma may undergo shifts of meaning from point to point in semantic space.

The theoretical basis for this approach has been developed in detail in Matisoff 1978 [henceforth VSTB]. Here we need make only the following points:

--Allofamic variation in ST follows certain well-established patterns. The recognition of phonological and semantic variation is not an invitation to promiscuity in cognate identification, nor does it imply a disrespect for 'sound laws.'
--Both phonological and semantic variation exist at all time-depths, synchronically as well as in the proto-languages all the way back to Proto-Tibeto-Burman [PTB] and Proto-Sino-Tibetan [PST].
--Different languages (even closely related ones) are quite likely to make different selections from the proto-lexicon in forming compounds. A given compound is liable to reflect an idiosyncratic combination of several different proto-etyma. (E.g., Dimasa bagarangthong 'wing' is composed of reflexes of our roots 13.2 + 5.3 + 3.2, though this particular combination is

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1 Symbols and abbreviations: ⨯ = is an allofam of; belongs in the same word-family as; AMD = Abor-Miri-Dafla; CSDPN = Hale, ed. 1973; GSR = Karlgren 1957; Jg. = Jinghpaw; LB = Lolo-Burmese; LED = Matisoff, in prep.; PLB = Proto-Lolo-Burmese; PST = Proto-Sino-Tibetan; PTB = Proto-Tibeto-Burman; ST = Sino-Tibetan; STC = Benedict 1972; TB = Tibeto-Burman; TSR = Matisoff 1972; VSTB = Matisoff 1978; WB = Written Burmese; WT = Written Tibetan.

2 This paper was originally presented at the Thirteenth Sino-Tibetan Conference (University of Virginia, 1980). Responding to the precirculated version, Paul Yang produced three pages of "Addenda" which he distributed at the Conference (Yang 1980). Several of his useful suggestions of possible Chinese cognates for our various etyma have been incorporated below, as indicated. I am also indebted to Paul Benedict for comments and criticism, mostly included in a letter (Oct., 1980).

not found in any other language examined to date.
--None of this implies anything strange about PTB or PST. Indo-Europeanists have been operating implicitly on such assumptions for at least 150 years.

In view of the complexity of this sort of investigation, it is wise to concentrate on one relatively well-defined sector of 'semantic space' at a time. Previous studies dealt with the internal organs of the body (VSTB) and words for STAR, MOON, and SPIRIT ('Bright Beings of the Night': Matisoff 1980). Here we take up the area of morphemes refering primarily to the upper limbs of the human body (especially ARM, HAND) and the corresponding parts of animal bodies (especially WING).[3]

I am going 'out on a limb' in more ways than one. The scope of this study is large, involving forms from over 100 TB languages as well as Chinese. The data on the TB side are of uneven quality,[4] and the details of the Lautgesetze (especially as concerns syllable-final developments) are still unknown (at least to me) for some branches of the family. This is therefore to be viewed as a work of degrossissage. I have tried to be conservative in setting up roots and allofams, and have sometimes assigned groups of forms to separate proto-entities according to their modern shapes, where more detailed knowledge might permit us to lump them together as descending from the same etymon. In a fair number of cases it is impossible to decide between alternative etymologies for a given modern form on the basis of present knowledge.

At any rate, the aim of scientific investigation is to generate falsifiable hypotheses -- i.e., ideas so precise and clear that they can be shown to be either true or false. I ask nothing better than to be corrected!

Some 30 putatively distinct proto-roots (most of them new) have been identified in this semantic area.[5] These differ from one another in genetic/geographical spread (some are represented in many or all branches of TB, while others seem confined to one or two subgroups), in the amount of allofamic variation they display, and in their semantic 'center of gravity' (e.g. some are confined to a narrow range of meaning like 'PALM/SOLE' or 'WING/FEATHER', while others have 'metastasized' to several adjacent points in semantic space).

For each proto-root we first give an abstract 'pan-allofamic formula' that represents the whole range of its phonological variation. We then break this down into individual proto-allofams, and present the forms which justify each one. At the end, we offer a 'metastatic flowchart' which traces the patterns of semantic association for which the data provide evidence.

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[3] I have been interested in the limbs for some time. At the Eighth ST Conference at Berkeley I had circulated a two-page handout on words for HAND and WING [Matisoff 1975]. In VSTB (p. 273 [n. 239] and p. 319) I promised to write this paper, but erroneously supposed it would appear in LTBA.

[4] For some languages, especially in the Kuki-Chin-Naga branch, such 'luxuries' as tonal indications and glottal stop are not indicated in my sources.

[5] By way of comparison, Benedict 1972 [henceforth 'STC'] offers only about 6 PTB etyma in this semantic area: *g-lak 'arm, hand' [#86] and *(g-)yak 'armpit' [pp. 34, 167, 170, 189] (we consider both of these to be allofams of the same word-family, below 1.31, 1.32); *mu·k 'arm length, cubit' [#394; below XXIV]; *g-li ~ *k(a)li 'armpit; tickle' [#265; not dealt with below]; *p-wa 'palm' [#418; below XXX and II]; and *plen 'flat' [#138; below XXVIII, 'palm'].

I. $\left\{\begin{matrix} d- \\ g- \\ p- \end{matrix}\right\}$ $\left\{\begin{matrix} l \\ y \end{matrix}\right\}$ a k or $\left\{\begin{matrix} d- \\ g- \\ p- \end{matrix}\right\}$ l y a k

1.1 with simple (unprefixed) sonorant initial

1.11 *lak This is the widespread allofam reconstructed in STC #86 on the basis of forms from Written Tibetan [WT], Miri, Chairel, Jinghpaw [Jg.], and Written Burmese [WB]. Throughout TB this allofam means 'hand' or 'arm', referring either to the whole limb or its distal segment.

A. [Lolo-Burmese] (PLB *lak: TSR #166): WB lak, ʔəlak (Mod. Bs. lɛʔ); Lahu làʔ-šɛ (cf. khɨ-šɛ 'foot'); Akha à-làʔ; Lisu lá^{6}-hpá^{2} 'hand', lá^{6}-hprɑh^{4} 'arm' (Fraser), lɛ^{5}-phɛ^{2} (Nu-chiang), lia (Jui); Ahi lie^{44}cpu^{55}, lie^{44}cpɤ^{44}, lie^{44}cɤ^{22}; Sani le^{22}p'e^{44}; Hani la^{21} (Kao), a^{21}la^{21}c (Hu and Tai); Bisu là-pù; Woni la^{33}ni^{55}; Phunoi là, ləsùp; Mpi lʁ^{2}phu^{6}; Nasu la^{55}p'a^{32}s; Lu-ch'üan la^{55}c; Moso la^{11}.

B. [Himalayish] WT lag-pa; Sherpa 'lak-pā; Jirel lāk-pā; Kaike laa; Thulung Rai loa:.

C. [Abor-Miri-Dafla] Abor-Miri a-lâk (Lorrain), Miri əlak [STC]; Gallong alak; Dafla əla (also al 'foot').

D. [Luish] Chairel lak (also la 'foot') [STC]; Lui lök.

E. [Kachinic] Jinghpaw lə- (unstressed preformative prefix in words like ləphàʔ 'shoulders', ləphûm 'forearm', ləphō 'arm above the elbow', etc.; also occurs in words referring to the lower limb, like ləphùt 'knee', ləgō 'foot and leg', ləkhàt 'kick with heel or hoof', etc.). For Jg. lətáʔ 'hand', see *d-lak [below 1.21]. Note a similar 'prefixization' of this etymon in Phunoi ləsùp [above A].

F. [Naga] Phom (= Tamlu) lak; Yacham-Tengsa lakpa.

G. [Chinese] 力 *liəkˆ/liəkˆ [GSR 928a-b] 'strong, strength, force' ('the graph seems to depict an arm with a hand');[6] also, in the same phonetic series, 仂 *ləkˆ/ləkˆ ≍ *liəkˆ/liəkˆ [GSR 928c] 'a tenth' (from the ten fingers),[7] and 扐 *lə kˆ/lə kˆ [GSR 928d] 'space between the fingers (where divination sticks were inserted)'.

1.12 *yak (> zak) This variant is clearly related to the preceding, though it is hard to decide whether to capture this allofamic relationship 'paradigmatically' (by positing an alternation of two proto-phonemes, *lak ≍ *lak) or 'syntagmatically' (by stuffing both the lateral and palatal elements into a single proto-form (*l-[y]ak or *lYak).[8] At any rate, the nucleus of the

6 For a similar semantic association, cf. Japanese ude 'arm' and te 'hand', which may both also be used in the sense of 'ability, competence, skill'.

7 The l- prefix in WT lŋa 'five', it is tempting to speculate, might also be a reduced version of *lak 'hand'. (Jinghpaw, e.g., has a different prefix, məŋa.) For the semantic association between 'hand' and 'five', cf. Proto-Austronesian *lima 'hand; five' [see Benedict 1975, p. 309].

rhyme *-ak frequently develops into a front vowel in TB (note the Modern Burmese, Lisu, Ahi, and Lui forms), and apparently in Chinese as well (note the -ək ~ -jək alternation in Series 928), a phenomenon which could easily lead to the palatalization of the lateral initial.[9] Though the yak allofam may perhaps be considered 'secondary' to the lak form, this is a relative matter: both variants go back as far as our reconstructive methods can take us, and many languages have doubletes traceble to each of them.

Even 'more secondary' than yak is the allofam with voiced spirant, zak. The phonetic difference between a y pronounced with local friction (i.e. that slit spirant [y̌] that is the voiced homologue of 'ich-Laut' [ç]) and a [z] is very slight. In Lahu, for example, [z] is merely the allophone of /y/ that appears before the single vowel /ɨ/ (Matisoff 1973, pp. 5-6).

The variant in z-, whatever its phonological origin and despite its 'secondariness', is also of great antiquity (it occurs in Archaic Chinese), and has somehow acquired the semantic increment of 'armpit/tickle/side of the body' [which is also shared by some forms in y-].

1.121 yak A. [Himalayish] Tamang yā: 'hand'; Thakali yā 'id.'; Gurung yo 'id.'; Newari yāk-wa 'armpit'; Lepcha yak 'tickle' (~ Lepcha jak ult. < *d-yak or *g-yak [below 1.22, 1.32]).

B. [Naga] Konyak (Tableng) yak 'hand, arm' (also ya 'foot'); Tangsa (Yogli) yak 'hand', yakphim 'arm'; Tangsa (Moshang) yokpha 'hand', yokphum 'arm'; Chang yik 'hand, arm' (with secondary palatalization of vowel).

C. [Mruish] Mru yāk 'armpit'.

D. [Barish] Dimasa yau 'arm' (also ya 'foot').

E. [Loloish] Lahu yá 'tickle' (< PLB *ʔyak).[10]

1.222 zak. A. [Kuki-Chin-Naga] Lushai zak 'armpit'; Zeme mi-zak 'side (of body)'; Mzieme hezak 'id.'

B. [Chinese] 亦 **ziăk/iäk [GSR 800a-c] or 腋 [GSR 800, l-m] 'armpit'.

1.2 with dental prefix A number of languages reflect an allofam with dental prefix.[11] The morphemic origin of this prefix is a matter of sheer speculation. A remote possibility is that it is an ancient borrowing from Mon-Khmer (cf. PMK *ti? 'hand'). Rather more likely is that it has some connection with an

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8 For a discussion of the theoretical issues involved in 'paradigmatic' vs. 'syntagmatic' reconstruction, see Wheatley 1978.

9 Another highly plausible palatalization-precipitator is the influence of prefixes, at least three of which could be preposed to this root [below]. For a conclusive demonstration of the palatalizing effect of the s- prefix in Lepcha, see Benedict 1943. See also STC, n. 108 (p. 34).

10 The Lahu high-rising tone / ʼ / reflects a PLB syllable with original preglottalized proto-voiced initial and final stop (Matisoff 1970, 1972).

11 There is no systematic contrast in voicing for prefixes in TB, so it makes little difference whether we represent this dental prefix as *d- or *t-. We usually conventionally adopt the voiced alternative, probably due to unconscious bias from WT.

apparently prefixal dental that occurs before other roots referring to the upper limb in scattered TB languages:

[Himalayish] WT dpuŋ 'shoulder', Gyarung tekhlye 'upper arm'; [Luish] Kadu tapaung, təhù 'arm', Sak takú 'arm', Lui takhu 'id.'; [Naga] Ao Chungli teben 'arm', tashikang 'wing'/Ao Mongsen tüpen, tücha 'arm', tacha 'wing', Yacham Tengsa taka 'wing'; [Abor-Miri=Dafla] Taraon ta:lɔ̃ 'feather'.

1.21 *d-lak The cluster dl- is not tolerated in most TB languages,[12] so that the presence of the dental prefix has favored the palatalization of the root-initial lateral [below 1.22].

In a couple of cases, however, it appears that a language adopted the alternative strategy of metathesizing the dental prefix with the lateral initial. This provides a rather neat explanation for a form which has puzzled Tibeto-Burmanists for some time: Jg. lətá? 'hand'.[13] It also gibes very well with the reconstructed pronunciation of the Hsi-hsia (Tangut) character 戹 'hand' adopted in Kepping 1975 (p. 223): *lda.[14] We refer both of these forms to a prototype *d-lak.

1.22 *d-yak The clearest reflex of this allofam is Gyarung təyăk 'hand' (cited in STC, n. 108).[15]

On the Chinese side, Benedict has persuasively identified his PTB root *g-lak with the Chinese word for WING, 翼 , reconstructed by Karlgren as *giək/iək [GSR 954d]. However, the presence of the word 趩 *t'iək/t'iək 'the sound of marching' in the same phonetic series [954g-h] leads Benedict to prefer the reconstruction *diək/iək for WING also.[16] In our terms, it makes little difference whether we refer this Chinese word to an immediate prototype *d-yak or *g-yak [below 1.32], since there is ample evidence that both prefixes occurred with our etymon *-lak/-yak.

1.23 *d-[ ]ak Yet another strategy for reconciling the dental prefix with this root is exemplified by the curious Namsang (= Nocte) form dak 'hand' (alongside da 'foot'). In this case it appears that the prefix has 'pre-empted' or driven

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12 An exception is the Loloish language Sani (= Nyi), which has developed dl- from *by- (e.g. 'bee' PLB *bya > Nyi dla-ma).

13 I much prefer this to the 'epenthetic t after liquids' that I suggested in my portion of STC n. 102 (p. 32), or to Benedict's attempt [STC, notes 109, 137] to explain it via a development *g-lak > lətá? (why should a velar prefix have had such an effect?).

Still another explanation (also much less plausible than metathesis in my view) would be to derive Jg. lətá? from the 'prefix preempted' variant *d-[ ]ak (below 1.23) to which the unstressed lə- [< *lak, above 1.11(E)] was later preposed, i.e. from an 'incestuous' rhyming compound of the form *lak-dak, where two allofams of the same etymon co-occurred. [For a brief discussion of such 'rhyming compounds' see VSTB, p. 119.]

14 This is according to the reconstructive scheme of M.V. Sofronov. This etymon is reconstructed as *ɬa in Nishida 1966 (p. 349, #39-061).

15 This is confirmed by Y. Nagano (1978), who cites the Chos-kia Gyarung dialect form tayak 'arm', alongside wayak 'id.'

16 STC, n. 458 (p. 171). Benedict (p.c.) now agrees with the reconstruction in GSR, assuming that it is underlain by an earlier *gliək. The allofam in *t'- he derives from an alternant with prefixal *s- (*skiək).

out the original root initial.[17]

1.3 with velar prefix

1.31 *g-lak This is the overall PST and PTB reconstruction set up in STC, though, as we are discovering, it is a considerable oversimplification -- *g-lak is only one allofam among many!

This allofam is directly represented by a Chinese form in a phonetic series where Karlgren explicitly reconstructs an l-cluster for the Archaic stage: 胳 *klâk/kâk [GSR 766d] 'armpit'.[18]

The Gyarung form tekhlye (data by Kun Chang) 'upper arm', referred to in STC (n. 109, p. 34), may now be interpreted as deriving from a doubly-prefixed prototype, *d-g-la[k] (see above 1.2).[19]

1.32 *g-yak and *g-ya.

1.321 Yang (1980) offers a large number of Chinese forms, some of which seem to fit in nicely with the velar-prefixal and y-initialled branch of this luxuriant word-family:

脚 *kiak/kiak 'leg, foot' (GSR #776g) < PST *k-yak (Yang; see below 1.5);

匊 and 掬 *kiôk/kiuk 'both hands joined; grasp with both hands; double-handful' (GSR #1017a,c).

[Less likely candidates suggested by Yang include:

右 *giŭg/jiəu:, jiəu- 'the right hand; on the right' [GSR #995i];[20]

肘 *tiôg/tiəu: 'waist; elbow' [GSR #1073a];

手 *śiôg/śiəu: 'hand' [GSR #1101a].[21]

Alongside 翼 *giək/iək 'wing' [above 1.22], Yang cites two other Chinese

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17 The mechanism of 'prefix preemption' was first discussed in Matisoff 1972b, and again in "Quo Vadimus" (MS 1973, published version 1979) and VSTB.

18 This is now seen to be a doublet of 腋 < *zak < *yak [above 1.121]. It should be noted that similar forms meaning 'armpit' or 'tickle' also occur outside of ST, e.g. Khmer kliək, Indonesian ketiak 'armpit' (Yang 1971), Cham kəlĕk 'tickle' (Benedict 1975, p. 410).

19 Reprefixation is also common in such Kuki-Chin-Naga languages as Tangkhul Naga, where one encounters doubly-prefixed verbs like khəməlek 'lick' < *k-m-lyak (Pettigrew 1918, p. 304; see STC #211 and TSR #179).

20 The right hand is the 'hand par excellence'. See n. 42 below. Benedict declares Chinese 右 to be directly cognate to PTB *g-ya [STC #98 and pp. 168,187] 'right'. Nowhere does Benedict suggest a relationship between this root and *(g-)lak 'hand' [STC #86]. If they were really related, compounds like WT lag-gyas and WB lak-ya would be 'incestuous' - i.e. contain two elements that are both co-allofams of the same word-family. See VSTB pp. 118-9.

21 This important word is assigned to quite a separate root in STC (PST *tśəw) to which I would now also like to assign 肘 as well. See 8.1 and note 40, below.

synonyms: 翅 *śiĕg/śie- [GSR #864e] and 翼 [#866f], the latter with the double reading *ŝiĕg/ŝie- and kiĕg/kjie-, deriving all three of these winged words from a doubly-prefixed prototype, PST *s-g-yak ~ *s-k-yak.

Finally, Yang adduces [p.c. 1980] an interesting group of forms from GSR Series #864:

支, 枝, and 肢 *t̂iĕg/tśie 'branch; limb of a tree' [GSR #864a-c];

跂 *g'iĕg/g'jie [GSR #864g] 'foot with six toes' ~ * k'iĕg/k'jie:, k'jie- 'stand on tiptoe'.[22]

These he derives from Proto-Chinese *skiĕg, ultimately also from a doubly-prefixed PST prototype *s-g-yak. On the TB side, we may compare thesse to such forms as Padam (Abor-Miri) a-giag, Mzieme pekiak and tsingkiak, and Chang Naga puphyek 'branch' (Marrison 1967), and possibly also to the Lolo-Burmese set for BRANCH reconstructed as *?gak in TSR #43 (e.g. ?əkhak, Lahu ɔ̀-qá 'branch', là?nɔ-qá-ɛ́ 'double (i.e. branched) finger', khɨ-nɔ-qá-ɛ́ 'double toe'), though the lack of a *-y- here is a problem. (Perhaps the erstwhile velar prefix preempted the root-initial *y- in Lolo-Burmese.)

1.322 A direct reflex of the *g-yak allofam is WB gyak-kəli' 'armpit', one of a triplet of WB forms including chak-kəli' [below 1.4] and lak-kəli' 'idd.'[23]

From ARMPIT, the notion of TICKLE is but a giggle away in semantic space, and it is tempting to bring in here another group of forms meaning 'tickle' or 'itch', with no final consonant, reconstructed as *g-ya [STC #451]: WT gya-ba 'tickle; itch', Jg. kəyá 'id.', WB yâ 'itch'. To complicate matters further, there is a logical semantic progression from these ticklish notions to the idea of 'ashamed; shy, bashful', as represented by a root reconstructed separately in STC #452 as *g-yak (Jg. kəyà? 'ashamed, bashful", Lushai zak 'ashamed, shy', Tangkhul kəkhəyak 'shame; veneration'). The semantic interconnection is most apparent from the Lepcha forms, as pointed out by Benedict [p.c. 1980]: Lp. jak 'itch, tickle, titillate; desire, long for, lust for' ~ yak 'tickle; be ticklish, sensitive', mŭyak (mŭ = 'body') 'be bashful; feel shame, as girls before strangers'.[24]

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22 Presumably the common meaning here is 'with branching toes' (so-called either because they are splayed out from the pressure of standing on tiptoe or because they are especially numerous).

23 Also WB kəli' thûi 'tickle'. For the etymology of -kəli', see STC #265 and n. 199 (where I cite Lahu pɛ̀-lí-kā 'armpit' and ǧɨ-li-yá ~ ǧu-li-yá 'tickle'. Yang (1971) has collected similar binomial forms meaning 'armpit' or 'tickle' from many modern Chinese dialects, e.g. kɛ-li (written 格利) 'tickle' [Jìn-nán 晋南 dialect].

24 Cf. also Lepcha uk 'feel shame'. Another set of forms meaning 'shame; ashamed, shy' is reconstructed in STC #431 as deriving from an etymon *s-rak (e.g. WB hrak, Bunan śrag, Mikir therak), which Benedict hesitates to assign to the same word-family as *g-yak [STC #452], though he does posit a similar *-r-~ *-y- interchange for RIGHT *g-ya ~ *g-ra [STC #98 and n. 110; see note 20, above].

In TSR #182, I cite several curiously parallel Loloish binomes meaning 'ashamed', where the second element is of unknown meaning (e.g. Lahu yà?-tɔ, Akha sha^-daw^, Lisu shá[1]-taw[3]). The first syllables derive mostly from a prototype with a preempting *s- prefix, though the Lahu form comes from *-yak, not *-rak. There seems little doubt that *g-yak and *s-rak are merely co-

Benedict [p.c.] regards *-lak 'hand' and *-yak 'armpit' as two totally distinct roots, with the latter deriving from a non-bodypart area of semantic space, thus:

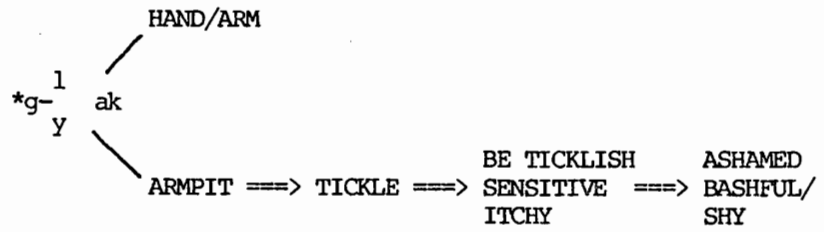
I. *g-yak (⨯ *s-rak)

BASHFUL/SHY		SENSITIVE TICKLISH	===>	"TICKLE-PLACE"
ASHAMED	===>	FEEL A TICKLING ITCH		ARMPIT

II. *g-lak

HAND/ARM

However, I feel it to be equally possible that the concrete bodypart notion of ARMPIT was historically prior to the notion of TICKLE, and was from the beginning associated with the equally concrete bodypart ARM, so that all these forms belong ultimately to the same word-family, thus:



Perhaps the final increment of meaning toward ASHAMED/SHY was provided by the mysterious dental-initialled etymon that appears in Loloish compound-formations (note 23).

Historical semantic problems of this complexity are difficult to resolve in the current state of our knowledge. Phonologically similar roots may always "contaminate" each other semantically, until the question of ultimate relationship becomes moot.

1.4 with fused (affricated) initial A number of forms in this word-family, with meanings ranging from 'hand, arm' to 'cubit, arm length' or to 'armpit, tickle' appear with affricated initials in various TB languages. These are undoubtedly secondary to prototypes in *-yak, but could descend equally well from prototypes with dental or velar prefix (*d-yak or *g-yak [above 1.22, 1.32]).

Doublets like WB gyak-/chak- [above 1.322] are especially interesting, since they capture this fusional process in midstream.

1.41 $*d^{\gamma}_{z}ak$ < $**\begin{Bmatrix} g \\ d \end{Bmatrix}$-yak

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allofams of the same etymon.

A. [Barish] Garo dža̱k 'arm' (also dža̱ 'foot'); Atong cak 'hand, arm'; Wanang cak-doŋ 'id.'

B. [Naga] Banpara (= Wancho) tśak 'arm, hand' (also tśia 'foot') [STC p. 34]. Marrison cites both Wancho tzak 'arm' and chuk 'arm', the latter to be assigned to *g-tsyəw-k [below VIII].

C. [Himalayish] Lepcha jak 'tickle' (≈ yak 'id.'). This doublet reflects a proto-alternation between prefixed and unprefixed allofams, and is semantically akin to WB chak-kəlî 'armpit' [above 1.322].

D. [Loloish] Lahu jâ?, ɔ̀-jâ? 'cubit, length from elbow to fingertips' (the voiced initial reflects a PLB *prenasalized initial); Akha cá? 'id.'; Sani ca^{44} 'id.'; Lisu cha^{3} 'length of the outstretched fingers'.[25]

These forms are all presented in TSR #100, where they are reconstructed as PLB *Nkyak ≈ *?kyak (though of course *Ntyak ≈ *?tyak would do equally well). Note that all these languages have forms meaning 'hand' that reflect the unprefixed allofam *lak [above 1.1(A)]: Lahu là?, etc.

1.5 'hand' and 'foot' Benedict was the first to point out [STC, n. 108 (p. 34)] the 'curious series' of parallel forms for 'hand' and 'foot' in certain Western TB languages, where the main difference between the pairs of forms is the lack of a final consonant in 'foot'. Thus:

> Miri ə̀lak 'hand' (< *lak) / ə̀la 'foot' Tableng (Konyak) yak 'hand' (< *yak) / ya 'foot' Namsang (Nocte) dak 'hand' (< *d-[ ]ak) / da 'foot' Garo dža̱k 'hand' (< *g-yak or *d-yak) / dža̱ 'foot'.

However these forms for 'foot' are to be explained (they certainly seem secondary to those for 'hand') the parallel alternation-patterns are a neat confirmation of the 'co-allofamity' of the lateral, palatal, dental, and affricated variants of this etymon.[26]

1.6 with labial prefix: *p-yak Finally, several interesting forms point to a prototype with labial prefix, *p-yak. Chief among these is WT p'yag 'hand (respect language)', which we claim is a doublet of the ordinary Tibetan word for hand, lag-pa (< *lak).[27]

Other prime candidates for this etymology are Chinese 臂 *pjěg/ pjiè- [GSR 853c] 'arm'; Lepcha a-ká pek 'forearm' (for a-ká, see below 12.2); and Limbu phuk-bek 'forearm'.

The morphemic source of our putative labial prefix is a matter of

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25 Fraser's symbol"ch" represents a plain initial, the aspirated one being transcribed by the trigraph "hch".

26 We have seen [above 1.11 (E)] that the Jingphaw prefix lə- (<*lak) also occurs in words referring to the lower limbs. Cf. also Chinese 脚 'foot' (<*k-yak) adduced by Yang [above 1.321].

27 Tibetan does not tolerate clusters of aspirates with -l-, so it does not matter whether we ascribe WT p'yag to *p-yak or *p-lak.

speculation, though there is possible some connection with the unstressed variant of the root *ba [below 13.2].

II. *pak or *p(r)ak 'leaf; flat object; flat of hand, palm'

The forms just discussed [above 1.6] are to be distinguished from an etymon which occurs in the second syllables of certain compounds meaning 'hand' or 'palm', i.e.

(a) in Loloish compounds meaning specifically 'hand' (as opposed to 'arm'), where the first syllable is from *lak:

> Lisu lá^{6}-hpá^{2} (Fraser), lɛ^{5}-phɛ^{2} (Nu-chiang); Sani le^{22s}p'e^{44} [the tones all point to a syllable-final stop];

(b) in Himalayish and Kuki-Chin compounds glossed as 'palm', where the first syllable is from *k(r)ut [below IV]:

> Chepang krutpāk; Meithei khubak; Lushai kut-pha? (also ke-pha? 'sole');

(c) in Naga, Barish, and Abor-Miri-Dafla compounds for 'palm', where the first syllable is from some allofam of *lak or *yak:

> Phom lakpha, Konyak yakpha, Garo dźak-pha (also dža-pha 'sole'), Abor-Miri lâk-po ~ lâk-pio 'palm'(also le-po 'sole');[28]

(d) Mikir has a compound doublet, ri-pak ~ ri-pek, glossed as 'hand (distinct from arm)' [Walker 1925, p. 148].[29]

It seems clear that these forms are traceable to an etymon like *pak, whose basic meaning is LEAF[30] or, more generally, FLAT OBJECT. The Mikir morpheme -pak is glossed as 'num. part., flat things' [Walker, p. 119].[31]

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[28] To these we may certainly add Moshang yokpha, glossed 'hand' in Marrison 1967, though he leaves the Moshang row blank under the item 'palm' [see n. 51]; as well as Nung ur-pha 'palm', with its characteristic first element [see below 4.6]. The lack of a final stop in this group of forms is a problem (although it is certainly possible that some final glottal stops have gone unrecorded in the sources), and suggests an allofam *pa which might ultimately be relatable to the root we set up separately as *pwa ~ *pya ~ *pla [below, XXX]. This is more or less the line taken in STC [#418 and n. 287].

[29] ri-pek is also glossed 'palm' [Walker 1925, p. 360], where it is given as a synonym of the more specific Mikir word for 'palm', ri-deng [see below, XXVII]. The morpheme ri- is practically an isolate in TB [below, XXV]. The Mikir word for 'sole' is keng-pak.

[30] Cf. PTB *(r-)pak 'leaf' [STC #40 and n. 77] and PLB *V-pak 'leaf' (TSR #29].

[31] This is confirmed in Grüssner 1978, who glosses -pàk as 'Klf. f. flache sachen'. It is well known that morphemes whose original meanings are the plant-parts LEAF, FRUIT, and STEM are often generalized for use as classifiers for FLAT, SPHERICAL, and ELONGATED objects, respectively [see Adams, Becker, and Conklin 1975]. The lines of the palm and the veins of the back of the hand irresistibly suggest the venation of a leaf. For further evidence of the semantic connection between PALM and FLAT OBJECT, see the root *plem ~ pleŋ [below XXVIII].

There is also some evidence for an -r- in this 'flat' root: WB prak ~ brak 'breadth, width'[32] and Jirel lak-pe parakq 'palm of the hand' (lakp-e is the 'genitive' form of lak-pa 'hand').[33]

It is tempting to try to explain the Mikir doublet -pak/-pek in terms of an alternation between this *pak root (> Mk. -pak) and the labial-prefixed etymon *p-yak [above 1.6] (> Mk. -pek), though this is perhaps far-fetched.

III.

d			d	
	o	~		a
t			t	

This root, which does not appear in STC, usually means WING, but sometimes HAND/ARM or CUBIT. The cognates usually reflect a *voiced initial, though a *voiceless allofam is also attested. The rhyme is usually -oŋ, though several languages point to a variant in *-aŋ.

3.1 *doŋ

A. [Lolo-Burmese] WB toŋ 'measure in cubits', ʔətoŋ (1) 'a cubit (measure of length equal to 2 spans)' (2) 'wing', tamtoŋ ~ tətoŋ (1) 'elbow' (2) 'measure of arm from elbow to end of middle finger'; Phunoi ʔā-tɔ̃ 'wing'; Bisu ʔaŋ-tɔ́ŋ 'id.'; Mpi mɯ[2]tuŋ[6] 'id.'; Lahu tɔ̄-làʔ-qú ~ tɔ̄-làʔ-qú 'id.'; Lisu du[4]-lá[6] 'wing' (also du[3] 'feather'); Akha à-dā 'wing' (spelled a.dah in Lewis transcription).

All these languages except Lisu and Akha regularly reflect PLB (and PTB) *voiced stops by voiceless unaspirates. All these forms reflect PLB Tone *1, except for Lahu, which points to a PLB Tone *2 allofam with preglottalized initial. The Lahu vowel in tɔ̄- comes from *-aŋ.

B. [Barish] Wanang cak-doŋ 'hand, arm'.

3.2 *toŋ / *taŋ Thakali [Himalayish] tāhng-karā 'wing'; Puiron [Kukish] bathang 'id.'; Jinghpaw sùmthàng 'arm'; Dimasa [Barish] bagarangthong 'wing'.

IV.

k			k-	
	(r) u t	or		[r] u t
g			g-	

This etymon [not in STC] seems confined to Kuki-Chin and Himalayish, though there is possibly a Burmese form which can also be related to it. The -r- shows up only in a few languages, but cannot be ignored. Semantically this

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[32] It was the -r- in the WB forms which led me to reconstruct the PLB root *brak ~ *prak ~ *ʔprak ~ *Nbrak 'flat; broad; a plank' [TSR #111] with that medial. In TSR I did not recognize an allofamic relationship between this root and LEAF [#29].

[33] Note that the -pā of Jirel (and of WT lag-pa, etc.) is the old PTB 'gender-like' noun-suffix (partner of -ma), and has nothing whatever to do with the present discussion.

We must also refrain from bringing in the ST forms p'rag-pa and p'rag-go 'shoulder, upper arm', since the semantic leap is too large--these are rounded body-parts, not flat ones [see below, XVIII]. (G. Diffloth points out a Mon-Khmer root *prac, found in Waic and Aslian, meaning 'shoulder'.)

root is firmly anchored in the HAND/ARM area.

4.1 *rut Mru [Kuki-Chin or 'Mruish'] rut 'hand'.

4.2 *krut [Himalayish] Chepang krut 'hand, arm'; Gurung pā:khruq 'arm'.

4.3 *gŭt [Himalayish] Kanauri gud(h) 'hand, arm'; Hayu got 'id.'; Magari mi-huT 'id.' (with unexplained de-occlusivization of the initial).[34]

4.4 *kut [Kuki-Chin] Lushai, Lai, Laizo, Chinbok, Bawm kut; Ngawn, Tiddim Chin khut; Meithei khut (※ khu- in compounds); Anal khu? [all 'hand']; Maring akhut 'hand', khutbang 'arm'; Puiron khut 'hand, arm', khutyung 'hand'.

4.5 *ku? There is a Burmese morpheme which might possible be related to this etymon: WB khu' [creaky tone] (1) 'unit, individual thing' (2) 'the present time'; ?əkhu' 'id.' [※ yəkhu' in sense (2)]; khu'-hnac 'seven' [in composition with hnac 'two']. The semantic developments here might involve the fingers of the hand as a 'unit' in counting (5 + 2 = 7), as well as the association between the hands and the present moment (the moment 'at hand'; cf. French maintenant 'now' [lit. "holding in the hand"] and Lahu là?- 'hand', là?-há 'immediately').

4.6 There is a mysterious form for 'hand' in Nung/Trung of the shape ul, which appears to be an isolate in all of TB.[35] Given the fact that our present etymon sometimes appears with non-stop initials (h- or r-), from which it is but a short step to zero-initial, there is a remote possibility that the -l final might somehow be an allofamic variant of the -t found elsewhere.

V. $\begin{Bmatrix} k \\ g \end{Bmatrix} - \begin{matrix} y \\ r \end{matrix} a ŋ$

This etymon [not in STC] usually means 'wing', but sometimes 'hand' or 'arm'. It is confined mostly to Barish, Naga, and AMD languages, but there is one good-looking cognate from Himalayish (Kanauri). The forms mostly show a velar initial followed by y or r. In a number of languages the velar is absent and the resonant appears as the root-initial, which indicates that the velar is prefixal [see above 4.1]. There is also a group with velar initial but no following y or r [below 5.5] which we provisionally interpret as 'prefix-preempted' forms, though it may eventually prove preferable to assign them rather to a different etymon [below VI].

5.1 *raŋ [Naga] Wancho rang 'wing'; Nocte arang 'ie.'; Tangsa (Moshang) wurong 'id.' (wu 'bird').

5.2 *yaŋ [Naga] Konyak, Phom yang 'wing'.

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[34] The mi- is a productive prefix with body-part words in Magari, and corresponds in this function to Meithei mə-, Mzieme and Zeme (Empeo) mi-, and Rengma n-/m-. Shafer has tried to derive this from TB *mi(y) 'man', a view rejected by Benedict, who interprets it as a much more general pronominal element [STC n. 329, p. 118].

The Limbu huk-pe 'hand' has the same initial as the Magari form, but the velar final leads us to assign it to a different etymon [8.32].

[35] Benedict [p.c.] also cites the form ur from the Rawang dialect of Nung.

5.3 *k-raŋ ✕ *g-raŋ [Barish] Atong ga-raŋ, Wanang ka-raŋ, Garo graŋ, Kachari ga?ŋ, Dimasa bagarangthong [all 'wing'].

[AMD] Monpa garang 'hand', garang-par 'palm'.

5.4 *k-yaŋ [Naga] Yimchungrü keang 'wing'; Sangtam pükyang 'arm'; Mzieme miba-kengkieng 'arm'; Tangkhul angachang 'wing' [Tangkhul has no ky- cluster].[36]

[Himalayish] Kanauri pakhö 'wing'.

Yang (1980) makes an interesting comparison of this allofam with Chinese 翔 *dziang/ziang 'go to and fro; fly backwards and forwards; soar; walk with elbows kept as outstretched wings' [GSR #732p]. He reconstructs PST *s-giang ✕ *s-kiang, pointing out that the same phonetic 羊 occurs in a word reconstructed with velar initial, 姜 *kiang/kiang [GSR #711a].

5.5 *k-[ ]aŋ or *kaŋ [Kuki-Naga] Khoirao akang, Yacham Tengsa shikang, Nruanghmei sukang, Ao Chungli tashikang [all 'wing'].

These forms are either from a prefix pre-empted variant of V, or else to be related rather to the group assembled as VI, below.

Chang Naga has a form kak 'wing', which may be either a stop-finalled allofam of this group of forms or else assignable to the PTB root *ka·k 'branch, fork' [STC #327].

VI. k
w a
g

This etymon [not in STC] seems to mean basically 'upper arm', though the putative Mikir reflex means 'wing'. It is attested in Kuki-Naga, Tibetan, Chinese, and maybe Loloish. The *-w- medial appears as such in Chinese and Ntenyi and is implied by the vocalism of the Tibetan and Mikir forms. The Maram form looks like it belongs here, but the Lautgesetze are not known. This set of forms is perhaps ultimately related to V, above [especially 5.5].

Chinese 肱 *kwang/kwang [GSR 887f] 'arm, esp. the upper arm, from elbow to shoulder'; WT p'ran-gon 'upper arm' (gon 'upper part' [note voiced initial]); Ntenyi [Naga] akwang 'arm'; Mikir kong, vengkong, arvengkong 'wing'; Maram [Kukish] wai-chu-kung 'arm'; Jg. (Maran, p. 1390) sìŋ-kōŋ ~ sìŋ-ko (Hanson).

The vowel of the second syllable of Lahu là?-qɔ̄ 'whole arm (shoulder to wrist)' could reflect *-aŋ, and its tone testifies to a PLB *preglottalized initial, so that -qɔ̄ could be from PLB *?kaŋ^2 or *?gaŋ^2. Lahu sometimes responds to *k^w with p,[37] so we might prefer to assign this Lahu form to 5.5

[36] The -nga- may be related to PLB *s- ŋak 'bird' [TSR #141]; the Tangkhul word for 'bird' is vanao.

[37] The three solid labiovelar roots reconstructed so far where Lahu has a labial are DOG [PLB *k^{w}iy^2 > Lh. phɨ̂], NEST [PLB *k^{w}iy^1 > Lh. phɨ], and COMB [PLB *?k^{w}iy^2 > Lh. pɨ̂]. See Matisoff 1978b (pp. 6-7) and 1980 [passim], as well as my Note 16 to Benedict 1979.

rather than VI.[38]

VII. g - w a n

This root [not in STC] is set up on the basis of forms from Kuki-Naga, Himalayish, and Chinese. It seems quite distinct from VI, in that it consistently has -n (not -ŋ). Note especially the different Ntenyi forms under VI and VII.

7.1 *wan The unprefixed allofam is reflected by Khoirao wan 'hand', Lotha Naga ewon 'arm', and Chinese 捥 or 腕 *·wân/·uân- [GSR 260 m,n] 'wrist'.

7.2 *g-wan Ntenyi agwŭn (also akhwen) 'hand' [alongside akwang 'arm', above VI]; Lepcha agon 'fin', ŋo-gon 'fish-fin'.

The semantic connection between 'wrist' (Chinese) and 'fin' (Lepcha) is not bad, since both are mobile articulating parts, and that is perhaps the essential semantic component of this root.

VIII. g-tsyəw-k

This etymon is reconstructed on the basis of forms from all over Sino-Tibetan, the allofams falling into two major groups: with open final and with velar stop final. The root-initial is a sibilant or affricate. Since I do not yet know much about the rhyme developments in many of the relevant languages,[39] it is very possible that some of the forms in -o assigned to this etymon belong rather to an allofam of our next proto-construct, *(t)s(y)a [below, IX].

8.1 *tsyəw (≠ *tyəw ≠ *səw) The important Chinese word 手 *śiôg/śiəu: [GSR #1101a] 'hand' is equated with Proto-Karen *tsŭ 'hand' by Benedict, and both are assigned to PST *tśəw, which we here reinterpret as *tsyəw.[40]

To this same root we assign Lotha Naga echo 'wing' and Maram wai-chu-kung 'arm'.[41] Taraon (= Digaro) a:tyo 'hand' (perhaps from an immediate prototype

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38 Another possibility is that the second syllable of Lahu là?-pɔ̄ ≠ là?-pwɛ̄ 'segment of the arm; forearm or upper arm' could be the direct reflex of this *kw- etymon, though it is at least as likely that it belongs with the root *p/baŋ set up below [XV].

39 The Naga rhymes in particular appear to be at least as complex as the rhyme developments in Loloish -- which is saying something! See now French 1983.

40 STC, n. 455 (p. 170). Jones 1961 [#174, pp. 124-5] sets up the Proto-Karen form as *cùh', on the basis of Taungthu cù, Sgaw sý, Pho (Moulmein) sú?, (Bassein) sù, and Palaychi cùq.

Chinese 寸 *ts'wən/ts'uən [GSR 431a-b] 'thumb' is considered by Benedict to represent a variant of this root with the -n 'dual' suffix, *tsu-n [STC n. 428, p. 158]. This character is used in compounds in the sense of 'hand', and is graphically related to 手 [GSR, p. 119].

As we have seen [above 1.321] Yang (1980) reconstructs 手 differently, though in this case the etymology proposed in STC seems clearly preferable.

We are indebted to Yang, however, for pointing out the phonological similarity between 手 and 肘 *tiŏg/tiən: 'wrist, elbow' [GSR #1073a], which certainly looks like it also derives from some allofam of *tsyəw.

41 Lepcha păk-ŏ́m 'arm' also looks like it fits in somewhere (? < *tsyəw-m), with the final nasal possibly reflecting the same dual suffix as in Chinese [n.

*tyəw) also belongs here, as do the first syllables of Nruanghmei sukang 'wing' and maybe of Palaychi (Karen) zù-kàq 'id.' (perhaps < *səw).[42]

8.2 *k(w)i-tsyəw or *ku(y)-tsyəw Several languages have dissyllabic forms meaning 'wing' or 'feather', whose first syllables begin with a velar and have vowels ranging from u and o to i:

> Maram kiso 'wing'; Mao dosho 'id.'; Limbu kuco 'feather' (also kulāp 'wing'); Sangtam khyo 'wing'.

The second syllables here are derivable either from *-tsyəw (or *-syəw or *-səw) or from some allofam or other of IX, below. The first syllables we assign to a separate root, *k(w)i ~ *ku(y) this disyllabic prototype, where the first syllable was reduced or 'prefixized' and in the process pre-empted the root-initial: *ki-tsyəw > *kə[ ]yəw > khyo.

8.3 *g-(t)s(y)əwk The allofams of this root with velar final also show variation of the initial consonant, with the reflexes ranging from simple sibilants to affricates (dental or palatal). This, of course, is a familiar and well-attested variational pattern in TB[43] and is captured formulaically by the notation "(t)s(y)".

8.31 *ts(y)əwk Bantawa [Himalayish] tshuk 'arm, hand'; Wancho [Naga] chuk 'arm' [also Wancho tzak 'arm' and chak 'hand' (see above 1.41B)].[44]

8.32 *s(y)əwk WT suq-pa 'hand (medical)' [< *səwk], alongside WT soq-pa ~ gsoq-pa [< *g-syəwk] 'wing; wing-feather, pinion' and gžogs 'side of body'; Sherpa pušokq 'wing', puzokq 'feather' (showing similar unexplained variation between palatal/dental and voiced/voiceless initial); Jirel syok-pāq 'wing' (also pujyāq 'feather').

Special problems are presented by Limbu huk, huk-pe 'arm, hand' (where the initial has 'laryngealized' -- see n. 29 above), and by Phunoi lăsup 'hand', where the final has perhaps assimilated to the preceding rounded vowel.

IX. $$m - (t)\ s \begin{pmatrix} l \\ y \end{pmatrix} a$$

This etymon mostly means 'wing', but sometimes 'hand/arm'. It is attested sporadically all over TB, and I have the feeling that many more cognates remain

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34].

42 All the other Karen dialects cited in Jones 1961 have words for 'wing' with first syllables like de?- or dai?-, from a separate root [Jones #219, pp. 128-9], here assigned to XXI, below. The Palaychi forms cùq 'hand' and zù- 'wing' look like co-allofams.

43 See, e.g., VSTB pp. 54-6, and Matisoff 1974, pp. 156-7.

44 Yang [p.c. 1980] here makes an excellent comparison with Chinese 足 *tsiuk /tsiwok 'foot' [GSR #1219a]. If Chinese 手 'hand' (<*tsyəw) and 足 'foot' (<*tsyəw-k) are indeed co-allofams, that would make Chinese look very much like the languages of section 1.5 (above) - where, however, it is HAND (not FOOT) that gets the final -k!

Yang also cites 疋 *sio/siwo 'foot' [GSR #90a], with the 'mysterious Archaic initial *s-', which also clearly belongs somewhere in this family.

to be discovered. It presents some of the most interesting allofamic patterns of any of our roots.

9.1 *m-sa Manipuri (= Meithei) masa 'wing'; Maring asa 'id.'; Angami ú-sə 'id.'[45]

(It is very possible that some or all of the forms in -o given under 8.2 belong here instead.)

9.2 *m-sla Lakher ma-thlaw 'the fin of a fish; a bird's wing' [Lorrain 1951, p. 204];[46] Lushai, Lai, Laizo thla 'wing'; Trung (Nungish) ul^{44}sla^{42} 'arm'; Newari lhā: 'hand, arm' (also lhāt, with unexplained dental suffix); Kaike lhā-na-jing 'palm', lhe-nu-pang 'sole' (alongside laa 'hand' < *lak).

Most interesting of all is the reconstructed pronunciation of the Hsi-hsia (= Tangut) character 翼 'wing', given by Sofronov as *lhi^{247} This fits *s-la perfectly, since, as Nishida has demonstrated, PTB *-a regularly becomes Hsi-hsia (and Tosu) -i.[48]

9.3 *sya To this allofam we tentatively assign Ntenyi akisha 'wing' and Rengma seki 'id.', and perhaps also Yacham-Tengsa shiking 'wing' and Ao Chungli tashikang 'id.'

9.4 *tsya With equal tentativity, we suggest as possible reflexes of this allofam Ao Mongsen tacha, ozacha 'wing' (as well as tücha 'arm'); Liangmai (= Kwoireng) chabin 'hand'; and Angami dze (Khonoma), udzie (Kohima) 'hand'.[49]

Finally, we may here bring in another Hsi-hsia form. The character 翊 'wing' is reconstructed as *ndzwI^{2} by Sofronov [see n. 47], and may reflect a prototype *m-tswa, which is quite close to our own PTB reconstruction for this etymon. The two Hsi-hsia words for WING, reconstructed *lhi^{2} and *ndzwI^{2}, would then be doublets (i.e., coallofams).

X. k(w)i ⨯ ku(y)

We set up this root to account for a number of forms with velar initial plus high vowel. Sometimes this vowel turns up as -i, sometimes as -u, and sometimes as a diphthong containing both vowels simultaneously.

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45 This form is in the transcription developed in our Berkeley field-methods course on Angami (1974-5). Marrison 1967 gives shü (Khonoma dialect) and puosü (Khoima dialect). Angami ə (= Marrison's "ü") is a frequent reflex of PTB *-a [Matisoff 1980, p. 14].

46 The vowel -aw is unexplained, in view of the Lakher forms thla 'month, moon' and thlah 'spirit, soul; goblin', both also from something like PTB *s-la [see Matisoff 1980]. Note the reinforcement of the semantic association WING <----> FIN implied above (7.2).

47 Personal communication. In 1976, Professor Sofronov was kind enough to enter his reconstructions for all the Tangut body-part words in the glossary of my copy of Grinstead 1972.

48 Nishida 1975, p.1. Examples include PTB *sya 'flesh' < Hsi-hsia *tshi; PTB *za 'child, son' > Hsi-hsia *riṅ, etc.

49 Angami -ie is sometimes the reflex of PTB *-iy [Matisoff 1980, p. 10], and no doubt has other proveniences as well.

10.0 With high diphthongal nucleus:

[Chin] Khumi kiu 'hand'; Zotung kuiʔ 'id.';

[Himalayish] Sunwar guy 'hand'; Kham (of Nepal) 'kwi 'id.';

[Nungish] Trung a$^{\widehat{32}}$kui^{44}ul$^{\widehat{44}}$ 'right hand'.[50]

It is worth mentioning that Karlgren's Archaic Chinese reconstruction of 羽 'feather; wing' is *giwo (> Anc. jiu:) [GSR 98a-b], which looks mighty close to these TB diphthongal forms.[51]

10.2 With front vowel:

[Himalayish] Bahing gy 'hand' (alongside dzumro gø 'right hand' and pe:ro gø 'left hand');[52]

[Kuki-Chin] Maram kiso 'wing'; Khumi pa-khi 'id.';[53]

[Naga] Rengma seki 'wing'; Ntenyi akisha 'id.'[54]

Sema achichibo 'wing' perhaps fits here (with reduplication and secondary palatalization?), though of course many other hypotheses are possible.

10.3 With back vowel:

[Himalayish] Lepcha pǎku, pǔŋku 'wing'; Limbu ku-lāp 'wing', ku-co 'feather'; Chepang waʔ-ko 'small feather'.

[Luish] Sak ta-kú, tǎhù, tahu 'arm'; Kadu təhù 'id.'; Lui takhu, tahu 'id.' [note the consistent presence of the dental prefix in Luish (above 1.2)].

Benedict (1974e) cites a Chinese form from Karlgren 1923 that appears in the Shuo Wen but not in any text, 翍. It is glossed either 'root of a feather' (with the reading *g'u/ɣəu) or 'short wing of a bird' (with the reading *d̂iu/ź̂iu). Benedict suggests a PST reconstruction of *(s-)guw or *(s-)gə·w for this (perhaps chimerical) morpheme.[55]

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[50] Since ul means 'hand' [above 4.6], Trung kui probably means 'right', though this is perhaps not a fatal objection to including the form here. The semantic shift HAND <-----> RIGHTSIDE is quite plausible, given that the right hand is the 'hand par excellence'. See note 20, above.

[51] Benedict derives this word rather from PST *g-wa [see our root XXII, below].

[52] All forms from Michailovsky and Mazaudon 1974.

[53] Note the putative Khumi doublet: kiu 'hand' ≠ pa-khi 'wing'.

[54] Note that by our analysis both the Rengma and Ntenyi forms are compounds consisting of the morphemes 9.3 and 10.2, though in opposite orders. (This is entirely plausible -- cf. the discussion of 'compound families' in VSTB, pp. 58 ff. et passim.)

[55] While on the subject of Chinese feathers, we might mention an exotic Tibetan/Chinese pair of cognates identified in Benedict 1974e: WT sgro 'a large feather, esp. quill-feather, used for an ornament of arrows, as a charm, etc.' /Chinese翿 *g'iog/g'i̯äu [GSR 1164h] 'long tail feather'. Although only these two forms have been uncovered so far, the semantic fit is extremely good, and Benedict suggests PST *s-g[r]ow for the etymon. (We may add the observation

10.4 Forms in -ai:

Finally, there are some Barish forms for 'arm/hand' with a diphthong written "-ai" or "-ay", which are perhaps relatable to the group cited in 10.1:

Boro akáy, ha-káy 'arm, hand', na-káy 'hand'; Kachari a?-kai? 'id.' These may ultimately be relatable to the group cited in 10.1 [above] or the forms in 12.1 [below].

XI. kar and kan

This root appears mostly in Himalayish, and usually means 'wing'. It is not yet clear whether the forms in -n go back to the same etymon as those in -r.

11.1 *kar

[Himalayish] Khaling khar 'hand', 'khar 'arm', phlemkhar 'palm'; Magari mi-khār 'wing'; Kham (Nepal) 'kar 'wing' (also 'khār 'branch'); Thakali tāhng-karā 'wing'; Kaike korpā 'id.'

Possibly related is Mikir phang-kor 'shoulder, bust, upper arm.'

11.2 *kan

[Kuki-Naga] Liangmai pakan 'wing'; Nruanghmei pakan 'id.'; Zeme pekan 'id.'

There is a good-looking Chinese cognate: 翰 *g'ân/ɣân- [GSR 140 f-g] 'pheasant feather; wing; to fly'.[56] Chinese -n sometimes reflects PST *-r [STC n. 460, p. 172], and the same development has occurred in several TB languages, notably Jinghpaw [STC, p. 15], so that it is possible that 11.1 and 11.2 are co-allofams.

Some slight evidence that these are rather two separate roots is provided by two TB languages which do preserve *-r as such: Boro akánti 'upper part of arm' and Mikir rikan 'forearm' (alongside phang-kor, assigned to 11.1). These forms may of course be entirely unrelated to those for 'wing' (the semantic fit is not too good), so we prefer to leave the relationship of 11.1 and 11.2 'up in the air' for the time being.

XII. ka-t

This root is apparently distinct from XI, though some open-syllables forms included here might eventually be better assigned to *kar (11.1). The dental stop that turns up in some forms appears to be suffixal. Most of the exemplars of this root are in Naga languages, though a form of key importance occurs in Lepcha (Himalayish).

12.1 *ka Lepcha ká, a-ká 'hand';[57] Yimchungrü kha 'id.'; Ao Chungli teka

that this phonetic series also contains the word 燒 *śńiog/ śiäu in the WT form.)

56 In this connection, Yang (1980) also cites Chinese 翾 *xiwan/xiwän 'to fly about' [GSR #256a'] and 翽 *xwâd/xwâi- 'rustling wings' [GSR #346g].

'id.'; Yacham-Tengsa taka 'wing' (alongside takhat 'hand'); Taraon a:tyo-ka: 'palm'.

12.2 *kat Yacham-Tengsa takhat 'hand' (alongside taka 'wing'); Ao Mongsen tükhet 'id.'; Meluri akhet 'id.'

The fronting of a to e before a dental final (as in Ao Mongsen and Meluri) is a common development in TB.[58] This leads us also to assign Lotha okhe 'hand' and Sangtam khe 'id.' to *kat, even though no final consonant appears overtly in these forms.

This suffixal -t is apparently the same element that we found in the Newari doublet lhā: ~ lhāt 'hand, arm' [above 9.2].

XIII. ba-n

A number of forms for 'hand/arm' in Kuki-Naga languages have forms with labial initial plus -a as their main root syllable (13.1). Other languages have a similar syllable as initial element in compounds meaning 'wing' (13.2). Still another group of Kuki-Chin forms with labial initials end in -an (13.3).

13.1 *ba Lakher ba 'arm'; Mao oba 'hand, arm'; Kezhama ba 'hand'; Maram ava 'id.'; Mzieme miba 'hand, arm'; Zeme mipa 'id.'

In Himalayish we find compounds for 'arm' whose first syllables apparently reflect the same etymon:

Kaike, Jirel pāpung 'arm'; Gurung pā:khruq 'id.'

However, these forms with voiceless initial[59] may have been influenced by Nepali pākhurā 'arm', like Sunwar pā:khrā: 'arm'.

13.2 *bă- ~ *pă- Words for WING in several Kuki-Chin-Naga, Barish, and Himalayish languages have a first syllable that appears to be a reduced variant of 13.1 The destressing would account for the voiced ~ voiceless alternation, which is typical of TB 'minor syllables'.

[Kuki-Chin-Naga] Liangmai, Nruanghmei pakan; Zeme pekan (alongside mipa 'hand, arm'); Puiron bathang; Khumi pakhi.

[Barish] Dimasa bagarangthong.

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57 Lepcha retains PTB *-r as such, which leads us to consider *ka to be a separate etymon from 'kar (11.1). Semantically, *kar usually means 'wing', while *ka usually means 'hand'.

58 It occurred, e.g., in Lhasa Tibetan [WT brgyad 'eight' > Lhasa kɛ̀ɛ̀] and in Lahu [PLB *krwat 'leech' > Lh. vè?].

59 Our root *ba is distinct from a root with voiceless labial initial in the same general semantic area, *pwa ~ *pya ~ *pla [below, XXX]. Marrison (p., 117) gives yokpha for Tangsa Moshang 'hand', though this is clearly the same formation as Konyak yakpha 'palm' [< yak 'hand'] and Phom lakpha 'palm' [< lak 'hand']. See note 23, above.

It is conceivable that there is some connection between 13.1 and the homophonous root *ba 'carry' [STC #26].

[Himalayish] Kanauri pakhöŋ; Thulung Rai baphlem; Newari paputi; Lepcha pǎku ~ pǔŋku.[60]

13.3 *ban [Kuki-Chin] Tiddim Chin ba:n 'arm'; Lushai bân 'arm', pan-puam 'muscle of upper arm' [for 2nd. syllable see below, XVIII]; Ngawn, Lai, Laizo ban 'arm'; Nruanghmei ban 'hand', banpom 'arm'; also Lui pambom 'id.', Meithei pâmbôm 'id.' (the latter two with assimilation to the labial initial of the following syllable).[61]

The Khumi form bam 'arm' must have a similar origin. We may assume assimilation to a following labial, then loss of the second syllable in the compound.

It is possible that the final nasal in *ban reflects an ancient PST *dual suffix, for which there is considerable independent evidence [STC, pp. 99-100].

XIV. bi-n or be-n

A number of forms meaning 'hand, arm' in Kuki-Naga languages have labial initials and front vowels, with or without a final -n. It is very possible that these will be relatable to *ba-n once the Lautgesetze are better known. For now we list them separately here.

14.1 With modern open syllables (bi, be): Angami (Khonoma) bi 'hand', (Kohima) ubi 'id.'; Chokri ube 'id.'; Rengma mbe 'hand, arm' (with nasal body-part prefix [above, n. 29]).

14.2 With nasal-finaled syllables (bin, ben, pen): Liangmai chabin 'hand'; Ao (Chungli) teben 'arm', (Mongsen) tüpen 'id.' [also tücha, above 9.4].

XV. p
a
b

This root has been uncovered in a few Kuki-Chin-Naga languages, and there is a good-looking Lahu (Loloish) cognate. The basic meaning seems to be 'segment of the arm'.

Tangkhul pang 'hand', pangthei 'arm'; Maring khutbang 'arm' (for the first syllable, see 4.4 above); Mikir phang-kor 'upper arm' (also ri-apong 'id.', with last syllable from XVI, below); Lahu là?-pɔ̃ ~ là?-pwɛ̃[62] 'arm';

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60 The Lepcha variant pǔŋ - seems to be a resyllabification of the unstressed prefix pǎ-. The same alternation occurs before a number of Lepcha roots. (Mainwaring glosses pǔŋ - as 'idem quod pǎ-' [p. 216].) A similar example of prefix resyllabification is Jinghpaw gùm-rà ~ gùm-ràŋ 'horse' < PTB *mraŋ [STC #145].

On the other hand, Lepcha pǔŋ - could be a direct reflex of our etymon XVI, below.

It is interesting to speculate that this morpheme *bǎ- ~ pǎ- might be the source of the labial prefix discussed under *p-yak [above 1.6].

61 The syllables -pom/-bom reflect a quite separate root, below XVIII.

62 Lahu ɔ ~ wɛ is a fairly productive alternational pattern (along with u ~ wi, o ~ we) peculiar to Lahu, clearly of secondary origin with respect to PLB. See Matisoff 1973, p.19.

segment of the arm (either shoulder to elbow or elbow to wrist'.[63,64]

XVI. p / b — u ŋ

This etymon seems never to mean merely 'hand', but always the whole arm or its proximal segment. Since this is quite close to the meaning of, and the two putative etyma differ only in vowels, it is certainly possible that there is a more general root of which XV and XVI are both merely allofams. With our characteristic conservatism, however, we are provisionally keeping them separate. [Note, e.g., the Mikir forms, one in -a- and one in -o-.]

WT dpuŋ-ba 'shoulder' (perhaps with the prefix discussed above, 1.2), dpuŋ-pa rkaŋ 'upper-arm bone', dpuŋ-pa lag 'upper and lower arm'; Kadu tapaung 'arm' (with the same prefix); Kaikè, Jirel pāpung 'arm' (for first element see 13.1); Abor-Miri lâk-pong 'arm'; Mru bong 'arm' (with voiced initial); Mikir ri-apong 'upper arm' (alongside phang-kor 'id.' < *paŋ [XV]); Idu Mishmi lapũ 'arm' (the same formation as in Abor-Miri).[65]

Loloish forms like Lisu lá^{42}-hprgh^{4} 'arm', Ahi lie^{44s}pɤ^{44} (also lie^{44s}pu^{55} 'id.' [see below, XIX]) and Lahu là?-pɔ̄ [above, XV and n. 55] are also compounded with the same first element as in Abor-Miri and Idu, and their second syllables may belong under this etymon.

Another possible cognate is Lepcha pŭŋku ~ păku 'wing; fin', though we have suggested an alternative explanation above [n. 52].

XVII. m- p / b — u k

We tentatively set up this root on the basis of forms from Jinghpaw and Lepcha. Given the frequency of the allofamic alternation between homorganic final stops and nasals in TB,[66] it is quite possible that this etymon should be combined with XVI into the same word-family.

Lepcha phukbek 'forearm' (for the second element see *p-yak, above 1.6); Jinghpaw màbù? 'wing' (poetic couplet of sìŋkō, above VI).[67]

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63 A (perhaps less likely) possibility is that this Lahu syllable derives rather from *kwaŋ [above, VI and n. 32]. Or, since Lahu -ɔ sometimes derives from a back vowel plus velar nasal, our root XVI might prove to be the better etymology. At any rate the two Lahu forms là?-qɔ̄ and là?-pɔ̄ must both be accounted for.

64 Yang (1980) cites Peking Mandarin 肩膀 jiānbǎng 'shoulder' and 翅膀 chìbǎng 'wing', where the second element has the same phonetic as other members of GSR Series #740, with the basic meaning of SIDE: e.g. 房 [#740y] *b'iwang/ b'iwang 'side-room', 旁 [#740f'] *b'wâng/b'wâng 'side, on all sides', 傍 [#740m'] *b'wâng/b'wâng(-) 'at the side of; assist'.

65 Without intimate knowledge of the Lautgesetze, we cannot of course be sure that Idu -pũ does not descend rather from XV (above) or *pum [below, XVIII].

66 See VSTB, pp. 23-5.

67 The final -? is of course not indicated in Hanson 1906 (who didn't bother with tones or glottal stops), but is supplied in Maran's revised and enlarged

XVIII. pum or pom

This root, which seems usually to refer to the upper arm, looks like it is definitely related to PTB *bwam [STC #172] 'to swell; be plump or protuberant', the tertium comparationis being the curve of the biceps. This etymon is quite distinct from *ban (13.3), with which it forms compounds. It occurs mostly in Kuki-Chin-Naga, but also in Jinghpaw and probably in Lolo-Burmese as well.

Lushai puam 'swell', pan-puam 'muscle of upper arm'; Nruanghmei bampom 'arm'; Meithei pâmbôm 'id.'; Liangmai mpoum 'id.';[68] Tangsa yokphum (Moshang), yakphim (Yogli) 'id.'; Jinghpaw ləphùm 'forearm'.

Also related is the second syllable of Lahu khɨ-pɛ̄-qu 'fleshy part of leg, calf'. (Lahu -ɛ is the regular reflex of *-um, as in lɛ̀ 'warm' < PLB *lum[1] [STC #381].)[69]

XIX.

p p
u or o w
b b

On top of all the other roots already reconstructed with labial initial (XIII-XVIII), one more may also be necessary, this time with final *-u or *-ow (with no following nasal or stop). Here we merely list the modern forms that are open syllables, but more detailed information on th Lautgesetze may push some of them into one of our *nasal-finaled roots.

[Naga] Angami bu (Khonoma), ubou (Kohima) 'arm'; Chokri ubo 'id.'; Sema aou 'hand, arm' (with vocalization of initial); Sangtam pükyang (for second element see above 5.4).

[Kachinish] Jg. ləphō 'the arm above the elbow (putative seat of strength)'.

There is also a group of Loloish compounds for 'hand' (apparently as opposed to 'arm'), whose first element is from *lak [above 1.1(A)] and whose second syllables begin with labials and have tones characteristic of non-stopped syllables (< PLB Tones *1 or *2). Again, a *nasal-finaled provenience for these forms, while unlikely, cannot be excluded. Nevertheless, we include them here:

(a) < PLB Tone *1 : Mpi lɤ²phu⁶ 'hand'; Akha là?-pú 'back of hand';

(b) < PLB Tone *2 : Bisu là-pù 'hand';

(c) PLB tone not yet determined : Ahi lie^{44s}pu^{55} (also lie^{44s}pɤ^{44}] see XVI above]); WB lak-phəmûi 'back of hand' (with destressing or 'prefixization' of the syllable).

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dictionary.

68 The initial nasal in Liangmai is undoubtedly a prefixization of the final consonant of the now-vanished first element of a compound with *ban-, as in Lushai, Nruanghmei, and Meithei.

69 Lahu khɨ means 'foot, leg'. There is no homologous Lahu formation like *là?-pɛ̄-qu 'fleshy part of arm'.

Finally, there is a set of Himalayish forms with an element -pu- in compounds meaning 'wing' or 'feather':

Newari pa-pu-ti 'wing'; Sherpa pu-šokq 'wing', pu-zokq 'feather'; Jirel pujyāq 'feather'.

Much 'microlinguistic' work remains to be done before all these labial-initialed roots (XIII-XIX) are straightened out.

XX. $\left\{ \begin{matrix} p- \\ s- \end{matrix} \right\}$ 1 (y) a p

This well-attested root occurs mostly in Himalayish, and is firmly in the semantic area of WING/FEATHER, with connections to the notions of waving, fanning, flapping, or fluttering.[70]

The root-initial is sometimes a simple lateral, but often a -y- glide can also be inferred, so that this etymon and its relatives provide further evidence for l/y interchange in TB. Two prefixes are associated with the root in its meaning 'wing, feather': an *s- and a *p-.

20.1 *lap [Himalayish] Limbu ku-lap 'wing'; Thulung Rai lāp-ter 'id.';[71]

[AMD] Abor-Miri a-lap 'id.'; Gallong alap 'id.'

20.2 [Himalayish] Khaling 'lepti 'wing' [S. and I. Toba 1975], 'feather'

[CSDPN IV, p. 51], 'lehpti 'wing [CSDPN IV, p. 93].

The *-y- is inferred from the Khaling front vowel, though it may of course prove to be the case that PTB *-ap regularly develops into Khaling -ep anyway.

20.3 *s-lap Lepcha lyop 'flap'; WT hlab-hlab 'flutter to and fro'.

Paradoxically, the presence of a -y- in Lepcha does not necessarily imply a *-y- at an earlier stage. As Benedict showed long ago, Lepcha -y- is often a secondary development from an *s- prefix.[72]

The WT voiceless lateral also points to an *s- prefix, though WT does of course have the cluster sl- as well. Perhaps the degree of morphemic binding between the two consonants plays a role, so that the 'intrinsic' PTB cluster *sl- > WT sl, while PTB prefixal *s- plus l > WT hl (*səl- > WT hl).[73]

20.4 *s-lyap WT ḥdab-ma 'wing; petal, leaf; fan (Csoma de Körös); flag

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70 Benedict [p.c.] now suggests a connection between this root and *(s-)lap 'leaf' [STC #321].

71 We resolutely deny any connection with Greek pterón or ptéruks! For the second element in the Thulung compound, see XXI below.

72 Benedict 1943. See n. 8.

73 WT word-families contain other puzzling doublets where voiceless laterals alternate with different-prefix-plus-lateral, e.g. glod-pa ✕ hlod-pa 'loose, relaxed; loosen; be easy, unconcerned' < PTB *g-lwat ✕ *s-lwat [see STC #209].

(Cs.); ladle'.

This reconstruction is motivated partly by the obvious allofamic relationship between this form and WT yab-mo ✕ gyab-mo 'a fan; fanning, waving', where a y appears overtly.[74,75]

For thoughts on the 'paradigmatic' vs. 'syntagmatic' reconstruction of lateral/palatal entities, see the discussion of *lak/*yad [above 1.12].

20.5 *p-lap [Himalayish] Hayu blop 'feather'; Chepang pāp 'wing'. Note that the Chepang form shows prefix preemption.[76]

20.6 *p-(l)yap [Himalayish] Tamang pyāhp; Gurung pyā:h; Sunwar phra: [all 'wing'].

We cannot tell yet whether the prototype of these three forms had a simple *-l- glide (>Tm., Gur. -y-, Sun. -r-), or whether a complex *-ly- was involved.

The labial prefix in 20.5-6 is plausibly to be identified with the element *bă- ✕ *pă- discussed above (13.2), which also appears in words for 'wing'. The Newari form paputi 'wing' is to be analyzed in these same terms, as pa-pu-ti [see above, XIX], and not as pap-u-ti.

It is probably no more than a coincidence that the *pyap allofam of the present root looks very similar to the PTB root *pyam 'fly' [STC, pp. 29, 51], even though homorganic final stop/nasal alternation is common in TB etyma [see above, XVII] and the semantic connection between 'fly' and 'wing' is close (cf. Jinghpaw pyēn 'fly' [< *pyam], məpyēn 'wing' [< *m-pyam]).

XXI. ti(r)

This root is tentatively set up on the basis of forms from Himalayish, Karen, and Naga languages. It is firmly in ornithological semantic space, always carrying the meaning 'wing' or 'feather'.

[Himalayish] Thulung Rai lap-ter 'wing'; Khaling 'lepti 'wing, feather'; Newari paputi 'wing'.

[Karenic] Sgaw (Moulmein, Bassein) dì?shé; Pho (Moulmein) dài?shwɛ̀n, (Bassein) dɛ̀?shwɛ̀n; Taungthu dé? [all 'wing'].

[Naga] Ao Chungli te 'feather'; Rengma teroha 'feather' (also tegü 'bird').

XXII. *wa and *wu

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74 See STC #92. In Matisoff 1972b (p. 282) I identified WT hkhrab 'to winnow, fan' as still another allofam in this complex word-family.

75 Yang (1980) has discovered two good-looking Chinese cognates here, 習 *dziəp /ziəp 'to practice flying' [GSR #690a] and 易 *t'âp/t'âp 'to fly' [GSR #628a], which he derives from Proto-Chinese *s-g-liəp ~ *s-k-lâp < PST *s-g-l(y)ap.

76 Interestingly enough, it was also Chepang which developed a prefix-preempted form in the TB root for LUNG, *p-wap (> Chepang pop), that is discussed at length in VSTB, pp. 113-23 (esp. p. 117). TB languages obviously have different preemptive propensities.

With the utmost caution I would like to offer another pair of related roots which are'strictly for the birds'. From the limited and ill-understood data available to me from Naga languages, it looks as if there was an underlying 'elaborate expression' of the form *awu-awa, where the two elements both meant either 'bird' or 'feather', and the compound as a whole meant something like 'feathered creatures in general; denizens of the sky'.

22.1 *wa Ntenyi awa 'bird', aowa 'id.' [< *awu-(a)wa], aowa-anu 'feather' (with anu 'mother'];[77] Ao Mongsen towa 'feather'; also perhaps Rengma teroha 'feather', Tangkhul vanoha 'id.'[78]

22.2 *g-wa This is how Benedict[79] reconstructs Proto-Chinese 羽 'feather'. Karlgren's reconstruction *ĝiwo/ĵiu: [GSR 98a-b] looks closer to our etymon *k(w)i ≵ *ku(y), as noted above (10.1).

22.3 *wu Tangsa (Moshang) vu 'bird', (Yogli) wu 'bird', wu-rong 'wing'; Khoirao awu 'feather'; Wancho ao 'bird' [< *awu]; Ntenyi aowa 'bird' [<*awu-(a)wa]; Chang ao 'bird', auwi 'feather' [? < *awu-kwi "bird's hand"; see above 10.1];[80] also perhaps Monpa oi-lom 'wing' [? < *awu-wi].

22.4 *g-wu Liangmai kahu 'feather'.

XXIII. lom

This putative root has so far only been noted in two obscure languages of Arunachal Pradesh. We invite further cognate identifications:

Monpa oi-lom 'wing'; Taraon (= Digaro) ta:lõ 'feather'.

XXIV. *mu•k ≵ *mu(•)ŋ

This root is set up in STC #394 as *mu•k on the basis of Kiranti (Lambichong, Chingtang, Yakha) muk 'arm, hand'; Garo mik 'cubit'; Bodo mu 'arm-length'; and WB muik 'measure with breadth of fist'.

To these we may add Mru muk 'lower arm', as well as a group of forms with final nasal which speak for a nasal-finaled allofam *mu•ŋ:

WB môŋ 'the arm', lak-môŋ 'upper arm', môŋ-râŋ 'upper arm close to shoulder'; Jinghpaw ləmoŋ-ləphùm 'forearm [archaic]' (tone of -moŋ not

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77 I.e., "bird-its principal part": the use of morphemes for 'mother' to mean 'principal or characteristic part' is widespread in Southeast Asian languages. Chang Naga uses the cognate syllable -nyu as a common noun-formative, bleached of even this semantic content. See Matisoff 1980, pp. 35-6.

78 The Tangkhul word for 'bird' is vanao, which presents us with a dilemma: are the va- of vanao and the -ha of vanoha co-allofams of this morpheme *wa, or is only one of them a genuine reflex of this etymon while the other is a mere look-alike?

79 P.C., Aug.-Sept. 1974. Benedict speculates that this is a loan from Austro-Thai into Chinese, since there is a similar Kam-Sui form. In view of the many likely TB candidates for cognacy, however, it seems to me that we are dealing with a genuine PST and PTB root.

80 Benedict [p.c. 1980] suggests that the second syllable of Chang au-wi derives rather from *mwil < *mil ≵ *mul 'body hair' [STC #2].

indicated in Maran, p. 681).

XXV. ri

This tantalizing etymon has so far only surfaced in Mikir and Tamang:

Mikir ri 'hand', eri 'arm', ri-pak ~ ri-pek 'hand', rikan 'forearm' [Grüssner has -rî 'Unterarm, Hand' (p. 208)]; Tamang nā:ri 'arm'.

XXVI. du

This etymon appears in the second syllable of identical compound formations in two widely separated TB languages:

[Loloish] Akha là?-du 'forearm'; [Abor-Miri-Dafla] Gallong lag-du 'lower arm' (alongside alak 'arm').

The semantics are so close, the phonological fit so good, and the morphemic structure of the compound so identical, that the root *du may be set up for PTB as a whole. This is a good example of how sometimes even a tiny bit of evidence can go a long way.[81]

XXVII. *deŋ

This etymon (like XXVIII-XXX below) refers specifically to the palm of the hand (or the sole of the foot). It is attested in Himalayish and Mikir, and there is an excellent Chinese cognate.

Mikir ri-deng 'palm'; Hayu pleŋ-teŋ 'id.'; Tamang yā:thing 'id.'; Thakali yā-thin 'id.'; Kaike lhānajing (apparently with secondary palatalization) 'id.'

Also showing palatalization of the initial is Chinese 掌 *t̂iaŋ/ tś̂iaŋ: 'palm' [GSR 725j].[82]

XXVIII. *plem ~ *pleŋ

This root occurs with the meaning 'palm' in Himalayish (and perhaps Nungish), and shows variation between final -m and -ŋ.

[Himalayish] Hayu pleŋ-teŋ 'palm'; Khaling phlem-khar 'id.'; Thulung Rai phlem-lā 'palm' (Rai 1944), baphlem 'wing' (Allen 1975) [also plem, plemte, phlem 'flat' (Allen)].[83]

[Nungish] Trung ul^{44}s$_a^{32}$be^{42} 'palm'.

This root is obviously the same etymon as the group of forms assembled in

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81 One may speculate that there is some connection between this etymon and PTB *tuk 'neck' [STC #392] ("hand-neck" = 'forearm'), though much more evidence would be needed to establish this.

82 Is it mere coincidence that the Chinese word for 'sole' reconstructs identically, except with a final velar stop instead of nasal? Cf. 跖 or 蹠 *t̂iăk/tś̂iäk 'sole' [GSR 795i].

83 For Limbu huk-tappe, see XXIX and n. 73, below.

STC #138 (*pleŋ 'flat surface; plank'). As the Thulung words for 'flat' just cited show, even in the sense of 'flat' we must posit *-ŋ ~ -m variation in this word-family.

XXIX. *tal

Still another root for 'palm' is to be found in Himalayish languages, this time with dental initial and a lateral final attested directly in WT. (It appears to be quite distinct from XXVII.)

> WT t'al-mo 'palm'; Kham (Nepal) lap-tā 'id.' [< *lak-tal]; Sunwar tā-plā (for second element see below, XXX); Limbu tāppe [< *tal-pe, with the second syllable probably the same element as in Limbu hukpe 'hand', perhaps a reflex of *plem ~ *pleŋ (XXVIII)].[84]

It is also possible that the second syllables of Lahu là?-tɔ-qɔ 'palm', khi-tɔ-qɔ 'sole' may be related, though the sparse traces of PTB *-l in Loloish are far from having been worked out.

XXX.

w
p y a
l

Finally, there is a set of forms meaning 'palm' beginning with a labial and showing overt traces of a glide (-w, -y-, or -l-) plus -a. One of these (WB bh wa) Benedict has grouped into STC #418 with a bunch of forms which I prefer to assign rather to *pak 'leaf; flat object; palm' [above, II].[85]

My approach here is to distinguish two separate roots, *pak and *pGa,[86] with the first showing affinities for LEAF/FLAT OBJECT, while the second seems to mean PALM specifically. Heuristically, forms are assigned to the present root if they show overt evidence of a glide; otherwise they are assigned to *pak, even though the sources show no evidence of a final stop. The last word has yet to be said on this complex problem.

> [Himalayish] Gurung yo-plā:; Sunwar tā-plā; Magari huTpyā;[87]
>
> [Kuki-Chin-Naga] Lakher ku-paza (also phei-paza 'sole'); Tangkhul pāŋ-mayā (with assimilation to the final nasal of the preceding syllable) [all 'palm'];
>
> [Lolo-Burmese] WB phəwâ, bhəwâ 'palm, sole'.

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[84] It is also possible, of course, that Limbu -pe in both tāppe 'palm' and hukpe 'hand' is from *pya [below, XXX], especially in view of the similar Magari formation huTpyā 'palm'.

[85] STC #418 cites only the forms from Nung, Miri, WB, and Garo, as well as the problematic Jinghpaw form in -n [below]. The stop-finaled forms from Lushai and Mikir are presented as a problem in STC n. 286. The forms with medial glide from Gurung, Magari, Sunwar, Tangkhul, Limbu, and Lakher given in the present section are not in STC.

[86] Where "G" stands for a glide (-w-, -y-, or -l-).

[87] Newari pā-lhā(t) 'palm', being a Himalayish form, might also be brought in here, though it shows no trace of a glide.

Putative Chinese relatives offered in STC [notes 463, 487] are 扶 *piwo /piu 'breadth of four fingers' [GSR 101f]; 巴 *på/pa (glossed 'snake' in GSR 39a, but also 'palm' in Karlgren 19233); and 把 *på/pa: 'grasp in the hand' [GSR 39b].

The problematic final -n in the Jinghpaw form ləphān 'palm, sole' (cited already in STC #418] might be the 'dual' suffix [above, n. 34; STC n. 428, p. 158].

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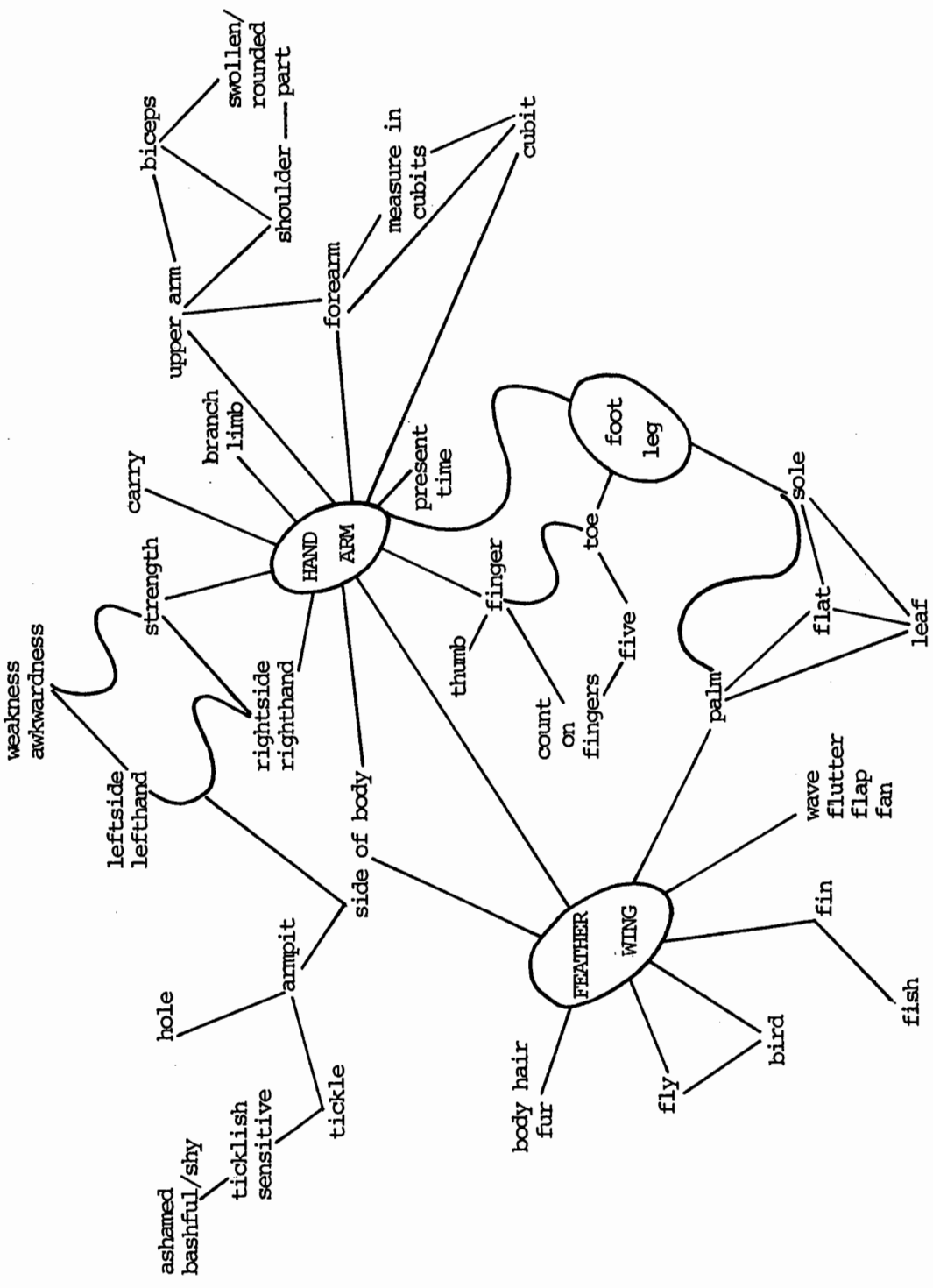
*

As is our custom in these 'organic semantic' studies, we here offer a 'metastatic flowchart' that indicates schematically the semantic associations revealed by the data.[88]

[88] For similar charts mapping (a) the internal organs of the body, and (b) nocturnal celestial bodies and spirits, see VSTB, Figure 19 (p., 229) and Matisoff 1980, p. 39, respectively.

Figure 1. Metastatic flowchart of the "limb-ic system"



Abor-Miri (Lorrain 1907); Ahi (Yüan Chia-hua 1953 [see TSR]); Akha (Lewis 1968 [see TSR]); Anal (Ono 1965); Angami [Khonoma, Kohima] (Marrison 1967; Matisoff 1980); Ao [Chungli, Mongsen] (Marrison 1967); Atong (Burling 1959); Bahing (Michailovsky and Mazaudon 1974); Bantawa [= Bontawa] (Michailovsky 1974b); Bawm (Schwerli 1979); Bisu (Nishida 1966b/67 [see TSR]); Boro [= Bodo] (Burling 1959; Bhat 1968); Burmese (Judson 1893; Benedict, ed. 1976 [see TSR]); Chang (Marrison 1967); Chepang (CSDPN); Chinbok (Ono 1965); Chairel (STC); Chinese (Karlgren 1923, 1957 [GSR]; Benedict 1972 [STC]; Benedict 1974e; Yang 1975); Chokri (Marrison 1967); Dafla (STC); Dimasa (STC); Gallong (Das Gupta 1963); Garo (Burling 1959: STC); Gurung (CSDPN); Gyarung [=rGyarong] (Chang 1968; Nagano 1978); Hani (Kao Hua-nien 1955; Hu and Tai 1964 [see TSR]); Hayu (Michailovsky 1974c); Hsi-hsia [= Tangut] (Nishida 1966, 1975; Grinstead 1972; Kepping 1975); Idu Mishmi (Anonymous 1962); Jinghpaw [= Kachin] (Hanson 1906; STC; Matisoff 1974; Maran [in prep.]); Jirel (CSDPN); Kachari (Burling 1959); Kadu (Löffler 1964); Kaike (CSDPN); Kanauri (Joshi 1909; Bailey 1911); Karen (Jones 1961; Benedict 1979); Kezhama (Marrison 1967); Khaling (CSDPN; Toba and Toba 1975); Kham [of Nepal] (CSDPN; Watters and Watters 1973); Khoirao (Marrison 1967); Khumi (Ono 1965); Kiranti (STC); Konyak (Marrison 1967); Lahu (Matisoff 1969, 1970, 1973 [see TSR, LED]); Lai (Ono 1965); Laizo (Ono 1965; Osburne 1975); Lakher [Mara] (Lorrain 1951); Lepcha (Mainwaring and Grünwedel 1898; Benedict 1943); Liangmai (Marrison 1967); Limbu (Chemjong, n.d.); Lisu (Fraser 1922; Jui Yi-fu 1948; Xu Lin and Ou Yizi 1959); Lotha (Marrison 1967); Lu-ch'üan Lolo (Ma Hsüeh-liang [see TSR]); Lui (Löffler 1964); Lushai (Lorrain 1940; STC); Magar(i) (CSDPN); Mao (Marrison 1967); Maram (Marrison 1967); Maring (Marrison 1967); Meithei [= Manipuri] (Pettigrew 1912; Marrison 1967; P.C. Thoudam, pers. comm.); Meluri (Marrison 1967); Mikir (Walker 1925; Grüssner 1978); Monpa (Das Gupta 1968); Moso (Li Lin-tsan, Chang K'un, and Ho Ts'ai 1967 [see TSR]); Mpi (Srinuan 1976; Matisoff 1978b); Mru (Löffler 1966); Mieme (Marrison 1967); Nasu (Kao Hua-hnien 1958 [see TSR]); Newari (CSDPN); Ngawn (Ono 1965); Nocte [= Namsang] (Marrison 1967; Das Gupta 1971; STC); Nruanghmei (Marrison 1967); Ntenyi (Marrison 1967); Nung (see Trung); Padam (Marrison 1967); Palaychi Karen (Jones 1961); Pho Karen (Jones 1961); Phom (Marrison 1967); Phunoi (Bradley 1977); Puiron (Marrison 1967); Rengma (Marrison 1967); Sak (Löffler 1964); Sangtam (Marrison 1967); Sani [= Nyi Lolo] (Ma Hsüeh-liang 1951) (= Ma Xueliang 1951); Sema (Marrison 1967); Sgaw Karen (Jones 1961); Sherpa (CSDPN); Sunwar [= Sunawari] (CSDPN); Tamang (CSDPN; Mazaudon 1974); Tangut (see Hsi-hsia); Tangkhul (Pettigrew 1918; Marrison 1967; Bhat 1969; Matisoff 1927b); Tangsa [Moshang, Yogli] (Marrison 1967); Taraon [= Digaro] (Chakravarty et al. 1963); Taungthu Karen (Jones 1961); Thakali (CSDPN); Thulung Rai (Rai 1944; Allen 1975); Tibetan (Csoma de Körös 1834; Jäschke 1881); Tiddim Chin (Ono 1965; Henderson 1965); Trung [= Nung] (Lo Ch'ang-p'ei 1945); Wanang (Burling 1959); Wancho (Marrison 1967); Woni (Yüan Chia-hua 1947 [see TSR]); Yacham-Tengsa (Marrison 1967); Yimchungrü (Marrison 1967); Zeme (Marrison 1967); Zotung (Ono 1965).

For an alphabetic/genetic listing of TB languages and dialects, see Matisoff 1980b. For complete references see the Bibliography.

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