CONTENTS

Editors Note: A preliminary version of Parts [illegible] and C of this monograph was presented at the Tenth International Conference on Sino-Tibetan Languages and Linguistics, Georgetown University (October 1977), under the title "Proto-Waic and the effects of registers on vowel gliding."

0) Introduction

Among the fourteen or so extant branches of the Mon-Khmer family, only three or four have developed preserved enough differentiation today to yield proto-branch reconstructions of great antiquity. They are: The Bahnaric, the Aslian, the Palaungic and probably the Viet-Muong branches. It is mostly from these reconstructions that we will be able some day to cast a glance at Proto-Mon-Khmer and beyond. The Katuic, Khmuic and Nicobarese branches, while extremely useful, do not appear to be as diversified as the first four. Monic and Khmeric, in spite of their written records and resulting prestige, ironically rank even lower in this respect.

Reconstructions of proto-Bahnaric, proto-Aslian and proto-Viet-Muong are already well on the way, but that of Proto-Palaungic now needs to be pursued beyond the advances made by Schmidt (1904), Shafer (1952), Shorto (1963) and Benedict (1975). The main problem in this branch has been the poverty of the data available; even when good collections were made, they often remain unpublished for lack of funding or other reasons.

In the last few years however, more data has become available on the Waic branch of Palaungic: Mitani has published descriptions and vocabularies of several Lawa dialects (Mitani, 1966, 1972), and is currently working on reconstruction in this area; tape recordings have been made of Wa, and for the first time, of Samtau, and I have collected some material on Lawa dialects not studied by Mitani. This new material complements what is already available in scholarly publications, in Bible translations and in political pamphlets,

so that it is now possible to attempt a phonological reconstruction of the whole Waic branch of Palaungic.

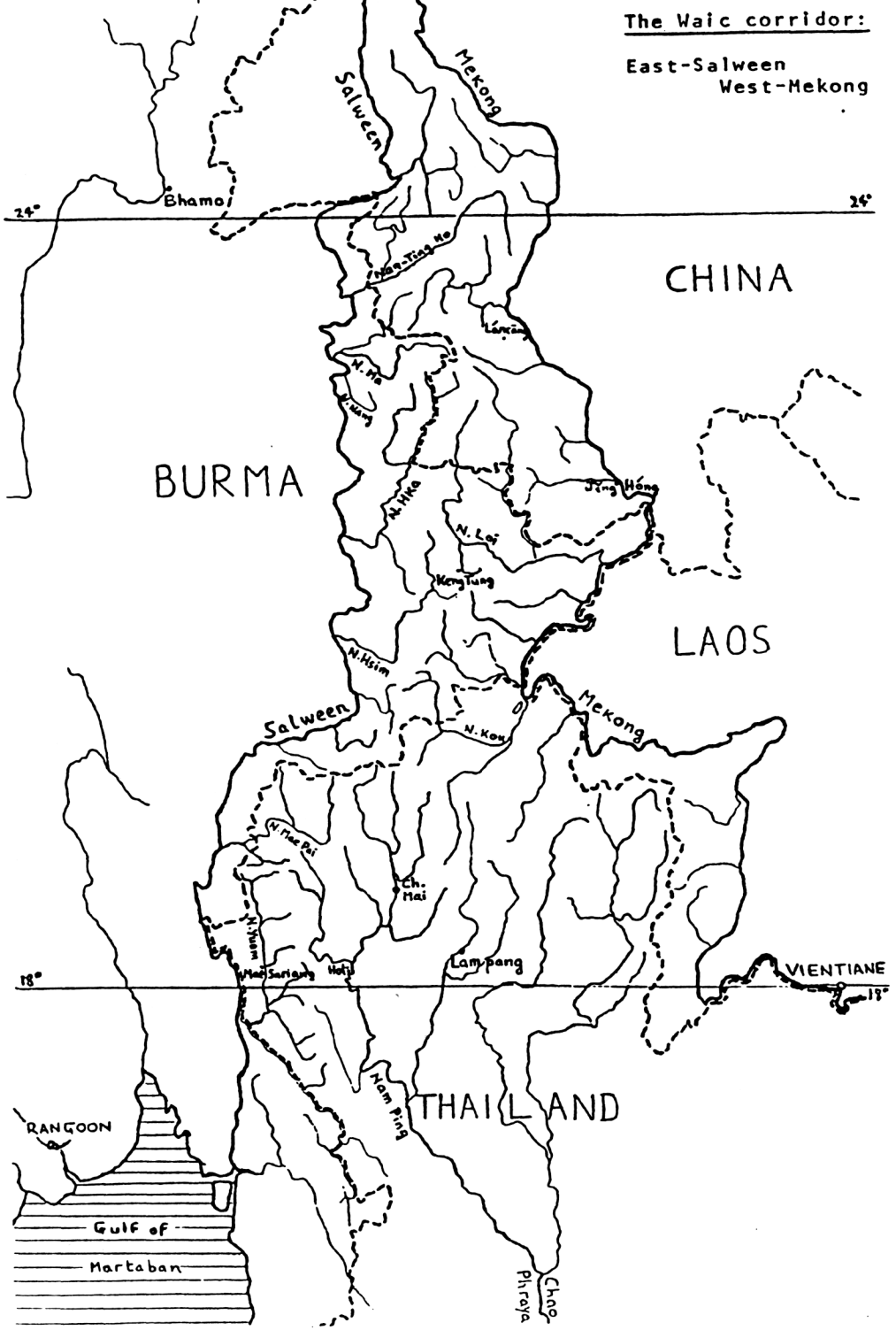
By Waic[1], I refer to all the languages included by Ferlus under the label "04-WA" (Ferlus, 1974), plus the newly discovered Samtau. The historical unity and distinctiveness of the group within Palaungic is supported by lexical and phonological evidence which I provide below. The diversity and probable time-depth within the Waic sub-branch are sufficient to make reconstructions interesting, but not great enough to render the task hopeless with the limited data available at present.

A) The Waic languages

1) Location

The eastern drainage of the Salween, between the 18th and the 24th parallels (the latitudes of Bhamo and Lampang respectively) is where most of the Waic languages are to be found today. In the South, several groups have remained in (or moved into?) the Chao Phraya basin: the Khalo (Flatz, 1970), the Kien Ka "Lawa" (Wenk, 1965), and some dialects of Lawa proper. In the East also, Samtau, K'ala[2] (Harding, 1927) and the Waic languages of China extend into the western drainage of the Mekong. But the narrow, 600 Km-long corridor mentionned above appears to be of historical significance to the Waic languages, as Schmidt suggested seventy five years ago.

The exact location of all the groups is not always clear from the published evidence, but the southern and eastern parts of


The Waic corridor:
East-Salween
West-Mekong
Salween
Mekong
24°
Bhamo
CHINA
BURMA
LAOS
THAILAND
Mekong
Salween
Ch. Mai
Lam-pang
VIENTIANE
18°
RANGOON
Gulf of
Martaban
Nam Ping
Chao Phraya

the area are the most diversified linguistically. This will eventually give us some clues about the historical movements of the whole group, but there has certainly been much moving about in the past, and the evidence of toponyms, borrowings, oral traditions and other historical indices will have to be collected and compared.

2) The data

The reconstruction proposed here is based essentially on a comparison of six different vocabularies which are abundant enough for the purpose. All other Waic sources available to me have also been used and inserted in the basic framework to compose a more complete picture of the linguistic history of the group.

a) The six basic sources

i) Lawa

The term Lawa, like so many other ethnic names in South East Asia, has been used locally to refer to all sorts of minority groups without regard for their linguistic affiliation. Some speak Waic languages, others belong to Monic,others even to Tibeto-Burmese. I will use the term Lawa in a strict linguistic sense to refer to the /rvɨa?/ of the Mae Sariang - Hot area, South-West of Chieng Mai.

The data is primarily from Mitani (1972), who collected vocabulary from the Bo Luang, Umphai and Ban Phae dialects. I will also use my own brief notes from the Northern and Ban Saam dialects, as well as field notes kindly given to me by Dr. Suriya Ratanakul on the Ban Pa Pae dialect, and Don Schlatter on the Northern

and the La?up dialects.

ii) Samtau

This newly discovered language was recorded in Thailand in 1976 by J. Harris and J. Gainey. About 1,000 words are given in careful pronunciation, together with the Wa equivalent (see below). The Samtau speaker came form an area North-East of Keng Tung between the Nam Loi and the Chinese border. As an ethnic group, the Samtau had been sketched in a few lines by Dodd (1923, p.61) and mentioned by name in a recent Burmese work (anon. 1968), but the language remained unknown.

iii) South Wa

This Wa dialect, from an area not very far North of Keng Tung, was recorded together with Samtau. The starting point of elicitation was a word list established for its relevance to Thai, but not necessarily Mon-Khmer, comparative phonology. I am very grateful to J. Gainey for having provided me with copies of the tapes. Without such incentive, this paper would not have been written. The transcriptions used here are mine and may contain errors on my part, although the quality of the recording is good.

iv) Bible Wa

I have extracted a fair amount of vocabulary from the American Baptist Mission translations of John and Matthew (Young, 1934, 1935) by retranslating these books back into English. The Wa teachers who worked on the original translations used a dialect similar to the 'South Wa' just mentioned, but the orthography disregards certain phonemic contrasts, especially among the final consonants.

v) Kawa

Using a similar method, I have assembled a vocabulary

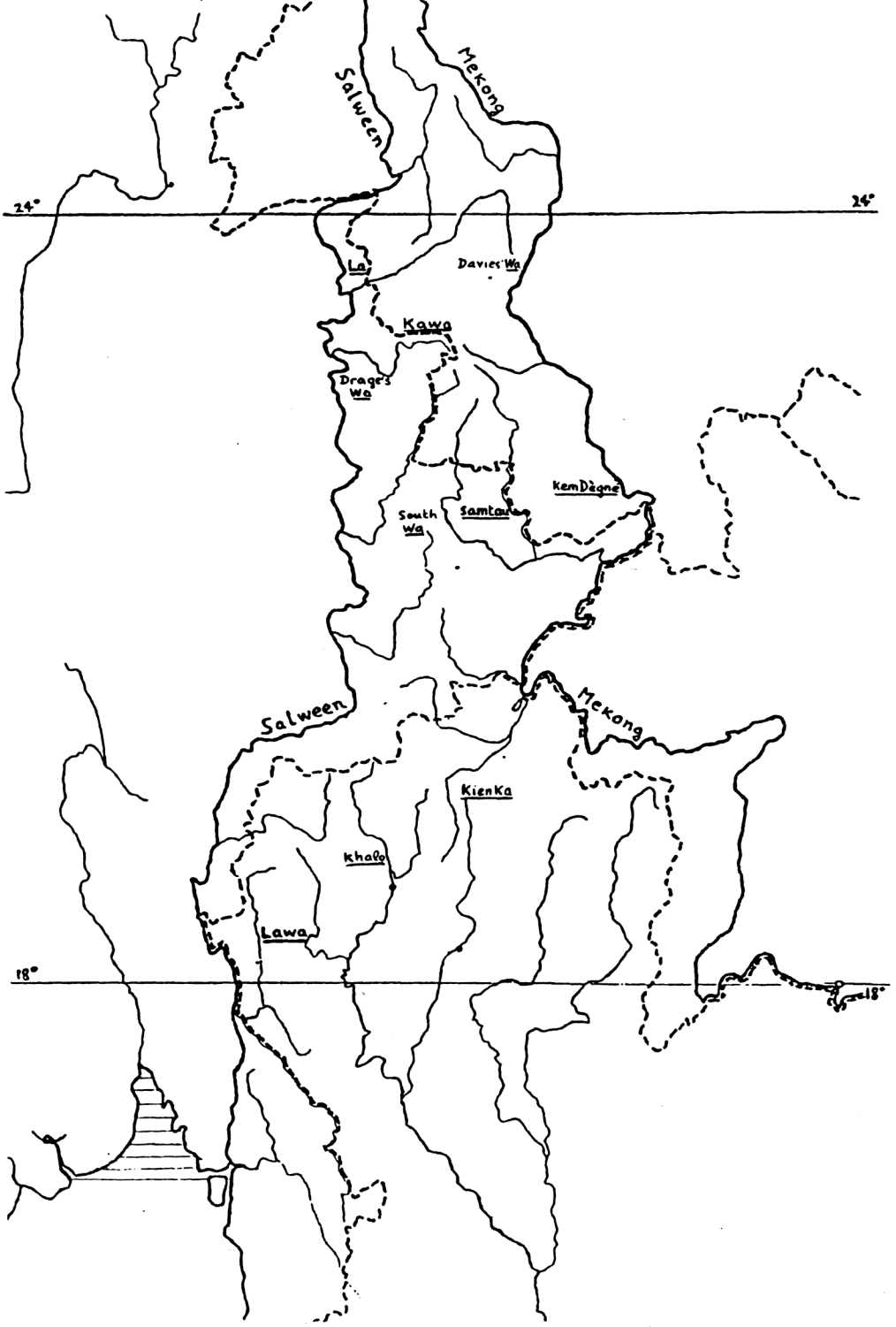
of the Wa spoken in China, also known as Kawa. This comes from several pamphlets in Kawa with Chinese translations on alternate pages which have been published in Kunming by the Yunnan National Publishing Company (anon. 1958, 1959a, b, 1960a,b,c,d,e) The two names represent the same dialect, but I will use the term Kawa here to refer to the language of these publications. I am very grateful to M. Ferlus for letting me have copies of these pamphlets which are very useful for their precise notation. I also wish to thank L. Yen for carefully translating the Chinese texts for me.

vi) Drage's Wa

This fascinating and little known work (Drage, 1907) is unfortunately marred by a number of typographical errors. But the vocabulary is abundant and repetitive, and the characteristics of this dialect are peculiar enough to often permit restoration of the intended spelling. Variants will be given in the Lexicon. The location of the dialect is not explicitely stated but, from internal evidence, it appears to be spoken in the North-western part of the Wa territory, probably in "Moitre Circle", somewhere between the Nam Ma and the Nam Nang.

b) Minor sources

Instead of making the older sources obsolete, the new information from our six basic sources permits a fresh understanding of all the other publications on Waic, old and new, brief and not so brief. Their notations can be interpreted with more confidence than was possible in Schmidt's and Shafer's times, and etymologies can be improved and multiplied.


Salween
Mekong
24°
24°
La
Davies Wa
Kawa
Drager's Wa
KemDègne
South Wa
Samtau
Salween
Mekong
KienKa
Khaño
Lawa
18°
18°

The first recording and publication of material in a Waic language is due to P. Lefèvre-Pontalis (1892): his vocabulary of 'Kha Kem Dègne' from Xieng-Hung (i.e. JǏnghóng, Yunnan Province) was not recognised as such until very recently (Ferlus, 1974): this language is a close relative of Samtau and Tai-Loi.

It is Scott's Gazetter (1900) which attracted scholarly attention to the Waic languages. All four of his Waic languages were recorded in Kengtung State: Tai-Loi, Son, En, and Wa of Kengtung: the last three are closely related to each other, while the first belongs to a separate sub-branch of Waic, together with Samtau and three other languages. Scott also gave a vocabulary of "Wa or Vü" which was much used by Schmidt, Shafer and Benedict, but is in fact a collection of two or three Waic languages or dialects; with patience, things could be sorted out, but I have not used this composite vocabulary in the present work. Scott's vocabularies (and later Luce's) have remained up to now the only source of data used in comparative studies, except in Shorto's work.

Davies (1907) has a Wa vocabulary which belongs to Wa proper, and a La vocabulary which is related to Scott's En, Son, and Wa of Kengtung; both of Davies' vocabularies were recorded near the Chinese border. His P'uman, included in the same work, belongs to the Angkuic branch of Palaung, and will not concern us here.

Antisdel's Wa (1911) belongs to Wa proper; it is the first source of information on Wa syntax after Drage (1907), whose Wa is outside Wa proper.

Harding (1927) has a short vocabulary of a language he calls K'ala, which forms an independent sub-branch of Waic; the people apparently call themselves "ss'va", whatever such information might mean. It is located in Kokang circle and has

not been investigated again since 1927.

Milne (1931) gives a few words of a Waic language which seems to belong to Wa proper, but has some unusual characteristics, such as retention of final -s; no location is given.

Rangsit (1945) gives a long vocabulary in three dialects of Lawa: Umphai, Bo Luang and Mapä. For the first two dialects, Mitani (1972) gives more information with a more precise transcription; but the third belongs to the Northern group of Lawa dialects not found in Mitani (1972). Rangsit also gives a very good account of the position of Lawa within Palaungic.

Shorto (1963) gives the first precise notation of a Waic language called Praok,which belongs to Wa proper; the vocabulary, unfortunately brief, is supplemented by more Praok words in the etymological data for some entries of the Mon Inscriptions dictionary (Shorto,1971); Praok seems to be similar to 'Bible Wa' (see above), but looks quite different due to Shorto's use of IPA. No location is given.

Luce (1965) has a very carefully noted vocabulary of Tung Va Wa, which also belongs to Wa proper; this is a North-East dialect, from Láncāng district, in the Western Mekong drainage, Yunnan. Luce also gave a comparison with some other Palaungic languages and etymological notes extending to the rest of Mon-Khmer.

Wenk's (1965) 'Kien Kā Lawa ' does not belong to Lawa in the strict linguistic sense; it is a member of the Samtau sub-branch of Waic; the location, between Chiang Mai and Chiang Rai, is noteworthy. To avoid ambiguities, the language will be referred to as Kien Ka, a village name.

Flatz (1970) contains another short vocabulary of a fascinating and previously unknown language called Lua by Thais and Khalo by the speakers themselves; it seems to form a separate sub-branch of Waic all by itself. The location, North-East of Chiang Mai is again remarkable.

Ferrell's (1971) P'uman only has a very remote connection with Davies' P'uman; it belongs to the Samtau sub-branch of

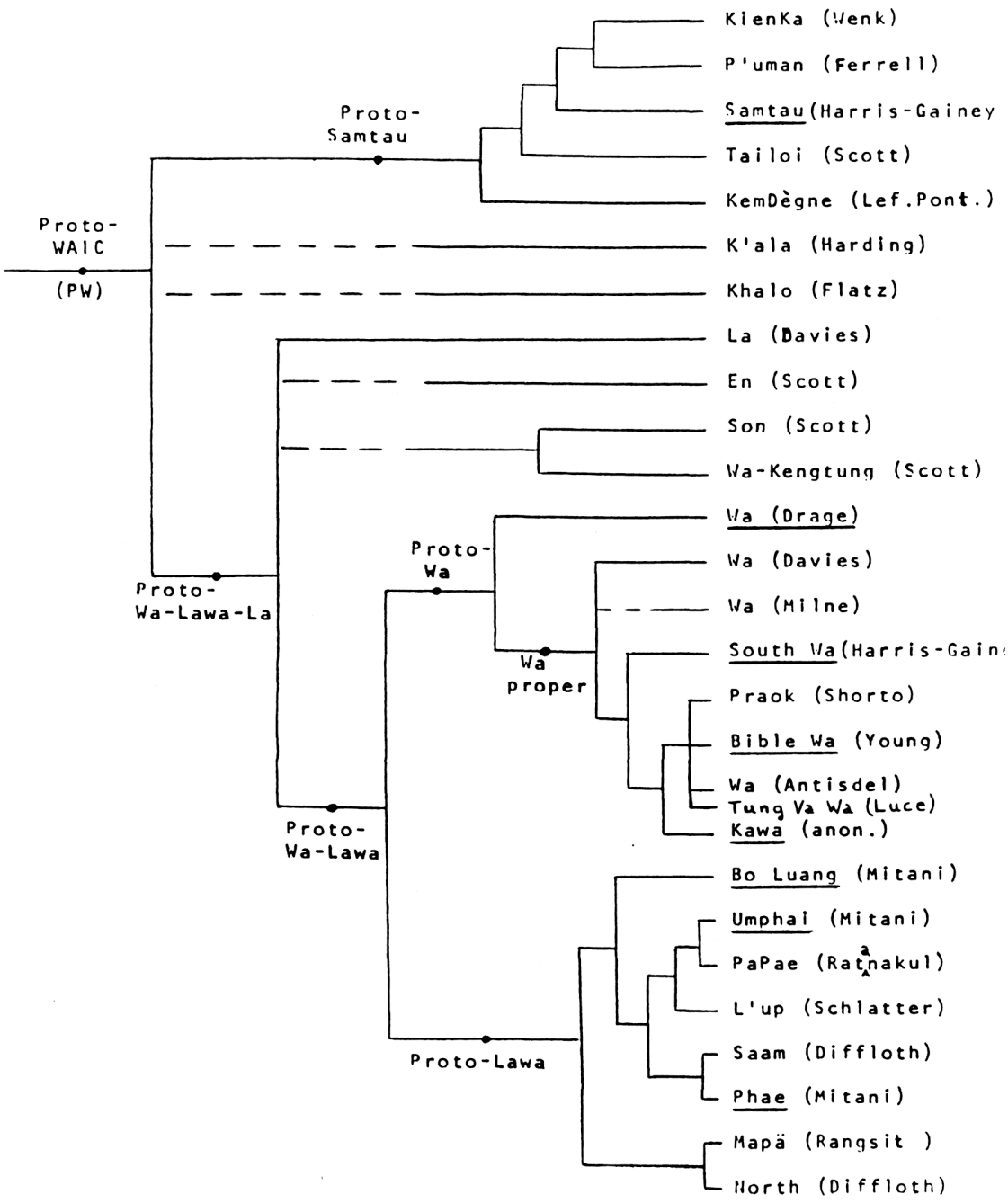
Waic, together with Tai-Loi, Kien Ka, Kem Dègne and Samtau itself. The conditions of the recording, in Taiwan, from a single speaker who hardly used the language for twenty years, should call our caution; and yet, it does provide useful information on the little known Samtau sub-branch.

3) Subclassification of Waic

The only classification of Waic languages ever proposed is Schmidt's(1904). Noticing a variety of phonological and lexical agreements in seventeen words from Scott's lists, he classified together Tailoi and En (and Vü) in one group, Son and Wa-Kengtung in another. Some of these words are notoriously subject to being borrowed in the cultures concerned ("copper","iron","trousers"), others ("young","yellow") also contain borrowings; such evidence is not convincing. The rest contains morphology ("sun"), or accidental lexical agreements due to the extremely small size of the sample. In brief, while Schmidt is to be credited for identifying the Waic branch for the first time, his subclassification within Waic is not reliable: En, Son and Wa-Kengtung now appear to be more closely related to each other than to Tailoi. Rangsit (1943) noticed that Lawa and Wa were more closely related to each other than to the other Palaungic languages, including Lamet (his"PaPao"), but the question has not progressed since then. And yet, a linguistic history presupposes a classification which provides us not only with a nomenclature, but also with a historical framework to discuss borrowings, diffusion etc.. Without it such discussion would remain vague.

The classification I propose here is based for the most part on shared phonological innovations (see Section C), and to a lesser

extent of lexical replacements, only rarely on geographical facts. Sub-branch names will be used herafter with the meaning shown here. Basic sources are underlined.



4) Palaungic relatives of Waic

The Waic languages form only one of the six branches of Palaungic: the other five are: the Lamet of Northern Laos and Chiang Rai Province, the Rumai languages (Palaung, Pale, Darang etc..) in the Shan States, West of the Salween, the Riang group in the same area, the Angku languages spread along the Western bank of the Mekong, and Danau near Inle Lake, Shan States. Historical relations among these branches are not yet clear, and the branching diagram suggested in Diffloth (in press) should be modified at least to the extent of making Rumai (Palaung) and Riang more closely related to each other than to the rest; but even this remains just a suggestion.

Only the Rumai and Angku branches seem to equal Waic in internal diversity; but the data on the Rumai branch available in print consists primarily in one language: Palaung (Milne, 1931), the rest are very short word lists; as for the entire Angku branch, a few poorly noted word lists is all we have. The other branches consist of isolates (Danau) or single languages with some dialectal diversity (Lamet, Riang). This gives Waic a unique position of importance for the reconstruction of Palaungic: not only the diversity and time depth are there, but also just enough data.

B) Phonological history

Since the material is so patchy and diverse in quality, my research proceeded mostly in zigzags and circles, which it would be confusing to retrace here. Instead, I will make a deductive

presentation, starting from the reconstructed Proto-Waic and going down in time to the six main sources of data just mentioned. Whenever desirable, I will insert comments about the other sources.

1) Finals

The final consonant system of Proto-Waic can be reconstructed as follows:

-p	-t	-c	-k	-ʔ
-m	-n	-ɲ	-ŋ	
	-r	-s		-h
-w	-l	-y		

Some languages have undergone partial mergers in certain restricted environments. In Davies' Wa for example, some PWaic *-oŋ rimes change to -an and some PWaic *-ɒŋ rimes change to -um, a unique development in Waic.

A few finals are affected by the height of the preceding vowel, thus producing or eliminating final palatals, but this question must be treated together with the evolution of the vowel system.

The only total mergers affect *-s and *-h on the one hand, *-r and *-l on the other.

a) *-s and *-h

Very few Waic languages have a final /-s/ contrasting with a final /-h/ today. The Umphai dialect of Lawa is the only clear case. In Drage's Wa and Kawa, *-s has evolved phonetically to a [-ɕ] which creates notation problems, as usual in Mon-Khmer languages. Drage has -ich after a variety of vowels[3]; and in Kawa, -ih is found after back vowels, representing the reflex

of PWaic *-s :PW *ʔmɤs "to love"(S 20)[4], Kawa: muih =/mús/

PW *prɤs "to blossom"(S 25), Kawa: bruih =/prús/

(cf. Palaung: prör, praḥ)

PW *ŋɔs "price"(S 7), Kawa: ngōih =/ŋɔ̀s/

but after Central and Front Proto-Waic vowels, only -h is found:

PW *rmɒs "banana"(S 17), Kawa: mūah =/mùah/

PW *lɛs "six"(S 27), Kawa: lTah =/lɛ̀ah/

However, the orthography of Kawa appears ambiguous when the vocalic nucleus already ends in an orthographic "i"; Kawa: seih "lower" could represent either /séh/ or /sés/; in this particular word, the first reading is probably correct since the Umphai Lawa cognate: /kaseh/ indicates a PW *-h. But even when PW *-s went to Kawa /-h/ without any ambiguity of notation, the former presence of *-s is often betrayed by the quality of the preceding vowel:

PW *kɲas "to smile"(S 8), Kawa: ngTah = /ɲàh/

In this word, Pw *a has been preserved as /à/ because the final was originally an *-s (see: 3.a.i.3); if it had been a PW 8-h the low tone *a would have become /è/:

PW *gah "to give"(H 7), Kawa: gTeh =/kèh/

In Samtau and in South Wa, PW *-s and *-h have merged to /-h/, but, here again, there are traces of the old contrast in some of the vowel reflexes: *-ɒs rimes do not have the same history as *-ɒh rimes.

The orthography of Bible Wa does not represent final -h at all even though it probably exists and represents the merger of PW*-s and *-h; open syllables in this orthography may represent not only PW*-s and *-h, but also PW *-r and *-l, as well as *-ʔ, some *-w's

and *-y's, and a good number of borrowings with original open syllables.[5] A seven-fold notational merger of this kind makes certain etymologies hasardous.

Among the minor sources, Tai-Loi has preserved *-s:

PW *mɨs "nose"[6](S 18), T-L: mus

PW *pos "deer"(S 15), T-L: puss

PW *tɨs "breast"(S 11), T-L: tuss (in: om -- :"milk")

PW *lɒs "quick" , T-L: lass (in: om --"river, stream")

cf. Khmu: làç (Muong Sai dialect, Mitani,1965)

PW *mɨs "name"(S 19), T-L: muths

PW *gis "salt"(S 6), T-L: kith

We also find /-s/ in Milne's short collection of Wa words:

PW *ŋk_s "mouth" , Wa M: nkūs

PW *mɨs "nose"(S 18), Wa M: mūs

The data is not abundant, but it indicates retention of *-s in all three branches of Waic: Wa (Drage), Lawa (Umphai) and Samtau (Tai-Loi). The frequent merger of *-s and *-h into -h in most Waic languages has therefore little diagnostic value for subclassification within Waic.

Proto-Waic *-s corresponds to Proto-Palaungic *-s, preserved in Riang and Lamet. But while some P. Pal. *-s's go b... ... Proto-Mon-Khmer *-s, others do not (Diffloth, 1976a).

b) *-r and *-l

These two are a little more difficult to reconstruct. Five of the basic sources[7] have Ø as a reflex of both *-r and *-l; but Ø is also found in numerous borrowings from Thai and other languages.

Samtau, however, has a final /-l/ which represents a merger

of PW *-r and PW *-l, and only these two. This gives us already one proto final liquid, say *-L. See numerous examples in L and R sections of the Waic Etymological Lexicon.

But several of the minor sources have two different reflexes for this *-L:

i) Davies' La (1909) has -n in some words, -Ø in others:

*-L_1= -n: PW *?ɛr "fowl"(R 1), La: en
PW *kɨr "wind"(R 5), La: ken
PW *p_r "to ask", La: pwan
PW *pɤr "to fly"(R 11), La: pun
PW *?mar "field"(R 13), La: ban

(note one exception: La: ā "two"<PW*l?ar (R 2))

*-L_2= -Ø: PW *kol "ten"(L 4), La: kow
PW *ŋɒl "fire"(L 7), La: go
PW *kbɤl "thick"(L 15), La: p'u
PW *kmɨl "silver, money"(L 19), La: bai
PW *hril "thin"(L 21), La: ri
PW *hɤl "go"(L 26), La: hu
PW *crel "gold"(L 20), La: k'ri

ii) Wenk's Kien Ka (1965) has -Ø in some words, and post-vocalic -i in others, presumably a notation for /-y/:

*-L_1= -Ø PW *?ɛr "fowl"(R 1), KK: ä̆
PW *pɤr "to fly"(R 11), KK: pü̆
PW *-bor "evening"(R 12), KK: tapū
PW *?mar "field"(R 13), KK: mă
PW *phɛr "bee"(R 18), KK: phäh(ă)

*-L_2= -y PW *kdɤl "stomach"(L11), KK: katɔ̄i

PW *k?ɔl "pot"(L2), KK: kăui

PW *ŋɒl "fire"(L7), KK: họi

PW *kmɨl "money"(L19), KK: kămɔ̄i

PW *hɤl "to go"(L26), KK: hüi, hɯ̄i

PW *kbɤl "thick"(L15), KK: pöi

(note one exception:hă̄ "thin"<PW *hril (L21) due to the vowel?)

iii) Scott's Tai-Loi (1900) has both final -r and final -l, as well as -rr and -ll. I doubt that these represent four different finals; these fall into two series of correspondances: -rr corresponds to *-L_1, and -ll to *-L_2:

*-L_1= -rr PW *?ɛr "fowl"(R1), TL: err

PW *s?ɤr "warm"(R3), TL: sa-urr

PW *kɨr "wind"(R5), TL: kurr

PW *?mar "field"(R13), TL: marr

*-L_2= -ll PW *k?ɔl "pot"(L2), TL: kaw-all

PW *ŋɒl "fire"(L7), TL: ngall

PW *kbɤl "thick"(L15) TL: ka-pull

PW *kmɨl "silver, money"(L19), TL: ka-mull

PW *hɤl "go"(L26), TL: hull

The single example of -r (sāng-char:"to lighten") has no konwn etymology; as for -l, it sometimes represents *-r; TL: la-al "two"<PW *l?ar, or an authentic *-l: TL: pul "grey"<PW *pɨl (L14) (cf. Khmu (Delcros, 1966): puul), but also *-? : TL: sa-mol "stone" <PW *smo? (?67).

Some -r's and -l's also appear in Scott's Son, as well as -rr's and -ll's in Scott's Kengtung Wa, but they do not pattern

with the rest of the data available. Some -r's may have been used to note central vowels, e.g.: nyur (Son, Wa Kengtung)"needle" <PW*-ɲe? (? 22), as Schmidt also suspected, but this is probably not always the case.

iv) Ferrell's P'uman (1971) also shows two series of correspondances: -h and one case of -y on the one hand, vs. -Ø and one case of -l on the other:

*-L_1= -h, -y: PW *?ɛr "fowl"(R 1), Pm: ?ɛh$^-$
PW *l?ar "two"(R 2), Pm: lay$^-$
PW *pɤr "to fly"(R11), Pm: puəh$^-$
PW *?mar "field"(R13), Pm: məh$^-$
PW *h_r "skin" , Pm: həh$^-$(cf. Riang:hur$^-$)

*-L_2= -Ø, -l: PW *kol "ten"(L 4), Pm: kul$^-$
PW *ŋɒl "fire"(L 7), Pm: ŋwaɛ$^-$
PW *mpal "shoulder"(L12), Pm: mwa$^-$ (cf. Semai glpaal)
PW *hɤl "go"(L26), Pm: hwe$^-$

In all four languages (La, Kien Ka, Tai-Loi, P'uman), lexical items of the first series correspond among themselves, and so do those of the second series. The phonetic qualities of *-L_1 and *-L_2 are easy to guess: agreeing with Tai-Loi, Riang has /-r/ for *-L_1, and /-l/ for *-L_2. We can thus reconstruct PW *-r and *-l, and this is confirmed within Palaungic by the Laos dialect of Lamet (Izikowitz, 1951), and in the rest of Northern Mon-Khmer by Khmu (Delcros, 1966, Lindell, 1974). Other Mon-Khmer languages such as the Senoic languages of Malaysia will occasionally be quoted for support in the Etymological Lexicon.

Reconstructing final *-r and *-l will be useful to explain certain reflexes of the PW vowel *ɒ which would otherwise seem irregular. This also suggests that the loss of these two finals may be fairly recent in different branches of Waic.

2) Initials

My treatment of Waic initials will be as limited as the data itself is. In order to determine the history of certain clusters and the role and form of prefixes and infixes, about ten times more information would be necessary. For the moment, I can only treat the simple initial consonants, and the more common types of complex initials. In section 4, "Complex initials", I will return to these problems.

a) Simple initials

The system of Proto-Waic initials found in #CVC# words can be reconstructed as follows:

p-	t-	c-	k-	ʔ-
b-	d-	j-	g-	
m-	n-	ɲ-	ŋ-	
	r-	s-		h-
w-	l-	y-		

The only difference with the system of final consonants is the addition of a complete series of voiced stops. There is actually some difficulty in reconstructing the phonetics connected with this series of proto-stops, although the phonological contrast is clear.

The problem is that none of our six basic sources have preserved

this series phonetically intact.

i) Samtau tones

Samtau has only one series of voiceless initial stops, with a simple two-tone system[8]:

PW *kap "chin"(P 3), Sm: kắp (Khmu: kaap)

PW *gap "to hold in jaw" , Sm: kàp (Khmu: gaap)

PW *kɒt "cold"(T5), Sm: kɔ́t (Palaung: kăt)

PW *gɒt "old (hum.)"(T 7), Sm: kɔ̀t

PW *kam "chaff"(M 5), Sm: kắm (Khmu-Theng (Maspero, 1955): kaam, Palaung: kām)

PW *gaŋ "rat"(Ṅ 11), Sm: kàŋ (cf. Khmu: gaaŋ "house"?)

PW *cak "deer"(K 11), Sm: cắk (Khmu: tyaak "deer")

PW *get "to bite"(T 6), Sm: cèt (Khmu: gɛɛt "to nip", Pal.: gĕt "to pick flowers, leave

PW *joŋ "foot"(Ṅ 18), Sm: cùŋ (Khmu: jwaŋ, Pal. jwŋ (Shorto, 1971))

PW *taŋ "to weave"(Ñ 4), Sm: táŋ (Khmu: taaŋ, Pal.: tēng)

PW *dɛm "short"(M 16), Sm: tèm

PW *tes "mushroom"(S 9), Sm: tẃh (Khmu: tih, Pal.: tīr)

PW *dɒh "head" , Sm: tòh (Khmu: kdah, Pal.: kạ-dāh "forehead")

PW *pɨŋ "to blow"(Ṅ 40), Sm: páŋ (Khmu: puuŋ)

PW *bɨm "fence"(M 25), Sm: pùm (Pal. kạr-būm "fenced garden")

Not surprisingly, voiced initials produced a low tone and were then devoiced.

ii) Register and aspiration in Drage's Wa

In Drage's book, Wa is said to have five tones, indicated by numbers 1 to 5; but actually there are no words with tone 2 in the vocabulary[9], and in fact, very few words have any tone marks at all. Drage's excuse that they "are best learnt by practice with a native" betrays perhaps an uncertainty with regard to tones.

Tone 5, more frequent than the other three added together, appears to be mostly a notation for -ʔ and sometimes -h, neither of which are otherwise noted consistently. Drage's description of tone 5 as "abrupt, uttered with emphasis - emphatic tone" says nothing about pitch and is consistent with a consonantal reading. Exx:

PW *khiʔ "month"(ʔ 105), Dr: ke5 (also:ke3)

PW *sɔʔ "dog"(ʔ 98), Dr: hso5

PW *ʔrɨʔ "deep"(ʔ 85), Dr: raü5

PW *hlɛʔ "rain"(ʔ 88), Dr: leh5

PW *khoʔ "tree"(ʔ 108), Dr: kao5

PW *hŋɔʔ "rice plant"(ʔ 20), Dr: ngo5

PW *rwaʔ "Wa"(ʔ 73), Dr: vüa5

PW *bɤʔ "yo. sib."(ʔ 56), Dr: po5 (also: pu)

PW *taʔ "gd. father"(ʔ 29), Dr: ta5

PW *ŋaʔ "house"(ʔ 23), Dr: nia5 (also: niüa)

PW *ŋaʔ "sesamum"(2 18), Dr: ngö5

PW *gah "to give"(H 7), Dr: hkö5

PW *pih "to pick (fruits..)"(H 15), Dr: peh5

As the list shows, there is no apparent correlation between tone 5 and the nature of the proto initial; whereas final -ʔ and -h account for most words noted with tone 5 (102 out of 114), the rest has final -m's (chöm5 "rotten peas") or -k's (muk5 "to cut"), or -t's (kut5 "ears of grain"), or -ŋ's (rawang5 "to follow up") which I cannot explain.

For the remaining tones 1, 3 and 4, I have not found any significant pattern in either finals or initials; see for example:

PW *ʔrɒŋ "house post"(Ṅ 56), Dr: rōng3

PW *ʔrɤ̆ŋ "horns"(Ṅ 62), Dr: rōng4

where the apparent tonal contrast may simply be a way of noting different vowel qualities: from the history of the vowel system, we would expect /roŋ/ and /ruŋ/ respectively for these two words. There are also some inconsistencies: "chief": kraw3, kraw5, "month": ke3, ke5 etc.. In any case, the number of words where tones 1, 3 and 4 are noted is too small to make a comparison.

What does appear significant, though, is aspiration in initial stops. Proto voiced stops become aspirated stops, noted with a preposed h-, while voiceless stops remain unchanged.

PW *gɨm "to winnow" , Dr: hköm (Khmu: guum)

PW *gaŋ "rat"(Ṅ 11), Dr: hköang (Khmu: gaaŋ "house")?

PW *gah "to give"(H 7), Dr: hkö5

PW *kdiŋ "large"(Ṅ 29), Dr: hting

PW *dok "food tray"(K 21), Dr: htōk

PW *dak "jungle"(K 17), Dr: htöak

PW *bi? "human being"(? 51), Dr: hpi (Pal. bi)

PW *kbɤl "thick"(L 15), Dr: hpu4C (Khmu:mbɯl)

There are, to be sure, many cases where an aspirate would be expected and a simple voiceless stop is found; some of these cases may be explained by the former presence of pre-nasalisation:

PW *ndɒŋ "pot"(Ṅ 33), Dr: tawng

PW *rŋgoŋ "pillow"(Ṅ 14), Dr: kōng

PW *ŋgaŋ "scabbard"(Ṅ 12), Dr: köang

In some cases, the notation is unstable:

PW *kdɨm"ripe"(M 18), Dr: htöm, töm (Khmu: nduum)

PW *rndak"sole, palm"(K 19), Dr: (h)töak (Khmu: kdaak)

I have no explanation for the other exceptions, but the notation is consistently skewed: while there are discrepancies

in one direction:

PW *-bor "evening"(R12), Dr: pua

PW * gɒt "old(hum.)"(T7), Dr: kut

there are no cases of proto voiceless stops represented by Drage as aspirates ; the discrepancies noted above thus seem to be notation failures; in fact, even the original clusters of voiceless stop + h are often represented as plain stops:

PW *kho? "tree"(?108), Dr: kao5

PW *khi? "month"(?105), Dr: ke5

The historical evolution of former voiced stops into aspirates is a well known phenomenon in Thai linguistics[10], and suggests an intermediate stage with breathy vowels which would later create aspiration in the initials (Haudricourt, 1965).

iii) Aspiration in two dialects of Lawa.

The Umphai dialect of Lawa, and apparently also the Ban Pa Pae dialect, show the same development, while the other dialects have merged the two series in favor of unaspirates.

Umphai Lawa:

PW *gaŋ "rat"(Ṅ11), UL: khɨaŋ

PW *koŋ "to dig"(Ṅ9), UL: kauŋ

PW *kdɨm "ripe"(M18), UL: thum

PW *ktam "crab"(M9), UL: tam

PW *-bor "evening"(R12), UL: phu

PW * pɤr "to fly"(R11), UL: peu

In addition, all dialects of Lawa show vowel developments which are conditioned in part by the original voice feature of initial stops; but these involve a natural class of vowels which can be called "buzzy" (see Sec. 3.a.i.4. below) and overlaps with the breathy vowels postulated for Drage's Wa.

iv) Creaky voice in Kawa

In Wa proper, devoicing of initials has also taken place. This was probably preceded by a stage where a Clear vs. Breathy contrast in the vowels was established, as in Drage's Wa. But the contrast in phonation type has now been lost in most Wa dialects, except in Kawa. The two series of Kawa vowels are described phonemically by the terms Tense vs. Lax (Dai, 1958), but the author points out that this contrast is manifested phonetically by differences in pitch, in vowel length, in vowel quality as well as in phonation type, all of which vary according to the dialect. In the standard orthography, Lax vowels are marked with a ¯ while Tense vowels are left unmarked.

Dai(1958) gives the pitch correlates for threedialects of Yunnan Wa (Kawa):

Meng Gong dialect has high falling pitch on tense vowels
low falling pitch on lax vowels

Mang Won dialect has high level or high falling pitch on tense vowels, low falling or low rising pitch on lax vowels

Shi Xi dialect has high level pitch on tense vowels
low level pitch on lax vowels

In the Yan Shuai dialect, the contrast is manifested by vowel quality, at least for the high vowels,which are slightly lowered and backed for tense vowels.

In terms of length, tense vowels are generally shorter than lax ones. and this is why, the author explains, Chinese borrowings with the fifth tone have tense vowels in Kawa: cf: pi͡ "pencil", ty͡ (sic) "poison" (͡ indicates tense vowels).

But the basic distinction in Kawa is one of phonation type;

Tense vowels are described as being produced with the arytenoid cartilages "moved" to a position which influences the tension of the vocalis muscle, presumably by creating more tension than in the lax vowels. If I am right in interpreting this as being a description of creaky voice, we have to assume that the older Clear vs. Breathy contrast conditioned by Voiceless vs. Voiced initials has been shifted in Kawa to a Creaky vs. Clear contrast, respectively. This interpretation would also throw a very interesting light on vowel developments in Wa Proper (See Sec. 3), including Kawa.

Tense (Creaky?) vowels = original voiceless initials:

PW *kɔn "child"(N 4), KW: gon /kɔ́n/

PW *cak "deer"(K 11), KW: jag /cák/

PW *tɨ? "vegetable, curry"(? 31), KW: daeex /táɯ?/

PW *pon "four"(N 10), KW: boun /pón/

Lax (Clear?) vowels = original voiced initials:

PW *gat "much" , KW: gīed /kèt/

PW *joŋ "foot"(Ń 18), KW: jāong /càɔŋ/

PW *day "flower"(Y 14), KW: dāi /tày/

PW *bon "able, get"(N 13), KW: bōun /pòn/

Among the minor sources of Waic material, there are many traces of the PW voicing contrast in initial stops, but no language has kept it phonetically unchanged.

v) No real tones in Luce's Wa.

For the Wa of Tung Va, Luce (1965) noted five tones. Tone 4 represents unaccented, i.e. non-final syllables. Tones 2 and 5 are conditioned by finals, but tones 1 and 3, only found with final stops, depend on the voicing of the initial, as Luce noted: "surd initials" with tone 1, "sonant initials" with tone 3.

However, the surd-sonant distinction noted by Luce is of recent origin and has nothing to do with the, contrast between Proto-Waic Voiced and Voiceless initials we are discussing here.

Tone 1 does occur with original (PW) voiceless stops:

PW *ka? "fish"(? 6), WaL: ka?[1]

PW *te? "hand"(? 25), WaL: tai?[1]

PW *pE? "you"(? 48), WaL: pè?[1]

but also with PW voiced stops which have been devoiced:

PW *get "to bite"(T 6), WaL: ki:t[1]

PW *g‡t "quail" , WaL: kɯt[1]

PW *_d‡? "silk"(? 40), WaL: taə?[1]

PW *b_? "carry on back" , WaL: pu?[1]

Tone 3 occurs with initial stops which are voiced today, but this voicing is usually[11] due to pre-nasalisation of stops which may have been either voiceless or voiced in Proto-Waic:

PW *knt‡?"hole"(? 33), WaL: n\daɯ?[3]

PW *nd‡? "dumb"(? 39), WaL: n\dau?[3]

The phonetic tones of Luce's Wa are entirely determined by the present quality of initials and finals, and are probably a recent innovation, more recent than devoicing of the old voiced initials. They are not (yet?) contrastive.

vi) No "α-switching" in Scott's Son and Wa

Two of Scott's Waic languages have a strange development noticed by both Schmidt and Shafer, but not explained. In Son and Wa of Kengtung, the original voiceless stops are now voiced, and the original voiced, voiceless.

To this rule there are three exceptions:

	Son	Wa (Kengtung)
PW *ka? "fish" (? 6)	ka	ka
PW *kɔn "child" (N 4)	kun	kawn
PW *kol "ten" (L 4)	kaw	kaw

and one irregular case:

PW *keŋ "head" (Ṅ 7)	gaing	kaing

otherwise, *voiceless stop → voiced:

PW *kɨr "wind" (R 5)	gur	gur
PW *ktɛ? "earth" (? 28)	dé	de
PW *pos "deer" (S 15)	buh	bwe
PW *pɤn "wife" (N 12)	bun	bun
PW *tɛp "flea" (P 8)	dup	dup
PW *cak "deer" (K 11)	jāk	jāk
PW *k+? "man, (class.)" (? 10)	gao	gao
PW *pon "four" (N 10)	b/wun	b/wun
PW *te? "hand" (? 25)	de	de
PW *p+l "grey" (L 14)	bao	
PW *kɒt "cold" (T 5)		gut
PW *k+ŋ "father" (Ñ 3)		gung
PW *t+s "breast" (S 11)		dwe

(A number of examples shown by Schmidt actually represent older pre-nasalised stops, e.g. Son: dim "eight" < PW *sntem (M 13), and follow different rules.)

and *voiced stop → voiceless

PW *gɒt "old" (T 7)	kot	kut
PW*Kdiŋ "big" (Ṅ 29)	ting	ting
PW *kdɤl "belly" (L 11)	tu	tu
PW *dɛm "short" (M 16)	tum	tum

		Son	Wa (Kengtung)
PW *bɛʔ	"goat" (ʔ 53)	pé	pé
PW *gis	"salt" (S 6)	kyi	kwi
PW *kbɤl	"thick" (L 15)	pu	po
PW *bɤʔ	"yo. bro." (ʔ56)	po	
PW *bɤʔ	"breast" (ʔ 57)	pu	
PW *dɤr	"hill" (R 8)	tur	
PW *baŋ	"top, above" (Ṅ 43)		pāng

This may appear to be a case of so-called "α-switching" rule (α Voice → -α Voice, α = + or -), but actually it may be explained phonetically in a natural fashion: notice that the Proto-Waic clusters: Stop + h are noted as simple, unaspirated stops:

PW *khiʔ	"moon" (ʔ 105)	kyi	kyi
PW *khoʔ	"tree" (ʔ 108)	kao	kau
PW *phɒn	"five" (N 22)	puon	pawn

even though aspirated stops found in Thai or Shan borrowings are noted, Burmese style:

"snare"	hköm	
"chief"		hkun

These facts indicate, I think, that Son and Wa (Kengt.) went through a stage where the Proto-Waic voiced stops became aspirates, like Drage's Wa and two Lawa dialects; then, the initial Proto-Waic voiceless stops became voiced; later on, all aspirates, including the original *kh-, *ph- clusters, lost their aspiration: finally, Thai borrowings brought a few aspirates back into these languages.

Proto-Waic	> Proto-Wa-Lawa	>		> Present-day Son, Wa Kg.
*P-	*P-	*P-	*B-	B-
*B-	*P̤-	*Ph-	*Ph-	P-
*Ph-	*Ph-	*Ph-	*Ph-	P-

This way, it is not necessary to postulate a criss-cross of features which would be extremely difficult to imagine in real psychological and sociological terms.

vii) Contrastive tone in P'uman

Ferrell's P'uman has a two-way tone contrast which does reflect the earlier voice feature of the initials: low tone for proto voiced initials, high tone for proto voiceless. Since a similar situation, not surprisingly, is found in Riang (a Palaungic language outside Waic), Ferrell noticed the agreement in tones between P'uman and Riang, and the lack of agreement with Luce's Wa in this respect; he concluded that P'uman and Riang were more closely related than P'uman and Wa. But the vocabulary, and, more importantly, the vowels of P'uman show it to be a Waic language. It is closely related to Samtau where a two-way tone system having the same origin is also found. The ressemblance in the tone systems of P'uman and Riang is a clear case of typologically identical sound changes which are historically distinct. This does not bring about a historical convergence of the two languages because a variety of other changes took place in the earlier history of each language (e.g. simplification of certain initial clusters), and these create different inputs to the tone rules, resulting in a few, but important, tonal disagreements between P'uman and Riang. This question would require a full representation of

Proto-Palaungic. See P'uman examples in the Lexicon.

b) Initial clusters

Much of the early history of Mon-Khmer languages consisted in gradually reducing the imposing array of initial consonant clusters which existed at one time in most of the branches, and was itself the result of a Proto Mon-Khmer disyllabic stage with a rich morphology. The work in this area has barely begun (Shorto 1963, Gradin 1976, Ferlus,1976, in press, to appear).

The data on Waic does not permit yet a full treatment of the question for that sub-branch of Mon-Khmer. I will only examine initial Stop + Liquid clusters in this section and widen the scope in section 4.

Initial Stop + Liquid clusters are frequent, well preserved, and interesting for their effect on the register of the following vowel. Much will be said about this in the chapter on gliding (Section 3), so, I will only use two languages here, Samtau and Kawa to establish the important notion of "permeability".

Proto-Waic had the following initial Stop + liquid clusters: (leaving aside initial ?- for the moment)

*kr- *gr- *pr- *br-

*kl- *gl- *pl- *bl-

another cluster: *cr- is rare and of doubtful origin, but has the same effect on the following vowel as the other clusters.

In Samtau and Kawa, the tone and register of the main vowel following these clusters are high and tense respectively after *kr- *kl- *pr- *pl-, low and lex respectively after *gr- *gl- *br- *bl-. *It is exactly as if the liquid did not exist or presented no obstacle* to the forward influence of the initial consonant.

This very common mechanism in South East Asia will be refered to as "permeabilty"[12].

		Samtau	Kawa
— Proto Voiceless Initials:			
PW *kris	"a bear"(S 22)	kʰrí̀h	krí̀h
PW *klɤŋ	"fat,adj."(Ñ 15)	klɤ́ŋ	klú̀ŋ
PW *prem	"old (thing)"(M27)	pʰrí̀m	prí̀m
PW *play	"liquor"(Y 28)	plɤ́y	plɤ́y
— Proto Voiced Initials:			
PW *grɨŋ	"things"(Ṅ 64)		kràwŋ
PW *gro?	"clothes"	kʰrù?	
PW *glɒt	"escape"		klɔ̀t
PW *glɤc	"wrong"	klɛ̀c	
PW *bre?	"outside,weather"(?77)	pʰrè?	pràì?
PW *blɨŋ	" plant shoot"		plàwŋ
PW *blaŋ	"mountain"	plàŋ	

As we will see later, certain nasals and semi-vowels in some Waic languages are also permeable to the preceding initial; and consonants other than stops, e.g. s-, h-, may or may not permeate through them.

In addition to register patterns,the original contrast in stops has sometimes left traces in the consonants themselves. In the Lawa dialects of Umphai and Ban Pa Pae, stops follow the same aspiration rules when they precede liquids as they do when they are single initials; but in the La'up dialect we find that same pattern, aspiration of proto voiced stops, before -l- (and not before -r-) even though single original voiced stops do not aspirate in this dialect. This could indicate that aspiration as a reflex of breathiness was more widespread among Lawa dialects in the past than it is today.

Exx:

PW *pli? "fruit"(?87), Lp Lawa: ple?

PW *blo? "betel"(?94), Lp Lawa: phlu?

PW *klɔŋ "river"(Ń76), Lp Lawa: klɔŋ

PW *glak "to lick"(K48), Lp Lawa: khlɨak

To summarize with regards to the whole question of voiced initials, we find a two-way tone system in one branch of Waic (Samtau, P'uman, Khala?[13]), and we can reconstruct a two-way register distiction in another (Wa-Lawa). But nowhere do we find in the present-day languages an actual voiced vs. voiceless distinction preserved in the initial stops. Yet, there is little room for doubt that such a distinction existed at some time in the Palaungic past, and, before that, in Proto-Mon-Khmer (cf. Palaung, Khmu, and many other languages, including the whole Aslian branch). But the question remains: did it survive in Proto-Waic, or had devoicing already taken place at that stage?

The question cannot be answered by looking at simple initials alone; I have found some evidence that devoicing had not yet taken place in Proto-Waic by examining complex initials and their effect on the following vowel. Since vowel developments are crucial in this respect, let's turn to them first and then come back to this matter.

3) Vowels

Initial devoicing, and the ensuing tone or register contrasts, are known to have affected vowel qualities in many Mon-Khmer

languages (Henderson 1952, Huffman 1976, Gregerson 1976). Waic languages display a unique variety of developments in this regard, ranging from a small shift in one vowel (Samtau), to great upheavals in the entire vowel system (Lawa).

After systematically comparing the vowels of four Waic languages and their dialects, it is possible, or at least tempting, to make the following generalistion:

> *Phonation types (registers) affect vowel systems by causing diphthonguisation, but*
> *Tones have little effect on vowel quality and do not create diphthongs.*

Thus, in the Wa-Lawa branch where a register contrast can be reconstructed, the breathy vowel system has a different history from the clear vowel system. The differences have become so great in Lawa for example, that it is now very difficult to equate individual vowels of one system to those of the other without extensive comparisons outside Lawa[13]. And the problem is solved as soon as we look at the vowels of Samtau where tones have left most vowels undifferentiated.

a) Vowels and registers

The above generalisation is not meant to be "universal", whatever that term may mean ; in fact, we will see shortly that register in Lawa is something quite different from register in Wa proper and in Drage's Wa; and yet there are striking and detailed similarities in the way registers affect the vowels of Wa-Lawa and those of a remotely related language like Khmer for example.

Very broadly speaking (for details see Pinnow 1957), Khmer

has a breathy register conditioned by older voiced initials, and a clear register by voiceless ones.

The vowel qualities of Khmer breathy vowels are different from those of clear vowels, but, to describe the difference, we must isolate the most open vowels *aa and *a from all the others. The most open vowels are not affected by clear register; in breathy register, they are diphthonguised: the end of the vowel remains open, but the initial part is raised to a mid-high or high glide: *áa → /aa/ *á → /a/

*àa → /ea/, /iə/ *à → /ĕa/

The other, non open, vowels are affected by register in a doubly reverse manner: they are affected by the clear, not the breathy register, and the initial part of the vowel is lowered, not raised:

*áə → /aə/ *úu → /ou/

*àə → /əə/ *ùu → /uu/ etc...

The history of Wa-Lawa vowels has some remarkable similarities to that of Khmer vowels just outlined; the same doubly reverse treatment of open vs. non-open vowels, due to the same historical process: emergence of register due to devoicing of initials.

i) On-gliding of breathy *a

From the point of view of the system, there is only one open vowel in Proto- Waic:

Proto-Waic Vowel System:

	i	ɨ		
(E?)	e		ɤ	o
	ɛ		ɒ	ɔ
		a		

i) Samtau: /á/ and /à/

In Samtau and those languages which are outside the Wa-Lawa branch, the quality of *a is not affected by the devoicing of stops:

PW *kntak "tongue"(K14), Sam.: ʔŋták

PW *rndak "sole"(K19), Sam.: ʔŋtàk

(numerous exx. in the Lexicon)

In Wa-Lawa, breathy *a has been diphthonguised by raising the initial part of the vowel to a front or central glide. The present-day result depends on the language and so does the actual conditioning: however, in all cases, the modification of PW *a can be traced to an element of voicing in the initial which first produced breathiness.

ii) Drage's Wa: Central glides

Diphthonguisation of *a produced a vowel nucleus usually noted öa by Drage (sometimes also üa or ö, or even o by misprint); this probably represents /əa/; when *a is not diphthonguised, it remains /a/, usually noted ā:

PW *ɲaʔ "house"(?23), Dr: niüa, nia5

PW*(r)waʔ "Wa"(?72), Dr: vüa

PW *maʔ "mother"(?61), Dr: möa

PW *laʔ "La tribe" , Dr: löa

PW *dak "jungle"(K17), Dr: htöak, htök

PW *gaŋ "rat"(Ṅ11), Dr: hköang

PW *daŋ "to cross"(Ṅ31), Dr: htöang, htöng

PW *gac "shy"(C4), Dr: hköit

PW *wac "sword"(C12), Dr: vöit, voit

PW *naɲ "army"(Ñ5), Dr: nöin

PW *baɲ "white"(Ñ7), Dr: pöin

PW *gat "very" , Dr: köt

PW *yam "to weep"(M 42), Dr: ỳöm

PW *kɲas "to smile"(S 8), Dr: nioích

PW *day "flower"(Y14), Dr: htöi, töi

PW *gah "to give"(H 7), Dr: hkö5

PW *wah "broad"(H 18), Dr: vöach

PW *lah "to slice"(H 23), Dr: löch

This list suggests that PW *a was diphthonguised after all voiced initials. However, there are also many words with initial nasals and liquids where *a is retained as /a/; these words actually had preglottalised or pre-aspirated[14] initial nasals and liquids:

PW *hla? "leaf"(?90), Dr: la

PW *hmaɲ "to ask"(Ñ 8), Dr: main

PW *hraŋ "tooth"(Ṅ 54), Dr: rāng, h'rang

PW *?laŋ "long"(Ṅ 68), Dr: lāng4

PW *hmac "sand"(C 10), Dr: mait5

PW *hlat "to fear"(T 18), Dr: lat

PW *hŋap "to yawn"(P 4), Dr: ngāp

PW *hnam "blood"(M 19), Dr: nām

PW *?mar "field"(R 13), Dr: ma

PW *?ŋay "eye"(Y 8), Dr: ngai

PW *?lay "squirrel"(Y 27), Dr: lai

Note that certain borrowings behave with respect to *a as if they had preglottalisation or preaspiration: na "face" (from PW *hna? see Thai หน้า), while others do not: ngöa "tusk" (from PW *ŋa? see Thai: งา). This point is confirmed by Samtau initial clusters (see Sec. 4).

The voicelessness of the initial *h- and *Ɂ- has simply permeated through the sonorant and prevented the appearance of breathy register in these words. This analysis is confirmed when we look at Stop + Liquid initial clusters: the presence or absence of diphthonguisation of *a depends on the voiced or voiceless character of the Proto-Waic Stop:

Retention of *a:

PW *kraʔ "road"(ʔ 79), Dr: kra

PW *krak "buffalo"(K 39), Dr: krāk

PW *praŋ "roof"(Ṅ 55), Dr: prang

PW *klaŋ "eagle"(Ṅ 69), Dr: klāng

PW *play "liquor"(Y 28), Dr: plai

PW *plah "Classifier"(H 24), Dr: blach[15]

Diphthonguisation of *a:

PW *braʔ "to eat"(ʔ 80), Dr: parö[16]

PW *gray "to talk" , Dr: kröi

There are no Stop + Nasal initials, since Proto-Wa-Lawa times, but there are a few cases of /s/ + Nasal initials; surprisingly, most of them undergo diphthonguisation of *a, as if nasals were not permeable to the Voiceless feature of /s/. There are several possible explanations for this: the initial /s-/ may represent a proto voiced consonant such as *j- (as perhaps in "far", see below), or the sN- initial may be the reduction of an earlier *snN- initial where *sn- plays the role of a separate syllable, or proto-Waic may have inserted an automatic vowel between s and N to break up the cluster. In the latter two cases, syllable boundaries would have proven to be impermeable to the forward spread of register.[17] Note that Drage always writes an -a- to split the initial cluster, while being much less consistent in other types

of consonant groups.

PW *snak "vein"(K 22), Dr: sanök

PW *snat "gun"(T 13), Dr: (h)sanöt

PW *sŋar "green" , Dr: sangö(a)

PW *smal "seed"(L 17), Dr: (h)samö(a)

PW *sŋay *"far"(Y 10), Dr: (h)sangöi*

The only case of sNa- initial without diphthonguisation I have found in Drage actually contains a preglottalised nasal in P.Waic and does not represent a case of permeability of nasals to initial s-:

PW *s?na? "middle, between"(?44), Dr: sanā(5)

In Nasal + Liquid initials, we would expect diphthonguisation to take place regularly since the whole initial group is voiced; and it does in some cases:

PW *mra? "to steal, property"(?81), Dr: marö5

PW *mran "Burman"(N 17), Dr: marön, maron

but not in others:

PW *?mlak "bat sp." , Dr: malāk

PW *ŋ-hlat "to scare"(T 19), Dr: nglāt

PW *ŋ-hray "to disappear" , Dr: ngarai4

these latter examples represent affixed forms where the initial seems to have disappeared ("bat") or was originally voiceless.

Finally, Liquid + Approximant initials produce diphthonguisation, as expected:

PW *rwa? "door"(?72), Dr: ravöa, ravüa, ra-wöa

PW *rwaŋ "thigh"(Ṅ 50), Dr: ravuang

PW *rway "tiger"(Y 24), Dr: ravöa, rawoi

One exception, "hundred", is probably a borrowing, or a deficient notation after a palatal (cf. "house"(? 23)):

PW *ryah "hundred"(H 28), Dr: riya

3) Wa Proper: Front Glides

In Wa, the reflex of *a after proto voiced initials is a fronted diphthong (or monophthong): /ea/ or /ɛə/ or /ɛ/, depending on the environment and the dialect. Kawa regularly shows /ia/ before velar finals and /ɛ/ elsewhere, with some special reflexes when the initial is a voiced palatal (y- or ɲ-, see "house", "weep"). Bible Wa has a notation -eh-, and, in a few cases -eha-, which probably represent /ɛ/ and /ɛa/ respectively[18], as a reflex of breathy *a. South Wa also has /ea/ generally, and /ɛ/ with /-ʔ/ finals. Examples from the closely related dialects of Wa proper are included here, they all have mid front vowels and diphthongs as reflexes of breathy *a. (abreviations: SW= South Wa, KW= Kawa, BW= Bible Wa, DW= Davies' Wa LW= Luce's Tung Va Wa, AW= Antisdel's Wa, SPW= Shorto's Praok)

		SW	KW	BW	
*PW *maʔ*	*"mother"(? 61)*	*mɛʔ*	*mɛ̀ʔ*	*meh*	*LW: mɛʔ³, məʔ³, maʔ³*
PW *ɲaʔ	"house"(? 23)	ɲeʔ	ɲlɛʔ	nyeh	DW:nyen, LW: ñeʔ³ AW: nyeh
PW *raʔ	"big"(? 78)		rɛ̀ʔ	reh	
PW *waʔ	"pull, take"(? 71)		vɛ̀ʔ	veh	
PW *yaʔ	"gd. mo."(?102)	yeʔ	yìɛʔ		SPW: yɛ
PW *dak	"jungle"(K 17)	teak	tìak	tehk	AW:tiak, DW:te(k)
PW *lak	"to buy"	leak	lìak	lehk	
PW *gaŋ	"rat"(Ń 11)	keaŋ			LW:kiaŋ²

		SW	KW	BW	
PW *baŋ	"top"(Ń 43)		pìaŋ	pehang	
PW *gat	"very"		kèt	keht	AW: keht
PW *yam	"to weep"(M 42)	yem	yìam	yehm	SPW:yɛm,LW:yIm², DW:yam
PW *gah	"to give, to let"(H 7)		kèh	keh	
PW *wah	"broad"(H 18)	vɛh	vèh	veh	

As in Drage's Wa, register permeates through continuants to either prevent or allow diphthonguisation of *a, depending on the original voicing feature of the initial:

---Diphthonguisation prevented:

PW *kra?	"road"(? 79)	kya?	krá?	kra	AW: kra, DW: ka-ra
PW *hla?	"leaf"(? 90)	la?	hlá?	la	LW:la?³,SPW:la,DW:nla
PW *krak	"buffalo"(K 39)	kyak	krák		LW: krak
PW *plak	"side"(K 49)	plak	plák		SPW:plak, AW:plak
PW *?laŋ	"long"(Ń 68)	laŋ	láŋ		AW:lang
PW *hraŋ	"tooth"(Ń 54)	yaŋ	hráŋ	rang	LW:rɑɳ², DW: rang
PW *praŋ	"roof"(Ń 55)	pyaŋ	práŋ	prang	
PW *hlat	"to fear"(T 18)		hlát	lat	
PW *hnam	"blood"(M 19)	nam	hnám	nam	LW: nɑm²
PW *klaw	"testicle"(W 3)	kla			LW: klɑ²
PW *?mar	"field"(R 13)	ma	má	ma	SPW: ma, DW: ma,LW:mɑ²
PW *plah	"Classif."(H 24)		pláh	pla	

---Diphthonguisation allowed:

PW *rwa?	"door"(? 72)[19]	svɛ?	səwè?	siveh	DW: ra-vet
PW *bra?	"to eat"(? 80)		prè?	preh	AW: preh
PW *mra?	"to steal"(? 81)	byɛ?	mprè?	breh	SPW: brɛ
PW *ryah	"hundred"(H 28)	dəyɛh	yìɛh	siyeh	AW:riyeh, LW: yI?³

And, again as in Drage's Wa, an initial *s- preceding a Nasal

probably forms a separate syllable, and has no effect on the following syllable; therefore diphthonguisation is allowed:

PW *snak "vein"(K 22), SW: səneak ~ təneak

PW *smal "seed"(L 17), KW: səmè, BW: simeh, SPW: simɛ

In addition, and unlike Drage's Wa, some dialects of Wa proper have initial voiced stops. As we saw earlier, these go back to either prenasalised voiced stops or to prenasalised voiceless stops. With these initials, register and diphtonguisation of *a depend on the P. Waic nature of the stops, not on their recently acquired voice.

PW *snta? "tail"(? 30), SW: da? BW: sida SPW: sida

PW *k(l)ntak "tongue"(K 14), SW: dak SPW: dak, DW: nda

PW *rntah "medicine"(H 9), SW: sədah BW: sida KW: səntáh

PW *ndak "to cook"(K 18), SW: deak

But there is a more important difference between Wa proper and the rest of Wa-Lawa: in Wa proper, diphthonguisation of *a does not take place if the word ends in a palatal (*-c, *-ɲ, *-s, *-y). The original quality of *a is preserved, and the Kawa material shows that register appears in these words with the same conditioning as usual, including the same permeability patterns of nasals and liquids.

Lack of diphthonguisation in spite of voiced initials:

PW *gac "shy"(C 4), LW: kɑic[5]

PW *wac "sword"(C 12), SW: vac, KW: vàc, BW: vait, LW: vwɑic[5] DW: wai

PW *naɲ "army"(Ñ 5), KW: nàɲ, BW: naing, SPW: naɲ

PW *baɲ "white"(Ñ 7), SW: paɲ, KW: pàɲ, BW: paing, DW: pain

PW *day "flower"(Y 14), SW: tay, KW: tày, BW: tai, LW: tɑi[z]

PW *rway "tiger"(Y 24), SW: svay, KW:səvày , AW: hsivai,
LW: ʃɪ⁴vwɑi²

PW *gray "to talk" , KW: krày, BW: krai, DW: karai

PW *lay "to read" , KW:lày, BW: lai, DW: lai, AW: lai

PW *kɲas "to smile"(S 8), SW: ɲah, KW:ɲàh SPW:ña, DW:nia,
LW:ñah⁵, ñeh⁵

This apparently odd restriction has in fact a natural explanation which gives us some indications about the early phonetics of Wa proper. Diphthonguisation in Wa proper produced at first a front glide [e̯a] or [i̯ə], not a central glide as in Drage's Wa. This is probably why it did not take place with words ending in palatals. In Waic, as in Mon-Khmer generally, palatal finals have a distinct palatal on-glide. In Wa proper, front-diphtonguisation of a *a before these finals would have created vocalic nuclei like [i̯ai̯], and it seems that the creation of such "see-saw" triphtongs with the same on-glide and off-glide was avoided, even though triphthongs having different on- and off-glides, such as [i̯ai̯], are tolerated. Diphtonguisation of *a in Wa proper and in Drage's Wa probably had different phonetics from the start.

The pattern of register assignement in Kawa is also revealing: it takes place regardless of the palatal or non-palatal nature of the final. See the above examples and the following:

PW *hmaɲ "to ask"(Ñ 8), KW:hmáɲ, BW:maing,SPW:maɲ,LW:mɑiñ², DW::main

PW *?ŋay "eye"(Y 8), SW:ŋay , KW:ŋáy , BW: ngai, LW: ŋɑɪ²

PW *?may "with"(Y 20), SW: may, KW: máy, BW: mai:, AW: mai

PW *?lay "squirrel"(Y 27), LW: lɑi²

PW *play "liquor"(Y 28), SW: play, KW: pláy, LW:plɑi² , AW: plai

This shows that register formation and diphthonguisation of *a are two separate historical processes in Wa proper. In fact, the formation of the Lax register in Wa proper and gliding of *a in Drage's Wa have exactly the same conditioning, down to the last details of permeability of nasals; we could therefore posit register formation as a single event in Proto-Wa, and diphthonguisation as two separate innovations occuring after the split of Drage's Wa from Wa proper. Diphthonguisation in Drage's Wa applies to all breathy vowels and creates a central glide; diphthonguisation in Wa proper applies to breathy vowels except with final palatals, because it creates a front glide.

4) Lawa: "buzzy" central glides.

Lawa diphthonguisation of P.Waic *a is clearly of the central type, and occurs before all finals, palatals included. There are further developments with these final palatals in the various dialects of Lawa (see below), but the qualities of the reflexes point to a Proto-Lawa *i̯a before these as before other finals. The evolution of PW *a to PLw *i̯a looks very similar to what we saw in Drage's Wa, but the conditions for the appearance of diphthonguisation in Lawa are partly different from those of the Wa languages. These conditions have been discovered by Mitani (personal communication) and also apply to the Northern dialect which was not included in his survey; they are characteristic of the whole Lawa branch and no other branch of Waic.

As expected, diphthonguisation of *a takes place after P.Waic voiced stops:

PW *tnda? "hand-span"(? 38); (Pa Pae):-dia?

PW *da? "to sow"(? 37); (BL): tia? , (Um): thia?

PW *ba? "father"(? 54); (BL, L'up, Phae): pia? (Um): phia?

PW *rga? "thin"(? 13); (BL): ?akia? (Um): rakhia? (Phae): l/yakia?

PW *rndak "sole"(K 19); (BL): ?andiak (Um): rathiak (North): latiak

PW *ndak "to cook"(K 18); (Um): ndiak

PW *gaŋ "rat"(Ṅ 11); (BL, L'up, Phae): kiaŋ (Um): khiaŋ

PW *daŋ "to cross"(Ṅ 31); (BL): tiaŋ (Um): thiaŋ

PW *dap "to cover up"(P 9); (BL): tiap

PW *gah "to give"(H 7); (BL, L'up, Phae): kiah (Um): khiah

(see also below: *gac "shy", *baŋ "white", *bas "lighted", *day "flower")

And, also as expected, liquids are premeable to the voicing of preceding stops, either allowing or preventing diphthonguisation of PW *a:

Proto-Voiceless initials:

PW *kra? "road"(? 79); (BL, L'up): khra? (North, Um): kra? (Phae): khya? (Pa Pae): kya?

PW *krak "buffalo"(K 39); (BL, L'up): khrak (North, Um): krak (Pa Pae): kyak (Phae): khyak

PW *praŋ "roof"(Ṅ 55); (BL, L'up): phraŋ (Um): praŋ (Phae): phyaŋ

PW *kraŋ "hornbill" ; (BL, L'up): khraŋ (North, Um): kraŋ

PW *klaŋ "eagle"(Ṅ 69); (North): klaŋ

PW *klaw "testicle"(W 3); (North): kla

Proto-Voiced initials:[20]

PW *glak "to lick"(K 48); (BL, Phae): kliak (L'up, Um): khliak

PW *graŋ "weaving loom" ; (BL): khriaŋ

PW *braw "coconut tree" ;[21] (BL, Um): phria (Pa Pae, Phae): phia

North: (Rangsit, 1945): phrūa

But surprisingly, single initial nasals and liquids have no effect on PW *-a- in Lawa[22], although these initials are voiced and create diphthonguisation in the Wa branch:

PW *ma? "mother"(? 61);(BL, Um, L'up, Phae, North): ma?

PW *ra? "big"(? 78);(BL, Um, L'up, North):ra? (Phae): ɣa?

PW *la? "to place" ;(BL, Um, Phae): la?

PW *lac "ruined" ;(BL, Um, Phae): laic

Preglottalised and preaspirated Nasals and Liquids, a fortiori, do not affect PW *-a-:

PW *hla? "leaf"(? 90);(BL, Um, L'up, Phae): hla? (North): lha?

PW *?laŋ "long"(Ṅ 68),(BL):?daŋ (Um, Phae): ?laŋ

PW *?may "with"(Y 20);(BL):?mea (Um,L'up, Phae): ?mai

PW *?lay "squirrel(Y 27);(BL):?dea (Um, Pa Pae):?lai

PW *?mar "field"(R 13); (BL, Um, Phae): ?ma

PW *hlat "fear"(T 18);(BL, Um, L'up, Phae): hlat

PW *hmaŋ "ask"(Ñ 8):(BL, Um, Phae): hmaiñ

PW *hŋap "yawn"(P 4);(BL, Um): hŋap

PW *hnam "blood"(M 19);(BL, Um,L'up, Phae):hnam (North):nhām(Rangsit)

What is even more surprising, initial palatal nasals do not function like other nasals and do create diphthonguisation of *a:

PW *ɲa? "house"(? 23);(BL, Um, L'up, Phae, Pa Pae, North): ɲia?

PW *kɲas "to smile"(S 8.);(BL, L'up, Phae, North):ñiah

(Um);ñias (L'up): ~ñuah (Phae):~ ñoih

In this respect, Lawa/ɲ-/behaves exactly like /y-/ and /v-/ which also trigger diphthonguisation of *a:

PW *ya? "gd. mo."(? 102);(BL,Um,Phae): yia? (L'up, North): yiə?

PW *rwa? "Lawa"(? 73);(BL)[23]:lawia? (Um):rawia? (Phae):l/ɣawia?

W *rwa? "door"(? 72); (BL):?awɨa? (Um):rawɨa? (Phae):l/ɣawɨa?

W *wak "worm"(K 36);BL, Um):wɨak (L'up,North): vɨək

W *rwaŋ "thigh"(Ṅ 50);(BL);?awɨaŋ (m):rawɨaŋ (Rae):l/ɣawɨaŋ
(L'up):rəvɨəŋ (Pa Pae, North):ləvɨəŋ(Sam):?avɨəŋ

'W *yam "to weep"(M 42);(BL,Um,Phae):yɨam (L'up): yɨəm
(North): zɨəm

'W *wah "broad"(H 18);(BL,Um,Phae): wɨah

'W *ryah "hundred"(H 28); (BL): ?ayɨah

Unexpectedly, preaspirated *-w- also creates diphthonguisation:

'W *hwa? "monkey"(? 74);(BL, Um, Phae):fɨa? (North): fɨə?

This would suggest that *-w- is not permeable to voiceless initials, and that f- somehow behaves like a voiced initial.

At this point, it becomes obvious that voicing and permeability of PW initials will not explain the diphthonguisation of *-a- in Lawa, as they do in the Wa branch.

Diphthonguisation of *-a- in Lawa is conditioned by two different factors: either the presence of an initial proto voiced stop, followed or not by a liquid, or the presence of a proto initial semi-vowel or palatal nasal, whatever may precede it. The fact that single initial liquids and non-palatal nasals do not affect PW *-a- indicates that Lawa diphthonguisation may have nothing to do historically with its counterpart in the Wa branch. In Lawa, initial voicing, although it is necessary, is not sufficient. In addition, we will see in the rest of the vowel system that initial *hy- and *hɲ- function just like *(h)w-,*y- and *ɲ- in their effect on vowels[24].

There are two ways to explain Lawa diphthonguisation:

by supposing either that it took place in two separate steps, e.g. first after *G(L)- initials, a Wa-like innovation, then after *(H)W,ɲ- initials; or that it is a single innovation with an apparently strange conditioning. There seems to be no argument in favor of the first explanation; the second appears strange only in terms of phonological classes: in terms of distinctive features, what sort of natural class would contain G(L)- and (H)W,ɲ- and exclude L-,m-,n-,ŋ-, K(L)-, HL-, H(m,n,ŋ)- ? There seems to be no answer; but phonetically there is an explanation: First we should notice that Lawa /y/ has a great deal of friction in all dialects, especially in the North where it is often transcribed [z-] (Cf. zɨəm "to weep" < PW *yam, ləzɨ "gibbon" < PW *ryol), that PW *hy-, like *hw-, have so much friction that they produce true fricatives, s- and f- respectively, in all Lawa dialects (Cf. suɔk, sɨk "ear" < PW *hyok, fɨə? "monkey" < PW *hwa?), that *w- itself is often transcribed /v-/ in several Lawa dialects, and finally that the release of ɲ- is also very fricative; Secondly, if we assume that *G(L)- initials gave *rise to breathy vowels before breathiness turned into aspiration*[25] or disappeared, and if we keep in mind that breathy voice contains more aperiodic turbulence than clear voice, we can see that during Proto-Lawa times there probably was a single phonetic conditioning for diphthonguisation: voiced noisiness, which would be found in all the sounds listed above and only in them.

Thus, the phonologically disjunct environments G(L)- and (H)W,ɲ- do form a natural class, but only in acoustic terms, and only when we examine the low-level phonetic details of these segments; the natural class of vowels having such voiced noisiness will hereafter be called the "buzzy" vowel class[26].

Thus, Lawa diphthonguisation of PW *-a- may well have taken place as a single innovation, and the conditioning, "buzziness", shows it to be independent of what happened to *-a- in the rest of the Wa branch.

Finally, it should be noted that, unlike Wa proper, Lawa does diphthonguise *-a- before final palatals. There are several further developments before these finals, but the qualities of the reflex vowels in the various dialects of Lawa point to a Proto-Lawa *-ɨa- before these as before other finals.

Buzzy reflexes of PW *a before palatals:

Proto-Wa- -Lawa	Ban Sam, Ban Phae	L'up	Umphai	Bo Luang	North
*-ay	-uai	-iə	-ia	-ia	-i
*-ac	-uaic	(-ic)	-iaic	-ik	(-ic)
*-aɲ	-uaiñ	-iñ	-iaiñ	-iñ	-iñ
*-as	-uais	-uah	- as	-ɨah	-ɨəh

Examples:

PW *way "to borrow"(Y 23):(B.Sam, B.Phae): wuai, (BL): wia

PW *rway "tiger"(Y 24):(B.Sam, B.Phae):ɣawuai,(L'up): rəviə (Um.): rawia, (BL):ʔawia (North): rəvi

PW *mlay "young man" :(B.Sam,B.Phae):mbluai, (Um): mbliə (BL): pliə

PW *day "flower"(Y 14):(B.Sam, B.Phae): tuai, (L'up): tiə (Um.): thia, (BL): tia

PW *gac "shy"(C 4):(B.Sam, B.Phae): kuic, (Um): chiaic (BL): kik

PW *wac "knife"(C 12):(B.Sam,B.Phae): wuic, (Um): wiaic,(BL): wik

PW *baɲ "white"(Ñ 7):(B.Sam,B.Phae):puiñ , (L'up): piñ
(Um):phiaiñ , (BL):piŋ , (North):piñ

PW *bas "lighted" :(B.Sam, B.Phae): puaih, (Um): phɨas
(BL): pɨah

PW *knas "to smile"(S 8):(B.Sam, B.Phae):ñoih ,(L'up):ñuah
(Um):ñɨas , (BL):ñɨah , (North):ñɨah

One way to explain this complicated situation is to start from *-a- → -ɨa- before all palatals,as before other finals; then the -ɨ- on-glide is either backed to -u- (cf. B.Sam, B.Phae) or fronted to -i- (cf.Um., BL, North) or to either, depending on the nature of the final (cf. L'up); the see-saw triphthongs[-iai-] thus created are preserved in only one dialect, Umphai, and there, only before obstruents; otherwise, they are simplified in various ways.

If this explanation is correct, it would indicate that the difficult [-iai-] triphthongs are not absolutely impossible but can only arise through certain historical routes and not others; i.e., *-aɨ̯- → -a̯ɨ̯- → -ɨa̯ is a possible route, but *-aɨ̯- → -a̯ɨ̯- → -ɨa̯ɨ̯- may not be (cf.Wa proper, B.3.a.i.3.).

ii) Off-gliding of clear mid vowels

In the mid vowels of Waic languages, we again find types of changes which remind us very much of what happened in Khmer (Pinnow, 1957): diphthonguisation occurs, but only after the proto voiceless initials, not the voiced,, and proceeds by lowering the first half of the vowel, not by raising it.

In many Waic languages, we find evolutions of this type:

e.g. *-o- becomes -au-,or *-e- becomes -ai-, or *-e- becomes -ai-, usually, but not always, after voiceless initials; but here again, the actual conditioning environments for these changes are not the same in every branch of Waic, and there is no compelling reason to assume that they all go back to a single historical instance of diphthonguisation. The latter hypothesis would in fact force us in many cases to imagine several complicated changes, some of which do not seem natural.

The Samtau branch, here again, has not undergone any diphthonguisation, and provides crucial evidence for the history of Waic vowels, after its own changes are understood and taken into account.

1) Off-gliding of PW *o

Proto-Wa *-o- before final Labials does not follow the same sound changes as it does before other finals. This is due to a Proto-Wa innovation which will be described later; therefore, no examples of *-o- before *-p and *-m will be discussed in this section (see Sec. C.1.).

a) Drage's Wa

In Drage's Wa, PW *-o- is diphthonguised to -ao-, only for clear vowels, and only before velar finals, laryngeal finals, and, surprinsingly *-l:

PW *cro? "new"(? 83), Dr: shrao

PW *kho? "tree"(? 108), Dr: kao5

PW *?mok "to cough"(K 30), Dr: maok

PW *prok "side, rib"(K 42), Dr: praok

PW *hyok "ear"(K 54), Dr: yaok

PW *hok "go up"(K 60), Dr: haok

PW *koŋ "to dig"(Ṅ 9), Dr: kaong

PW *hloŋ "high"(Ṅ 77), Dr: laong, laung

PW *?yoŋ "village" (Ṅ 86), Dr: yaong

PW *koh "to get up"(H 5), Dr: kaoh

PW *kol "ten"(L 4), Dr: kao

PW *hol "to vomit"(L 25), Dr: hao

The breathy reflex of *o before these finals remains:-o-

PW *bo? "each other"(? 55), Dr: po

PW *yo? "to see"(? 103), Dr: yo

PW *nok "full"(K 23), Dr: nōk

PW *mbok "to stab"(K 26), Dr: pōk

PW *yok "to raise"(K 53), Dr: yōk

PW *mrok "wild dog"(K 44), Dr: maruk

PW *(r)ŋgoŋ "pillow"(Ṅ 14), Dr: kōng

PW *joŋ "foot"(Ṅ 18), Dr: chōng

Before other finals, no diphthonguisation takes place in either breathy or clear vowels; the reflex is generally: o, but before PW *-r, we find: -ua# which may either represent a diphthong or indicate an open syllable; in any case, the reflex is clearly distinguishable from that of clear *-o- before *-l which is ao#:

PW *hoc "to arrive"(C 17), Dr: hoit

PW *?loc "heel"(C 14), Dr: loit

PW *yot "wild" , Dr: yōt

PW *ɲor "wax" , Dr: niua

PW *bor "evening"(R 12), Dr: pua

PW *l?os "fat"(S 2), Dr: loich

PW *pos "deer"(S 15), Dr: poich

PW *ŋkos "porcupine"(S 4), Dr: koich

PW *s?oy "smelly"(Y 2), Dr: sa-oi, hsaoi

PW *koy "to have"(Y 4), Dr: koi

b) Wa proper

In Wa proper, on the other hand, all Proto Waic *-o-'s before final velars, laryngeals and *-l diphthonguise,regardless of register:

		SW	KW	BW
PW *bo?	"each other"(? 55)	pau?	pàɔ?	
PW *?mo?	"rope"(? 65)	mau?		mao
PW *smo?	"stone"(? 67)	smau?		simao
PW *cro?	"new"(? 83)		khráɔ?	hkrao
PW *yo?	"see"(? 103)	yau?	yàɔ?	yao
PW *nok	"full"(K 23)		nàɔk	naok
PW *prok	"side,rib"(K 42)		práɔk	praok
PW *hyok	"ear"(K 54)	yaɔk	hyáɔk	yaok
PW *yok	"lift"(K 53)		yàɔk	yaok
PW *hok	"to go up"(K 60)	haɔk	háɔk	haok
PW *joŋ	"foot"(Ṅ 18)	tsaɔŋ	càɔŋ	caong
PW *hloŋ	"high"(Ṅ 77)	laoŋ	hláɔŋ	laong
PW *?yoŋ	"village"(Ṅ 86)	yaoŋ	yáɔŋ	yaong
PW *koh	"to get up"(H 5)	kaoh	káɔh	kao
PW *kol	"ten"(L 4)	kau	káɔ	kao

Before other finals,-o-is found as a reflex of PW *-o- for both registers:

		SW	KW	BW
PW *koc	"hot"(C 3)	koc	kóc	
PW *hoc	"to arrive"(C 17)	hoc	hóc	hwet

		SW	KW	BW
PW *?ot	"to dwell,to be"(T 3)	?ot	?ót	?ot
PW *pon	"four"(N 10)	pon	pón	pon
PW *bon	"to get"(N 13)		pòn	pon
PW *hon	"tuber"(N 23)	hon	hón	
PW *(m)bor	"evening"(R 12)	po	mpò	-bo
PW *s?oy	"smelly"(Y 2)	s?oy		si-o-e
PW *koy	"to have"(Y 4)	koy	kóy	kwe

c) Lawa

Lawa dialects display a great variety of reflexes of PWaic vowels; most of the vocalic differences among Lawa dialects are due to the influence of final consonants. In the present work I will not say much about these developments which have been intensively studied by Mitani. On the other hand, those vowel shifts which are conditioned by the buzzy or clear nature of the vowels have taken place quite early in the history of Lawa, and many of them are shared by all Lawa dialects. These are the innovations I will concentrate on in the following pages.

At the Proto-Lawa stage, we can assume diphthonguisation of PWaic *-o- to*/ao/ before all finals, but only for clear vowels. The buzzy reflex of PWaic *-o- seems to be Proto-Lawa */o/.

Diphthonguisation:(off-gliding)

PW *rŋko? "rice"(? 8), (BL):?akɒu?,(Um):rako?,(Phae):ɣako?, (L'up):rəko?

PW *?mo? "rope"(?65),(BL):?mɒu?,(Um,L'up,Phae):?mo?

PW *rmo? "dream"(?66),(BL):?amɒu?,(Um):ramo?

PW *smo? "stone"(?67),(BL):samɒu?,(Um,Phae):samo?,(PaPae,L'up, North): səmo?

PW *kho? "tree"(?108),(BL):khɒu?,(Um,Phae,Sam,L'up,North):kho?

PW *?mok "to cough"(K30),(BL):?moak,(Um,L'up,Phae):?mauk

PW *hok "to go up"(K 60),(BL):hoak,(Um,Phae):hauk

PW *koŋ "to dig"(Ṅ 9),(BL):koaŋ,(Um,Phae):kauŋ

PW *hloŋ "high"(Ṅ 77),(BL):hloaŋ,(Um,Phae,L'up):hlauŋ,(North):lhɔŋ

PW *koc "hot"(C 3),(BL):kaɨk,(Um,Phae,L'up,North):kɔic

PW *hoc "to arrive"(C 17),(BL):haɨk,(Um,Phae,L'up,PaPae):hɔic

PW *?ot "to dwell"(T 3),(BL):?aɨk,(Um,Phae,L'up):?aut,(north):?aot

PW *pon "four"(N 10),(BL):paɨŋ,(Um,Phae,L'up,Sam,North):paun

PW *hon "tuber"(N 23),(BL):haɨŋ,(Um,Phae):haun

PW *mor "to crawl"(R 14),(BL,Um,Phae):mau,(L'up):mao,(North):moa

PW *kol "ten"(L 4),(BL):koa,(Um,Phae):kau,(L'up):kao,(Sam):kaɔ

PW *l?os "fat"(S 2),(BL):la?auh,(Um):ra?aus,(L'up):lə?ɔih,
(North):lə?ɔh

PW *pos "deer"(S 15),(BL):pauh,(Um):paus,(Sam):pɔih,(North):pɔh

PW *s?oy "smelly"(Y 2),(BL):sa?au,(Um):sa?ɔi

PW *koh "to get up"(H 5),(BL):kɒuh,(Um,Phae):koh

PW *roh "to bark"(H 20),(BL):rɒuh,(Um,L'up):roh

No off-gliding:

PW *bo? "each other"(? 55),(BL):po?,(Um):pho?,(L'up,Phae):pu?

PW *yo? "to see"(? 103),(BL,Um,Phae):yo?,(Phae,L'up):yu?

PW *mbok "to stab"(K 26),(BL),Um,Phae):mbuak,(L'up):mbuək

PW *hyok "ear"(K 54), (BL,Um,Phae,PaPae):suak,(North):sɨk

PW *yok "to lift"(K 53),(BL,Um):yuak

PW *joŋ "foot"(Ṅ 18),(BL,Phae):cuaŋ,(Um):chuaŋ,(L'up):chuəŋ
(North):cɨŋ

PW *?yoŋ "village"(Ṅ 86),(BL,Um,Phae):?yuaŋ,(Sam):yuəŋ,(North):yn̈̄ṅ

PW *bor "evening"(R 12),(BL,Phae):pu,(Um):phu

PW *ryol "gibbon"(L 24),(BL):ʔayua,(Um):rayua,(Sam):ʔayoa,
(North):ləzɨ

PW *ŋgoh "to strike" ,(BL):ŋgɒh,(Um):ŋgoh,(Phae):ŋguh

Faced with such an array of similar sound shifts with partly shared environments in all Wa-Lawa languages, one could be tempted to isolate a common denominator and propose that as a single shared innovation at the Proto-Wa-Lawa level. For example: PW *-o-→PWL*au after Voiceless Stops optionally followed by liquids. However, this solution would require a number of additional changes in each language which are more complicated and have less natural environments than the ones proposed here.

2) Off-gliding of PWL *ə.

There is only one central vowel which undergoes off-gliding, and this vowel must be reconstructed as PWaic *-ɨ- for a variety of reasons[28]. However, this PWaic vowel underwent an early change soon after the separation of the Samtau branch from the rest of Waic; in Proto-Wa-Lawa, PWaic *-ɨ- was lowered to a PWL *-ə-, and was therefore ready to undergo off-gliding like the other mid-high vowels, PWL *-o- and *-e-.

The adventures of PWL *-ə- are very similar to those of PWL *-o-, except for two details:

-there is no diphthonguisation of clear register *-ə- before *-l in Drage's Wa, although it does occur in Wa proper, and, of course, in Lawa; but I can only propose this tentatively since only one reliable example is available at the moment:"money"(L 19).

-in Lawa dialects, the contrast between PWL *-ə- and *-o-

is preserved only before final velars and *-l. Otherwise the two merge in favor of -o- in all dialects, except in the North where the distinction is maintained for all finals, besides -ʔ.

The reflexes of PWL *-ə- are the following:

Drage's Wa

PWL *-ə- → -aü- in clear register vowels before velar and laryngeal finals.

PWL *-ə- → -ö- elsewhere.

Off-gliding:

PW *kɨʔ "body"(ʔ10), Dr: kaü

PW *tɨʔ "vegetable"(ʔ31), Dr: taü

PW *ʔrɨʔ "deep"(ʔ85), Dr: raü, rau

PW *sɨʔ "pain"(ʔ99), Dr: hsaü

PW *hɨk "hair"(K61), Dr: haük, hauk

PW *kɨŋ "country"(Ṅ10), Dr: kaüng

PW *pɨŋ "to blow"(Ṅ40), Dr: paüng, paung, paong

PW *ʔlɨh "sweat", Dr: laoch

No off-gliding:

(breathy vowel with velar or laryngeal final)

PW *nɨʔ "to drink"(ʔ24), Dr: niö

PW *grɨŋ "things, clothes"(Ṅ64), Dr: hkrüng, khrüng

PW *blɨŋ "shoot of plant", Dr: plöng

(other finals, both registers)

PW *gɨc "to burn"(C5), Dr: köit

PW *hɨc "to sting"(C18), Dr: höit

PW *hmɨc "ant"(C19), Dr: möit, moit

PW *kɨn "father"(Ñ3), Dr: köin

PW *hɨt "to smell sth."(T16), Dr: höt

PW *?(n)yɨt "to extinguish"(T 9), Dr: yöt

PW *?ɨn "to put"(N 2), Dr: ön, on

PW *yɨn "to press down" , Dr: yön

PW *gɨm "to winnow" , Dr: hköm

PW *jɨm "peas" , Dr: chöm5

PW *kdɨm "ripe"(M 18), Dr: htöm, töm

PW *knrɨm "under"(M 31), Dr: kröm

PW *hɨm "to bathe"(M 48), Dr: höm

PW *rmhɨm "nest"(M 49), Dr: möm

PW *bɨs "to bake" , Dr: pöich

PW *?ɨy "to raise (anim.)"(Y 3), Dr: öi

PW *kɨy "cotton"(Y 6), Dr: köi

PW *kmɨl "money, silver"(L 19), Dr: möa

Wa proper

PWL *-ə- → -aɯ- before final velars, laryngeals, and *-l, with both registers

PWL *-ə- → -ɯ- elsewhere

	Off-gliding:	SW	KW	BW
PW *kɨʔ	"body"(? 10)	kaəʔ	kɑ́ɯʔ	kau
PW *ɲɨʔ	"drink"(? 24)	ɲaəʔ	ɲàɯʔ	nyau
PW *ʔrɨʔ	"deep"(? 85)	dəɯʔ	rɑ́ɯʔ	rau
PW *sɨʔ	"pain"(? 99)	saəʔ	sɑ́ɯʔ	sau
PW *hɨk	"hair"(K 61)	haək	hɑ́ɯk	hauk
PW *kɨŋ	"country"(Ṅ 10)		kɑ́ɯŋ	
PW *m-pɨŋ	"wind"(Ṅ 40)		mpɑ́ɯŋ	baung
PW *grɨŋ	"things, clothes"(Ṅ 64)	kyaəŋ	kràɯŋ	kraung
PW *blɨŋ	"shoot of plant"		plàɯŋ	
PW *ʔlɨh	"sweat"		lɑ́ɯh	
PW *kmɨl	"money"(L 19)	maə	màɯ	mau

No off-gliding:		SW	ʞW	ʁW
PW *gɨc	"to burn"(C 5)	kwc		
PW *hɨc	"to sting"(C 18)	hwc		hui-ik
PW *kɨɲ	"father"(Ñ 3)	kwɲ	ʞẁɲ	kui-ing
PW *hɨt	"to smell sth."(T 26)	ŋwt		
PW *ʔɨn	"to put"(N 2)	ʔwn	ʔẁn	uin
PW *yɨn	"to press down"	ywn		
PW *cɨp	"to wear"(P 6)	tswp		cuip
PW *jɨm	"peas"		cẁm	
PW *kdɨm	"ripe"(M 18)	twm		tuim
PW *rmbɨm	"garden"(M 25)	spwm	smpẁm	sipuim
PW *hɨm	"to bathe"(M 48)	hwm		huim
PW *mɨs	"nose"(S 18)	mwh	mẁs	
PW *ʔɨy	"to raise (anim.)"(Y 3)	ʔwy	ʔẁy	ui-e
PW *dɨy	"to take"(Y 15)	twy	tẁy	tui-e

Lawa

In the Northern dialects, diphthonguisation of PWL *-ə- gives rise to an -ai- nucleus, except with final laryngeals where the merger with PWL *-o- was probably completed in Proto-Lawa times. Unfortunately, the amount of data available is not sufficient to give a wide variety of examples. In the Umphai dialect, all reflexes of PWL *-ə- have merged with *-o-. In the remaining dialects, only final velars and *-l show diphthonguisation with distinct reflexes, usually -aɨ-. In all cases, Lawa only diphtongises clear, i.e. non-buzzy, vowels.

Off-gliding:

PW *hɨʞ "hair"(K 61), (BL,Phae, L'up):haɨʞ,(Sam):haəʞ,(Um):haɯʞ (North):haik

PW *pɨŋ "to blow"(Ń 40),(BL,Phae):paɨŋ,(Um):pauŋ

PW *krpɨŋ "to bury"(Ń 41), (BL):ʔapaɨŋ,(Um):rapauŋ,(L'up):rəpaɨŋ
(Phae):ɣapaɨŋ

PW *krɨŋ "drum"(Ń 63), (BL,L'up):khraɨŋ,(Um):krauŋ,(Phae):khyaɨŋ

PW *kmɨl "money"(L 19),(BL,Phae,PaPae):maɨ,(Um):mau,(North):mai

(merger with *-o- except in North):

PW *hɨm "to bathe"(M 48),(BL,Um,Phae,L'up):haum,(North):haim

PW *rmhɨm "nest"(M 49),(BL):ʔahmaum,(Um):rahmaum,(North):ɪəmhaim

No off-gliding:

PW *grɨŋ "clothes"(Ń 64),(Um):khrəŋ,(Phae):khyəŋ

PW *gɨm "to winnow" ,(PaPae):khɨm

PW *kdɨm "ripe"(M 18),(BL):tum,(Um):thum

Diphthonguisation of *-o- is evidently quite similar to that of *ə in each Wa-Lawa sub-branch. The only significant difference is found before *-l, and the data in this respect is not abundant. The various mergers of *-o- and *-ə- in Lawa do not argue against a common treatment of *-o- and *-ə-. Separate diphthonguisation rules in each sub-branch of Wa-Lawa affected *-o- and *-ə- together, unless the two had already merged.

3) Off-gliding of front vowels

The diphthonguisation of *-e- to /ai/ probably occured later than that of the other mid vowels. It does not take place at all in some languages, like Drage's Wa, which do diphthonguise other mid vowels; and where it does occur, the conditioning environments

diff widely from language to language.

*e of Wa proper

rising diphthong /ai/ is found in Wa proper as a reflex
o' ic *-e- in both registers; I have found no reason to
a that Drage's Wa ever underwent such a change. Moreover,
/ is found, in Wa proper, only before -ʔ and velar finals;
b e other finals, Proto-Wa-proper *-e- and *-i- merged in favor
(i/.

		SW	KW	BW
*teʔ	"hand"(ʔ25),	taiʔ	táiʔ	tai
*snteʔ	"eight"(ʔ 26)	daiʔ	ntáiʔ	sidai
*sŋeʔ	"day"(ʔ 16)	sŋaiʔ	səŋàiʔ	singai
P *breʔ	"forest"(ʔ 77)		pràiʔ	prai
PW *kheʔ	"after"(ʔ106)		kháiʔ	hkai
PW *ʔek	"El. bro."(K 3)	ʔac		aik
PW *hwek	"dark"(K 35)		hváik	vaik
PW *lek	"to enter"	lac	làik	laik
PW *keŋ	"head"(Ṅ 7)	kaŋ	káiŋ	kaing
PW *geŋ	"work"		kàiŋ	kaing
PW *hmeŋ	"male"(Ṅ 47)	maŋ	hmáiŋ	

b) Lawa *e

Lawa dialects have two sets of closing front diphthongs. There is an /ai/ set which has this quality in all recorded dialects, and another set with a higher initial vowel: /ei/, /əi/ or /ɛi/,

depending on the dialect. These two sets represent different proto vowels: /ai/ goes back to PW *e, except before *-t and *-n where it goes back to PW *i, while the other set goes back to PW *e. There is also some evidence to suggest that /ai/-gliding took place in Proto-Lawa itself while the other type occured later, after the splitting up of Lawa into three major proto-dialects.

But in either set, gliding only occurs with the clear, i.e. non-buzzy vowels of Lawa.

/ai/ glides:

from PW *i:

PW *?it "to sleep"(T 1),(BL,Um,L'up,Phae, North):?aic[26]

PW *sin "cooked"(N 21),(BL,Um,Phae):saiñ

from PW *e:

PW *keŋ "head"(Ṅ 7),(BL,Um,Phae,L'up,PaPae,Sam,North):kaiñ

PW *hmeŋ "male (anim.)"(Ṅ 47),(BL,Um,PaPae):hmaiñ

PW *s?ep "centipede"(P 1),(BL):sa?aic,(Um):sa?aip,(Sam,North):s?aip

PW *rep "grass"(P 10),(BL):raic,(Um,L'up,Phae,North):raip

PW *?em "to live"(M 1),(BL):?aiñ,(Um,L'up):?aim

PW *sntem "nine"(M 8),(BL):sataiñ,(Um,Phae,L'up):sataim (Sam):staim,(North):sdaim

PW *prem "old"(M 27),(BL):phraiñ,(Um):praim,(Phae):phyaim

PW *sem "bird"(M 37),(BL):saiñ,(Um,Phae,L'up,PaPae,Sam,North):saim

PW *mhem "fingernail"(M 45),(BL):hmaiñ,(Um,Phae,Sam):hmaim North):mhaim

PW *crel "gold"(L 20),(BL):khrea,(Um,L'up):khrai,(Sam,Phae):khyai

PW *tes "mushroom"(S 9),(BL,L'up,Phae,PaPae):taih,(Um):tas

PW *rmpes "broom"(S 14),(BL):?aphaih(Um):rapas,(North):rbeh

There are wide gaps in the distribution of /ai/ with finals; these are not accidental: for example, there are no Lawa -ait or -ain rimes because Proto-Wa-Lawa *-et and *-en gave rise to -iat and -ian finals in Pre-Lawa, regardless of register, creating a structural gap which was then filled by PWL *-it and *-in; there are no -aik rimes because PWL *-ek merged with PWL *-ɛk in favor of /-ɛk/, early in Proto-Lawa; there are no /ai/ diphthongs with final palatals because there are no *-ec, *-eɲ, or *-ey rimes at all in Proto-Waic; before -? and -h, gliding to /ai/ would be expected, and is actually found, but only in the Bo Luang dialect; there is evidence that this latter change is recent, yet another example of similar innovations occuring in different dialects at different times.

The other set of glides, from PW *i, is more evenly distributed with finals;

PW *ŋri? "pestle"(? 75),(BL):ŋgrəi?,(Um):ŋgre?,(Phae):ŋgrɛi?
North):grai?

PW *kli? "penis"(? 86),(BL):kləi?,(North):klai?

PW *pli? "fruit"(? 87),(BL),pləi?,(Um,L'up):ple?,(Phae,Sam):plɛi?
(North):plai?

PW *si? "louse"(? 96),(BL):səi?,(Um):se?,(Phae,Sam):sɛi?,
(North):sai?

PW *khi? "firewood"(? 104),(BL):khəi?,(Um):che?,(L'up):khe?

PW *khi? "moon"(? 105),(BL):khəi?,(Um):che?,(L'up):khe?,(Phae):khɛi?

PW *phi? "otter" ,(BL):phəi?,(Sam):phɛi?,(North):phai?

PW *?ik "a tuber"(K 1),(BL):?əic,(Um):?eic,(Phae):?ɛic

PW *lik "pig"(K 45),(BL,PaPae):ləic,(Um):leic,(Phae,Sam,North):lɛic

PW *hlik "iron"(K 46),(BL,PaPae):hləic,(Um):hleic,(Phae):hlɛic

PW *ʔiŋ "to return"(Ṅ 1),(BL,PaPae,L'up):ʔəiñ,(Um):ʔeiñ,
(Phae):ʔɛiñ

PW *ntiŋ "wall"(Ṅ 21),(BL):təiñ,(L'up):ndəiñ,(Um):ndeiñ,(Phae):ndɛiñ

PW *hril "thin"(L 21),(BL):hləi,(Um):hre,(L'up):hrəy,(Phae):khyɛy

PW *kris "bear"(S 22),(BL):khrəih,(Um):kres,(Phae,Sam):khyɛih (North): khraih

PW *krih "unmarried woman"(H 19),(BL):khrəih,(Um):kreh,(Phae):khyɛih

The parallel between Khmer and Waic ends here; there are eight independent innovations within Waic which find equivalents in Khmer: Drage's Wa breathy *a → öa

Wa proto breathy *a → ea

Lawa buzzy *a → ɨa

Drage's Wa clear *o and *ə → ao and aü

Wa proto clear *o and *ə → ao and aɯ

Lawa clear *o and *ə → au and aɨ

Wa proto clear *e → ai

Lawa non-buzzy *e and *i → ai and əi

These innovations are too recent to be connected to each other, and a fortiori to those of Khmer, and yet too much alike in every detail to be the result of coincidence. It can always be argued that register contrasts are too difficult acoustically or articulatorily to be maintained for a long time; they need support in other phonetic correlates such as pitch and diphthongisation: the same needs operating on languages of similar structures will give rise to similar solutions; the pitch patterns are not too surprising, but why precisely the same vowel-gliding patterns, , and not others? Why the same

division of open vs. non-open vowels, and the same doubly reverse gliding in each division? One of the aims of this study was to raise the question in precise terms and in a real language context, so that phoneticians can perhaps one day give us some ideas.

iii) a reconstructed on-glide

The Khmer model also suggests some reconstructions and histories of PWaic vowels, which might otherwise seem arbitrary or even far-fetched.

One Proto-Waic vowel not mentioned so far has quite a dramatic history, as such things go. The Samtau reflexes of this vowel are /ɔ/ for both tones (and /o/ before PWaic *-h), which indicate an even more open quality for Proto-Waic.

PW *ndɒk "blind"(K 20), Sam:ʔntɔ̀k

PW *hɒk "to dry"(K 58), Sam:hɔ́k

PW *rŋɒŋ "knife"(Ṅ 15), Sam:ŋɔ̀ŋ

PW *ɲɒŋ "waist"(Ṅ 20), Sam:ɲɔ̀ŋ

PW *bɒŋ "bamboo shoot"(Ṅ 44) Sam:pɔ̀ŋ

PW *hmɒŋ "to hear"(Ṅ 48), Sam:m̥hɔ́ŋ

PW *ʔrɒŋ "pole"(Ṅ 56), Sam:rɔ́ŋ

PW *plɒŋ "roof"(Ṅ 73), Sam:plɔ́ŋ

PW *kɒt "cold"(T 5), Sam:kɔ́t

PW *gɒt "old"(T 7), Sam:kɔ̀t

PW *phɒn "five"(N 22), Sam:phɔ́n

PW *sɒr "civet"(R 16), Sam:sɔ́l

PW *ʔɒl "el. sis."(L 1), Sam:ʔɔ́l

PW *ŋɒl "fire"(L 7), Sam:ŋɔ̀l

PW *?ɒs "to swell"(S 1), Sam:?ɔ́h

PW * rmɒs "banana"(S 17), Sam:kəmɔ̀h

PW *s?ɒh "dry"(H 3), Sam:s?ɔ́h

PW *yɒh "to do"(H 29), Sam:yɔ̀h

Comparison with other Mon-Khmer languages shows that this vowel is a reflex of Proto-Palaungic short *a, an open vowel which acquired a back quality in Waic when the contrast between long and short vowels disappeared, at some point in Pre-Waic times. The very open reflexes of this proto-vowel in Lawa dialects, at least for the non-buzzy register, confirm the value *ɒ postulated for this proto vowel.

PW *kɒk "to call"(K 7),(BL):kɒk,(Um,Phae):kɔk

PW *hɒk "to dry"(K 58),(BL):hɒk,(Um):hɔk

PW *rŋɒŋ "knife"(Ṅ 15),(BL):?aŋɒŋ,(Um):raŋɔŋ,(Phae):laŋɔŋ

PW *hmɒŋ "to hear"(Ṅ 48),(BL):hmɒŋ,(Um,L'up,Phae):hmɔŋ,(North):mhəɔŋ

PW *?rɒŋ "pole"(Ṅ 56),(BL):?dɒŋ,(Um):?rɔŋ,(Phae):?ɣɔŋ,(L'up):?dɔŋ

PW *mrɒŋ "horse"(Ṅ 58),(BL):mbrɒŋ,(Um,L'up):mbrɔŋ,(Phae):mbyɔŋ

PW *ɬɒŋ "black"(Ṅ 71),(BL):ɪɒŋ,(North):mbrəɔŋ (Um, Phae, L'up):lɔŋ

PW *ŋɒp "morning"(P 5),(BL):ŋap,(Um):ŋɔp

PW *klɒm "to carry on should."(M 34),(BL):klɒm,(Um,Phae):klɔm

PW *sɒr "to wake s.one up" ,(BL):sɒ,(L'up):sɔ

PW *ŋɒl "fire"(L 7),(BL):ŋɒ,(Um,L'up,Phae):ŋɔ

PW *?ɒs "to swell"(S 1),(BL):?ɔih

PW *ksɒs "charcoal"(S 32),(BL,Sam):sɔih,(Um):sɔs,(North):ləsəɔh

PW *s?ɒh "dry"(H 3),(BL):sa?ɒh,(Um,L'up,Phae):sa?ɔh,(North):sə?əɔh

However, in the breathy register of Wa proper, this proto vowel has the highest back vowel, /u/, as a reflex:

		SW	KW	BW
PW *ndɒk	"blind"(K 20)		ntùk	duk
PW *mbrɒk	"to ride"(K 41)	byuk		bruk
PW *mrɒŋ	"horse"(Ṅ 58)	byuŋ	mprùŋ	
PW * lɒŋ	"black"(Ṅ 71)	luŋ	lùŋ	lung
PWL*jɒŋ	"to stand"(Ṅ 19)	tsuŋ	cùŋ	cung
PW *ŋɒl	"fire"(L 7)	ŋu	ŋù	ngu
PW *yɒh	"to do"(H 29)	yuh	yùh	yu

This would not be a problem, were it not for the fact that the back vowel system of Waic languages is already very crowded. having four vowels in addition to *ɒ,and it is difficult to see how a breathy *ɒ could have acquired the value /u/ without colliding with at least one of the other back vowels.

The only solution that I can see is to posit an intermediate stage where PWaic *ɒ became a diphthong. The breathy reflexes of *ɒ in Drage's Wa give us a clue as to what sort of diphthong it may have been:

PW *ndɒk	"blind"(K 20)	Dr:tuak
PW *mbrɒk	"to ride"(K 41)	Dr:pruak
PW *rŋɒŋ	"knife"(Ṅ 15)	Dr:ranguang, rangōng
PW *ɲɒŋ	"hip"(Ṅ 20)	Dr:niuang
PW *mrɒŋ	"horse"(Ṅ 58)	Dr:maruang
PW *lɒŋ	"black"(Ṅ 71)	Dr:luang
PWL*jɒŋ	"to stand"(Ṅ 19)	Dr:chuang
PW *gɒt	"old"(T 7)	Dr:kuat, kut
PW *lɒn	"to go out"(N 19)	Dr:luen
PW * rmɒs	"banana"(S 17)	Dr:muech

If PWaic *ɒ first goes to *uə, it can easily go on travelling through the back vowel system without colliding with any other vowel, and reach the value [u]. This evolution could also be expected from a look at the Khmer example: PWaic *ɒ would have functioned as an open vowel in PWaic[29]. Like PWaic *a, it would be diphthonguised in breathy register, and, like *a, would do so by raising the initial part of the vowel to an onglide. While PWaic *a gave rise to front and mid on-glides, PWaic *ɒ would produce a back on-glide.[30]

4) Complex initials

The interaction of initials, registers, and vowel gliding will now help us understand some of the problems about initials which were left pending in Sec. 2.

a) Pre-aspirated sonorants

Both Lawa and Kawa have initial clusters consisting of an h- followed by any Nasal, Liquid or Approximant. The remaining dialects of Wa proper, and Drage's Wa, do not have these clusters, or do not show them in the notations[31], but the vowels found in these words and their cognates belong to the clear series[32], indicating that preaspiration is old in Waic.

		Bo Luang Lawa	Kawa
PW *hŋap	"to yawn" (P 4)	hŋap	
PW *hŋɔʔ	"rice plant" (T 20)	hŋɒʔ	hŋóʔ
PW *hɲap	"difficult" (P 7)		hɲáp
PW *hnam	"blood" (M 19)	hnam	hnám
PW *hmaɲ	"to ask" (Ñ 8)	hmaiñ	hmáɲ
PW *hmɒŋ	"to hear" (Ṅ 48)	hmɒŋ	hmóŋ

		Bo Luang Lawa	Kawa
PW *hwa?	"monkey"(? 74)	fɨa?	
PW *hwek	"dark"(K 35)	fiak	hvíak
PW *hraŋ	"tooth"(Ṅ 54)	hraŋ	hráŋ
PW *hlɛ?	"rain"(? 88)	hlai?	hlɛ́?
PW *hla?	"leaf"(? 90)	hla?	hla?
PW *hlat	"to fear"(T 18)	hlat	hlát
PW *hloŋ	"high"(Ṅ 77)	hloaŋ	hláɔŋ
PW *hyok	"ear"(K 54)	suak	hyáɔk

In the North group of Lawa dialects, these initial clusters appear in the reverse order: sonorant first followed by -h-, sometimes separated by a predictable epenthetic vowel. The pattern however does not appear when the sonorant was a PWaic approximant: in such cases, all Lawa dialects have simple voiceless fricatives as reflexes:

		North Lawa	
PW *hnam	"blood"(M 19)	nhām	(Rangsit,1942)
PW *hmo?	"lung"(? 68)	mho?	
PW *(r)hmeŋ	"male"(Ṅ 47)	ramhain	(Rangsit)
PW *hmɒŋ	"to hear"(Ṅ 48)	mhəɔŋ	
PW *hmac	"sand"(C 10)	mhait	(Rangsit)
PW *mhem	"nail"(M 45)	mhaim	
PW *rmhim	"nest"(M 49)	ləmhaim	
PW *hwa?	"monkey"(?74)	fɨa?	
PW *hlɛ?	"rain"(?88)	lhɛ?	
PW *hla?	"leaf"(?90)	lha?	
PW *hlɔ?	"tree bark"(? 92)	laho	(Rangsit)
PW *hlɒŋ	"cool"(Ṅ 74)	lhəɔŋ	
PW *hloŋ	"high"(Ṅ 77)	lhɔŋ	
PW *hyok	"ear"(K 54)	sɨk	

Samtau also has -h- in second position, but with this difference that the initial sonorant has become devoiced; hy- initials are not reduced to s-, but hw- initials yield an f-; hŋ- initials are also reduced by losing the nasal entirely, while hr- initials are simplified by losing the h-:

		Samtau
PW *hŋɨt	"to smell"(T 26)	hẃt
PW *hɲap	"difficult"(P 7)	n̥hấp
PW *hnam	"blood"(M 19)	n̥hám
PW *hmeŋ	"male"(Ṅ 47)	m̥hĺŋ
PW *hmɒŋ	"to hear"(Ṅ 48)	m̥hɔ́ŋ
PW *hwa?	"monkey"(? 74)	fá?
PW *hraŋ	"tooth"(Ṅ 54)	ráŋ
PW *hlɛ?	"rain"(? 88)	l̥hé?
PW *hla?	"leaf"(? 90)	l̥há?
PW *hlɔ?	"tree bark"(? 92)	l̥hó?
PW *hlik	"iron"(K 46)	l̥hét
PW *hloŋ	"high"(Ṅ 77)	l̥húŋ
PW *hyok	"ear"(K 54)	x̥húk

Since no available Waic language or dialect shows any contrast between Sonorant + h and h + Sonorant initials, there is no simple way to decide if one kind of cluster or the other, or both, were present in Proto-Waic.

A rapid look at cognate words outside Waic shows that, for most of them, h + Sonorant was the most likely possibility:

		Palaung(Milne 1931),	Khmu(Delcros 1966)
PW *hŋɔ?	"rice plant"(? 20)	hngō	hŋɔ?
PW *hŋap	"to yawn"(P 4)		hŋaap
PW *hɲap	"difficult"(P 7)	hnyăp	

	Palaung	Khmu
PW *hmaŋ "to ask"(Ñ 8)	hmān	maaŋ
PW *hraŋ "tooth"(Ñ 54)	hrāng	hraaŋ
PW *hla? "leaf"(? 90)	hlā	hla?
PW *hloŋ "long"(Ñ 77)	hlōng	

The initial h- in these words actually represents an innovation common to Proto-Palaungic and perhaps Proto-Khmuic; it corresponds to initial s- in other branches of Mon-Khmer and in Proto-Mon-Khmer: cf. Lit. Mon: sṅu "husked rice", Proto-Semai: smaaŋ "to ask"(Diffloth, 1977), Khmer: svaa "monkey". Proto-Semai: slaa? "leaf", Lit. Mon: slūṅ "high".

This evidence supports a reconstruction h + Sonorant at the Proto-Waic stage. However, there are a few words where it may be possible to reconstruct an initial Sonorant + h cluster even in Proto-Waic. The evidence for this comes mostly from outside Waic: from Lamet: mkho "lung" (Wenk,]965), from Riang: rəmhim‾ "nail"[33], or from further away: Proto-Semai *nsɔɔ^{b}m "nest", Chrau: masôm "nest". The problem will only be cleared up for Proto-Waic when a great deal more is known about the Samtau branch or K'ala and Khalo. For the moment, I have reconstructed h + Sonorant almost everywhere, knowing that some items will have to be modified in this regard.[34]

b) Pre-glottalised sonorants.

Lawa has a full series of preglottalised sonorant initials, which correspond in Kawa to simple sonorants followed by tense vowels. This allows us to reconstruct complex initials of the type ʔ + Sonorant, at least at the Proto-Wa-Lawa level. Besides Kawa, the other dialects of Wa proper, and Drage's Wa, do not show glottalisation in their notations, but the vowel qualities

are always those of the clear series, confirming the reconstruction of initial clusters with ?. In Lawa, the vowels following *?ŋ-,*?n-, *?m-, *?r-, *?l-, belong, as expected,to the clear (non-buzzy) series, but after *?w- and*?y-, either series may be found, a first indication that preglottalised initials might have several historical origins. In addition, the Bo Luang dialect of Lawa shows preglottalised voiced stops[35] as reflexes of *?w- and *?r-, and sometimes of *?m- and *?l-, respectively.

	Bo Luang Lawa	Kawa	
PW *?mo? "rope"(? 65)	?mɒu?		
PW *?rɨ? "deep"(? 85)	?dɒu?	ráw?	
PW *?mok "to cough"(K 30)	?moak		
PW *s?wok "elbow"	sa?buak		
PW *?moŋ "to look up"(Ń 49)		máɔŋ	
PW *?rɒŋ "house pole"(Ń 56)	?dɒŋ		
PW *?rɤŋ "horn"(Ń 62)	?dəɨŋ		
PW *?laŋ "long"(ń 68)	?daŋ	láŋ	
PW *?yoŋ "village"(Ń 86)	?yuaŋ	yáɔŋ	
PW *?ŋɤc "drunk"(C 7)	?yuic	(Um: ?ñuic)	
PW *s?mɤŋ""star"(Ñ 10)	sa?bəɨŋ	(Um: sa?moiŋ)	WB:sm?uŋ
PW *?mar "dry field"(R 13)	?ma	má	
PW *?(n)rɛl "forehead"(L 23)	?dɛ		
PW *?mɤs "to love"(S 20)		mús	
PW *?rɒs "finger"	?dɔih		
PW *?lɒs "loud"(S 30)	?dɔih	lúah	
PW *?ŋay "eye"(Y 8)	?ŋea	ŋáy	
PW *?may "with"(Y 20)	?mea	máy	

	Bo Luang Lawa	Kawa
PW *?moy "axe"(Y 22)	?mau (Um: ?mɔi)	
PW *?lay "squirrel"(Y 27)	?dea	
PW *r?lɔh "to exchange"(H 25)	ra?lɔh	lóh

In Samtau, most of the cognates have a simple initial sonorant followed by high tone:

	Samtau
PW *?rɨ? "deep"(? 85)	rŵ?
PW *?moŋ "to look up"(Ñ 49)	?əŋmúŋ[36]
PW *?rɒŋ "house pole"(Ñ 56)	rɔ́ŋ
PW *?rɤŋ "horn"(Ñ 62)	rə́ŋ
PW *?laŋ "long"(Ñ 68)	lə́ŋ
PW *s?mɤŋ "star"(Ñ 10)	smə́ŋ
PW *?mɤs "to love"(S 20)	mə́h
PW *?lɒs "loud"(S 30)	lɔ́h
PW *?ŋay "eye"(Y 8)	ŋáy
PW *?lay "squirrel"(Y 27)	láy

But there are a few cases where the Samtau cognate has a devoiced sonorant + h initial, as if the proto initial was a preaspirated sonorant:

PW *?mo? "rope"(? 65)	m̥hŵ?
PW *?mar "dry field"(R 13)	m̥hál
PW *?moy "axe"(Y 22)	m̥hŵy

and one case of Samtau h + nasal vowel corresponding to Proto-Wa-Lawa *?r-, or perhaps *?nr-:

PW *?(n)rɛl "forehead"(L 23)	hɛ̃l

The last five examples certainly have a different proto

initial from the regular preglottalised sonorants, but, here again, the data is not sufficient to decide precisely what the Proto-Waic situation was. These words will simply be noted *[ ]?- in the Etymological Lexicon.

A rapid look at the rest of Palaungic and beyond shows that the preglottalised sonorants of Proto-Wa-Lawa are the result of a variety of factors.

For some words, there is no trace of anything besides an initial sonorant; even the tones of Riang and the registers of Lamet indicate a simple voiced initial:

PW *?yoŋ "village"(Ñ 86) Lamet: yèeŋ (Mitani, 1965)

PW *?mar "field"(R 13) Lam.: màal, Riang: mɒ̀r (Luce,1965)

PW *?ŋay "eye"(Y 8) Lam.: ŋàay, Riang: ŋɒ̀y

PW *?moy "axe"(Y 22) Lam.: mùy

In such words, PWaic appears to be alone in keeping an element of the initial which has been lost elsewhere in Palaungic.

For some other words, there are complex initials in one or more Palaungic languages, or beyond, in Northern Mon-Khmer:

PW *s?na? "middle"(? 44) Palaung: sạr-nā

PW *?mo? "rope"(? 65) Khmu: cmə?

PW *?rɨ? "deep"(? 85) Riang: tsərù? , Khmu: jru?

PW *?mok "to cough"(K 30) Lamet: rmbóok , Palaung: kạn-ǒ

PW *?rɒŋ "house pole"(Ñ 56) Riang: kənràŋ, Khmu: cndraŋ

PW *?rɤŋ "horn"(Ñ 62) Riang: kəmràŋ, Khmu: cndrwŋ

PW *s?mɤɲ "star"(Ñ 10) Riang: səkmàɲ, Khmu: srmeɲ

PW *?mɒs "to sneeze" Lamet: tmbés ,

Khmu(Ferlus, to appear): tm?ɛh

or even further beyond:

PW *?rɒs "finger" Semai: cnroos, Temiar: cɛnrɔɔs

But these two sets partly overlap with the two other sets f correspondances between Samtau and Proto-Wa-Lawa: the raw aterial of Palaungic (and further) can only partly explain he Samtau reflexes.

We are dealing here with a recurrent problem in Mon-Khmer istorical phonology. Ferlus (1975, p.42) has proposed, in imilar cases, that a -?- was introduced in several Mon-Khmer anguages during the transition from disyllabic to monosyllabic tructure: at some point in time, the initial part of a complex nitial would separate itself from the rest of the word and form a distinct syllable; as the vowels of such syllables would be nstressed and short (usually an epenthetic -ə-), they would require a final -? to form a full syllable: CCVC → CəCVC → Cə? CVC. We then have to assume that the initial of Cə? would disappear, leaving the glottal stop free to create a new preglottalised initial. I think reanalysis of one complex syllable into two can be expected when speakers of strictly monosyllabic languages borrow disyllabic words[36], or switch to a language of the Mon-Khmer type. In the case of Waic, a few words could be explained in this fashion:

Pre-Waic: jəru? → jə? ru? → PW:?rɨ? "deep"

Pre-Waic: həmuc → hə? muc → PW:?mɨc "ant"

but the sociolinguistic implications would need to be confirmed. And this explanation does not account for the evolution of full presyllables into a ?-: if *kənraŋ splits into two syllables, /kəŋ/ can very well stand as a free syllable since it already has a final consonant.

Other explanations can be proposed which all involve some morphological element - a dangerous thing to handle since we know

something about the forms (Shorto, 1963), but almost nothing about the meaning of what little Palaungic morphology survives today.

There are Mon-Khmer languages (e. g. Jah Hut: Diffloth,1976) which insert an automatic -?- at the end of many morphemes, especially if they are infixes. This would nicely explain cases like PW *?mɨc "ant", which is clearly derived from the PWaic verb "to sting": PW *hɨc (C 28)[37]. We would have: Pre-Waic *h-rm-uc → *hm?uc →*m?uc → PW *?mɨc. The word for "field" might also fit here, if Ferlus' explanation (pers. com.) of Lamet: màal "field" as being derived from a PMK root *TSaar (Cf. Khmu: caar "to dig with a pick") is valid; we would have Pre-Waic *c-m-aar →*cm?aar →*m?aar → PW *?mar. Note that in both cases, the Samtau m̥h- reflexes would be accounted for, and would in fact argue for reconstructing PW *m?ɨc and *m?ar. The registers of the Lamet cognates would still remain problematic (compare Lamet: rmbóok "to cough", PW *?mok), and so would the semantics: the presumed Agentive meaning of the -m- infix can explain "ant" but not "field".

The troublesome -?- might also be a morpheme by itself, or rather, one of the manifestations of a variable infix: there are indications that Palaungic had an infix similar, at least in form, to the pan-Aslian "infixed final-copying" (Diffloth, 1972). For example, in PW *rmhɨm "nest" and PW *rmhem "nail", the initial -m-'s may well be infixed copies of the final -m's; similarly, in Riang: cəlŋə̀l:"stump", pilwil:"turban"(Scott,1900), səypùv "Carea arborea tree"(Shorto,1971), tjərŋùr(White striped Riang, *honey bee"
Luce, 1965), rmkiam:"plan"(Luce, 1950), rmlim:"to faint"(Luce,1950) kmrim:"numb", rəndéŋ:"way", and perhaps pəkcək:"to erect";

Khmu also has numerous cases of infixed final copies, especially in Expressives: cpkop:"round shaped", cŋdɔɔŋ:"straight but slanted (of a branch)", crdwwr:"fan-shaped", lt?vet"move like a fish tail", lŋgəəŋ:"too liquid", lkhŋok:"leaning forward", lk?uk:"splayed", lŋbiəp:"about to cry", lŋdrɛŋ:"stretching legs", pckʌʌc:"silently", ɔldual:"go up in smoke", rcbic:"mixing tears and mucus"(cf. rbic: "(tears, mucus) to flow out"), rkŋɔɔk:"numerous (people) standing", rkywk:"darkness due to clouds", rlmɛɛl:"pale", rŋdəŋ:"(breasts) pointing forward". This is probably a feature inherited from Proto-Mon-Khmer, since traces of it are found in Nicobarese under the form of prefixed final-copying (Hestermann,1926), which have also been recently claimed for Khmer (Shorto,1976a).

Such an infix could explain PWaic *ʔriʔ, *ʔmoʔ, *sʔnaʔ, and even *ʔmoK, provided the semantics can be worked into such an explanation, one day, and the loss of a consonant before the ʔ- is explained.

Finally, there remains a possibility that the glottal stop is simply an original part of the root. Proto-Mon-khmer almost certainly had initial clusters consisting of Cʔ-, as shown by the form and the pan-Mon-Khmer distribution of etyma like "bone", and "centipede" (PW *sʔaŋ, and PW *sʔep). The etymology of "to cough" would also suggest an original -ʔ- in the root: The Khmer cognate: kʔɔɔk "to cough" indicates that the initial k- of Palaung: kạn-ʕ "to cough" is also original, and was lost in Wa and Lawa; as we shall see shortly, it may well have been retained in the Samtau branch, and therefore in Proto-Waic, but the cognate has not been recorded in that branch. If the Samtau cognate does have an initial k-, the Proto-Waic form will be *km?ok, going back to a Proto-Palaungic *k-rm-?ook, which would also explain the unexpected high register of Lamet: rmbóok "to cough".

This latter explanation also suggests metathesis of at least

some glottal stops with sonorants, so that both *?N- and *N?- would be needed for Proto-Waic. The morphological explanation would also support this, and so would the two series of Samtau reflexes, but, until more information comes to light, I will only reconstruct the Proto-Wa-Lawa state of affairs in this respect: a single series of *? + Sonorant initials.

In the case of liquids, however, both possibilities, *?L- and *L?- are well represented: *?L- would account for the cases shown above, and *L?- will now be discussed.

c) Complex initials starting with a Liquid.

Most Lawa dialects have words with r?- and l?- initials, separated by an epenthetic vowel,and followed, of course by vowels of the "non-buzzy" series. The Bo Luang dialect, and perhaps also Pa Pae,have merged the two initials in favor of l?-:

PW *r?o? "to crow"(? 3), Pa Pae: ra?ɔ?

PW *r?aŋ "rock, cave"(R 4), L'up, North:rə?aŋ, BL: la?aŋ

PW *r?om "water"(M 2), Um, L'up: ra?aum, PaPae:lə?aom
BL: la?aum

PW *l?ar "two"(R 2), BL, Um, Phae, Sam: la?a, L'up: lə?a

PW *l?ɔy "three"(Y 1), BL: la?oi, Um: la?ua, Phae: la?uai
Sam, L'up: lə?ua

PW *l?os "fat (N.)"(S 2), BL: la?auh, Um: ra?aus, L'up:lə?oih
North: lə?ɔh

One word has a more complex initial, at least in Lawa where some dialects seem to have a nasal infix:

PW *l(ŋ)?ak "crow (N.)"(K 5), BL: la?ak, Um: ra?ŋak, North:ləŋŋak

In all these words, the presence of an original PW *-ʔ- is confirmed by Samtau, but there is some irregularity in the nature of the initial liquid:

PW *rʔoʔ "to crow"(ʔ 3) Sam: rəʔoʔ

PW *rʔom "water"(M 2) " : ʔúm,also:təʔúm "vapor, cloud"

PW *lʔar "two"(R 2) " : ləʔál

PW *lʔos "fat (N.)"(S 2) " : rəʔúh

PW *lʔɔy "three"(Y 1) " : ləʔɔ́y

PW *l(ŋ)ʔak "crow"(K 5) " : ʔa-ʔák

In Wa, the glottal stop of these clusters was lost in the whole branch, although Drage seems to ahave noted it in two cases: "crow"(K 5), and"rock"(Ṅ 4). The vowels in these words are all in the Clear, Tense category:

PW *rʔoʔ "to crow"(ʔ 3), Dr: ro

PW *rʔaŋ "rock, precipice"(Ṅ 4), Dr: ra-ang, rāng, BW: rang

PW *rʔom "water"(M 2), Dr: rawm, BW: rawm, SW: ɣɔm KW: rɔ́m

PW *lʔar "two"(R 2), Dr: rā, BW: ra, SW: ɣa, KW: rá

PW *lʔos "fat"(S 2), Dr: loich

PW *lʔɔy "three"(Y 1), Dr: loi, oi, BW: lo-e, SW: loy,KW: lóy

PW *l(ŋ)ʔak"crow"(K 5), Dr: lāk, löak, WB: lak, KW: lák

Here again, the reconstructions I propose are valid only at the Proto-Wa-Lawa level, as there are a number of problems here which require more and better information. Morphology is certainly involved in some of these cases: in "water", the initial *r- is probably a nominalising prefix[38]; the rest of Palaungic, and Khmuic, only show an initial ?- for this root, which may have been a verb originally[39].

Cf. Riang: om¯, Palaung : om, Lamet: ʔóom, Khmu: ʔom, Khasi: ʔum all meaning "water".

In "two" we may even have two prefixes: Lawa and the Samtau branch agree on initial l- (Tailoi: la-al, KemDègne: la,Ferrell:lay¯) but the whole of Wa, and close relatives, have r- (La, En: ra, K'ala: gha), while others have reflexes of the bare root,PPal.*ʔaar: Son: a, Khalo: ā, Wa Kengtung: á. This distribution of l-, r-, and Ø- does not agree with either *lʔ- or *rʔ- correspondances. And while so-called "irregular" developments can be expected with numerals, it is also well known that MK numerals are basically verbs (Zide,1976) and may have a rich morphology (Cf. Riang: ɔ́r , kʔɔ́r, sʔɔ́r, təʔɔ́r). A PWaic *l-r-ʔar, with infixed final-copying, is a distinct possibility.

The initial *l- reconstructed for PWaic "two" is also found in"three",but the Palaungic cognates outside Waic only have an initial glottal stop: Lamet:ʔɔ́ɔy, Palaung: uəy, Riang: wáy. This suggests PWaic *l-ʔɔy, with *l- as a prefix.

Only two examples are left where the outside evidence argues for original *lʔ- and *rʔ- initials in the root itself: "fat" and "rock" respectively; but the evidence is sparse and remote: Lamet: rʔáaŋ "stone", Palaung: ra-āng "precipice", and: Semai: lʔuus "fat, grease".

Initial *r-, but apparently not *l-, can also occur in complex initials followed by practically any consonant, besides -ʔ-.

Here again, morphology will explain some, but not all, occurences of these clusters. Since *r- is inherently voiced, it will have no effect on the tone or register of the main vowel which follows: only the voiceless C_1 initials of C_1C_2 clusters play an active role in this regard. This asymetry is due to

the fact that the only C_2 consonants which are permeable are voiced, while all voiceless consonants are impermeable.

In most of Wa proper, but apparently not in Davies' Wa, *r- before non-laryngeals has turned to s-; in Drage's Wa, *r- is maintained, as in Proto-Lawa:

PW *rkɨʔ "dove, pigeon"(? 11), BW: sikau, Um.-Lawa:rakoʔ

PW *rmeʔ "male"(? 59), Wa(Antisdel):hsime, Wa(Luce):ʃi^{4}méʔ^{3}
KW:səmèʔ ~ mèʔ (but: SW:miʔ, BW:me),
Wa(Davies):rame(t), Drage:rameh, Um.-Lawa:ramiʔ

PW *rwaʔ "door"(? 72), SW:svɛʔ, BW:siveh, Wa(Davies):rave(t)
Drage:ravöa

PW *rmɨc "grave"(C 11), BW: si-mui-ik, Drage:ramoit,Um.-Lawa:ramɔic

PW *rnɤm "thunder"(M 21), BW:sinum, Wa(Luce):ʃi^{4}num^{2},Drage:ranem
North-Lawa:rənaom

PW *rway "tiger"(Y 24), SW:səvay, KW:səvày, Wa(Luce):ʃi^{4}vwɒi^{2}
Wa(Antisdel):hsivai, Wa(Davies):ra-wai,
Drage:ravöa, ravoi, North-Lawa:rawia

PW *rntah "medicine"(H 9): SW:sədah, BW:sida, KW:səntáh,
Wa(Luce):ʃi^{4}tah^{5}, Wa(Antisdel):hsita, Drage:ratāh

The interesting aspect of this Wa innovation is its possible effect on the following vowel; s- being voiceless, unlike r-, we would expect that feature to permeate perhaps through nasals, and certainly through approximants; but nothing happens: the phonation types and gliding patterns were already settled by the time the innovation *r- → s- took place in Wa (cf. "male","door" "thunder","tiger").

A similar situation is found in Samtau: the initial *r-'s in question turnedinto k-, but the tone remained low in spite of the permeabilty of Nasals and Approximants. Very probably, the tones

of Samtau had already appeared when the innovation *r- → k- occured; in fact this k- only appears in Samtau, KienKa and Ferrell's P'uman, but not in the other two languages of the Samtau branch: Tailoi and Kha Kem Dègne. The innovation *r- → k- is later than Proto-Samtau and the emergence of tone.

PW *rwa? "door"(?72), Sam:kəvà?, Ferrell:kă-wah¯

PW *rme? "man, male"(?59), Sam:kəmè?, KienKa:kă mē, Ferrell:ka-me?_

PW *rmo? "dream"(?66), Sam:kəmù?, (Tailoi:l'mo)

Um.Lawa:ramo?

PW *rwaŋ "thigh"(Ñ 50), Sam:kəvàŋ,(KemDègne:rewang,Tailoi:ma-wang)

Dr:ravuang, Um.Lawa:rawɨaŋ

PW *rmɒs "banana"(S 17), Sam:kəmɔ̀h, Ferrell:kă-mɔ_

Um.Lawa:ramɔs

PW *rway "tiger"(Y 24), KienKa:kawāi, Ferrell:(kă)-way_,(Sam:vày)

PW *rwɤy "whirl of hair"(Y 25), Sam:kəvày

Um.Lawa:rawuy

Palaungic cognates are not especially helpful for this initial: while some words evidently had an initial *r- (e.g."dream": Lamet:rmèe?, "tiger": Palaung:ra-vāī, Riang:rəwɔ̀y), others had more complex initials where *r was not absolutely initial, but only a vocalic element, or even an infix. This would require a full treatment of Palaungic history.

d) Two-stop initials

The various forms of Wa, Lawa, and some other Waic languages (La, En, Son, Scott's Wa Kengtung), are peculiar in the Mon-Khmer family for lacking the usual complex initials consisting of two stops separated by an epenthetic unstressed vowel. The Samtau branch, as well as Khalo and K'ala, does have initials of this sort, but only with k- as a first stop. Comparison outside Waic shows that this initial k- is a preservation. The loss of k-, without a trace as we shall see, is probably an important and old innovation, which sets apart (together) Lawa, Wa, La, En, Son and Wa Kengtung as a major branch of Waic: (the Wa-Lawa-La branch.) The position of Khalo, having three retentions of k- and two losses in the examples below, is not exactly clear.

PW *kʔɔʔ "bamboo"(? 2), Tailoi: ko-aw (Dr: o, Um.Lawa:ʔɔʔ)

PW *ktɛʔ[40] "earth"(? 28), Samtau:kətéʔ, Tailoi:ka-de, Ferrell:kă-tay¯
KemDègne:kadè, K'ala:kʌ-tê, KienKa:kătī, Khalo:kade.
(KW:téʔ, Um.Lawa:teʔ)

PW *kdɔʔ "banana" , Samtau: kɛ̀ʔ, KienKa: khătō, (L'upLawa: tuʔ)

PW *kdiŋ "big"(Ń 29), Samtau:kətì̀ŋ, K'ala:kʌ-ting (but Khalo:tung)
(KW:tì̀ŋ, Dr:hting)

PW *ktam "crab"(M 9), Samtau:kətám, Khalo: ka dam
(Dr:tām, Um.Lawa:tam)

PW *ktɒm "egg"(M 11), Samtau:kətɔ́m, KemDègne:khatǫm,
Ferrell:kă-tam¯, K'ala:kʌ-tun, KienKa:khatom
(Dr:tawm, Um.Lawa:tɔm)

PW *kdɨm "ripe"(M 18), Samtau:kətɯ̀m
(Dr:htöm, Um.Lawa:thum)

PW *kʔɔl "cooking pot"(L 2), Tailoi:kaw-all, KienKa:kăui
(but Khalo: o) (BW:aw)

PW *kdɤl "stomach"(L 11), Samtau:kətàl, Khalo:ka tū, KienKa:ka tōi
K'ala:kʌ-tu, (Dr:tu, PaPae-Lawa:thu)

PW *kbɤl "thick"(L 15), Samtau:kəpàl, Tailoi:ka-pull, K'ala:kʌ-paw.
(but KienKa:pöi) (KW:pù, Um.Lawa:phu)

Cognates in the rest of Palaungic show not only that this *k- is necessary for PWaic, but that it is probably Proto-Palaungic as well:

PW *ktɛ? "earth" Pal.:kạ-tē, Riang:kəté?, Lamet:ktḗ?, Danaw:kăte[1] Angku:katé

PW *ktam "crab", Riang:kətóm, Lamet:ktáam, Danaw:kătɒn[2]

PW *ktɒm "egg", Pal.:kạ-tậm (but Riang:tám), Danaw:kătŏn[4]

PW *k?ɔl "cooking pot", Lamet: กะ ออ ล (Kraisri), Angku:ka-áll

PW *kdɤl "stomach", Riang(Scott):kadell "leg"[41], Lamet:ktẁl
YaAng(Wenk):khatu

Wider Mon-Khmer comparisons are beyond the scope of this work, but several cognates show that this Palaungic *k- corresponds to a wide variety of consonants, k- among them. Their merger into *k- can perhaps be used as one of the characteristic innovations of the Palaungic branch, to the exclusion of Khmuic:

PW *ktɛ? "earth", Khmu:pte?

PW *ktam "crab", Yuan Khmu (Lindell,1974):kətaam

PW *k?ɔl "cooking pot", Jah Hut:k?wəl

PW *kdɤl "stomach", Semai:pdəl,"bulging part of the body"

PW *kbɤl "thick", Khmu:mbwl

PW *k?ɔ? "bamboo", Semai:p?oo?, Bahnar:p?oo

PW *kdiŋ "big", Khmu: kdwaŋ

PW *kdɨm "ripe", Khmu: nduum

Besides two-stop initials, we also find Palaungic k-'s preceding Nasals and Approximants. These too are lost in the Wa-Lawa-La branch of Waic, and preserved in the Samtau branch.

since Nasals and Approximants are permeable to the voice feature of
:ceding initials, this early innovation will give us a tool for observing
: development of tones and registers in Waic. It may even give us a clue
the original question about the voice of Proto-Waic stops.

e) Shreds of evidence for late devoicing

As I mentioned previously, there is little doubt that devoicing
stops did occur at some time later than Proto-Palaungic, since Palaung
self has preserved the voice distinction, which was inherited from Proto-
thern-Mon-Khmer and even Proto-Mon-Khmer. The problem is: when did
occur. Specifically, did it take place later than Proto-Waic or not?

If we recall that tones, registers and buzziness are all correlates
the old voicing distinction, it is clear that devoicing cannot have
:cured before these innovations took place: it must occur later, or, at
ie limit, simultaneously. The question then shifts to one of dating the
ppearance of tone, registers and buzziness, or their predecessors, with
elation to Proto-Waic.

If we find that all three phonation features can be explained as the
esult of a single Proto-Waic factor (the voice feature of the initials),
lus a number of later innovations (i.e. the shift from breathiness to
uzziness in Lawa), then we have here no argument for dating their appearance
ater than in Proto-Waic.

But if we find discrepancies in phonation types among the various
ranches of Waic, and if these discrepancies can be explained as the
esult of some other, Post-Waic innovation, then the appearance of the
honation type contrast must be Post-Waic too, unless some other explanation
:an be found; and voiced initial stops must have existed in Proto-Waic.

One of the earliest Post-Waic innovations was the loss of *k- before Stops, Nasals (and probably Approximants) in Proto-Wa-Lawa-La. If register-tone contrasts had already appeared at that time, *kN- and *kW- initials would have "high" register-tone in both the Samtau and the Wa-Lawa-La branches, due to the permeability of Nasals and Approximants. For example, in Kawa, the loss of *k- would not have affected the tenseness of the vowel, just as the loss of *ʔ- did not affect the tenseness of vowels with *ʔN- initials . And Samtau should, of course, have a high tone.

I think what actually happened was the opposite: *k- was lost in Proto-Wa-Lawa-La, and that branch later acquired registers according to the voice of initials: the old *kN- and *kW- words, reduced to N- and W- acquired a breathy register. In the Samtau branch, tone developped independently, and *kN- and *kW- words received a high tone. Devoicing of the Stop initials then took place any number of times in the various branches of Waic which had formed by then.

Unfortunately, the number of words where this could have happened is extremely small, and I have not yet found a fully documented and reliable example; only scattered, but telling, shreds. The word for "silver, money" (L 19) had a Proto-Palaungic *km-initial (cf. Lamet:kmúul, Angku:kamúll, MöngLwe:kamún) which is confirmed outside Palaungic by Khmu:kmuul. The initial *k- is preserved in the Samtau branch of Waic: Tailoi:ka-mull, KienKa:kămōi, and in K'ala:kʌ-mal. In Wa-Lawa-La, *k- was lost: Drage:möa, BWa:mau Um.Lawa:mau, and in Kawa, we find a lax vowel: KWa:màu. Unfortunately, Samtau itself appears to have borrowed the word from a W-L-L language, as the tone and loss of k- show: Sam.:mùl.
In the word for "earthworm" we may have a better candidate when

more data comes to light; the Waic word seems to be cognate with Proto-Semai *kmoor, which would indicate a Proto-Palaungic *km- initial. Samtau[42] does have a high tone: kmɔ́l, and Wa-Lawa-La shows the expected loss of initial: Drage: mu 3, SWa: mo. Another candidate is "soot": Samtau: kváŋ.

The high tone of the last two Samtau words shows that Nasals and Approximants are indeed permeable to the preceding Stops in that language: so, the stage is set for a convincing argument to be made...when the data appears.

C) CHRONOLOGY OF WAIC INNOVATIONS

In this section, I would like to propose a relative chronology for some of the changes already discussed, and for several others which will only be presented very briefly. This chronology and the sub-branching given in section A, are interrelated. The unity and identity of Waic as a group also depends, to a certain extent, on the reconstructions and on the sound changes postulated for the Pre-Waic period (i.e. the stretch of history between Proto-Palaungic and Proto-Waic).

1) Pre-Waic innovations

There is no systematic reconstruction of Proto-Palaungic available in print as yet: Shafer's attempt (1952) could not include the crucial evidence of Lamet and Danau. But some features of Proto-Palaungic are now apparent beyond Shafer's findings and will be used here without full documentation.

Certain lexical innovations appear to be characteristic of Waic, especially in the numeral system: "six":PW *lɛs, and "seven", PW *ʔalɛs, are derived from each other; the ʔa- prefix of "seven" might be connected to PW *ʔar "two", making "seven" perhaps a

"second six". In any case, the root *lɛs itself is an innovation found in every Waic language and nowhere else in Mon-Khmer: its origin is not known. The number "eight": PW *snte? is also unique to Waic and may well be derived from PW *te? "hand"[43].

The phonological form of certain well-known MK etyma also distinguishes the Waic branch from the rest of Palaungic. For example: "snake": PW *s?ɤɲ has a s?- initial in the whole of Waic and nowhere else. This is probably not a lexical innovation, but an unusual case of metathesis: the Palaungic evidence suggests an initial Labial + s- cluster: Lamet:phŵɲ , Danau: păθén[4], even though Palaung-Riang only suggests initial *s-: Palaung: hīng, Riang: hiəñ¯. In the Viet-Muong branch, Vietnamese: rắn indicates a non-initial *-s- (Ferlus, 1976), and Săch: psɨ̆ɲ, confirms the labial initial. At the other (geographic) end of Northern Mon-Khmer, Khasi: bseɲ, suggests that the labial may have been preglottalised, and that it can be reconstructed for the whole NMK division. In the South, several Katuic languages have a kus- initial where the k- may or may not be original (Smith, 1975): Brũ: cusân, Pacŏh: cuxĕnh, Sô: kŭxëɲh (Cuaz, 1904), but the -u- Minor Vowel suggests an initial labial element other than p- or b-. Finally, Khmer[44]: msa ɲ, brings a possible solution : a PMK *?msaɲ would become Proto-Palaungic *?mseɲ, and then Pre-Waic *?əseɲ. The metathesis required to go from there to Proto-Waic *s?ɤɲ would be a characteristic of the Waic branch and no other.

In addition to these anecdotal elements, there are honest, regular sound changes which can serve to identify a Mon-Khmer language as being Waic, should anyone stumble upon a new language in that part of the world. I will only mention two: a merger, and a

etic shift, both in the vowel system:

The Proto-Waic vowel *o represents a Pre-Waic merger of two
inct Proto-Palaungic vowels which I reconstruct *oo and *əə
the moment. In Lamet, the reflexes of these vowels are /oo/
/ee/ respectively, in Palaung: /o/ and /ɯ/, in Riang: /o/ and /ɔ/.

PW *o from PPal *oo:

*pos "deer" Lam.: póos, Pal.: pṓr, Ri.:pós

*pon "four" Lam.: pône(Lefèvre-Pontalis, 1896), Pal.:pṓn,Ri:pón

*r?om "water" Lam.:?óom, Pal.: ōm, Ri.:óm

*rŋko? "rice" Lam.:ฉัฐโก (Kraisri,1963), Pal.:ra-kō, RI.:kó?

PW *o from PPal. *əə:

*phom "heart", Lam.:phéem, Pal.:pṓm (Shorto:phɯm), Ri.pʰóm

*prok "side,rib", Lam.:prēk (Wenk,1965),Pal.:prŏ̄ (prɯ?),Ri:phrok

*joŋ "foot", Lam.:cèeŋ, Pal.:jṻng (jɯŋ), Ri.:tsɔ̀ŋ

*bon "able", Lam.:pèen, Pal.:bṓn, Ri.:bɔ̀n

*kol "ten", Lam.:kel เกล (Kraisri,1963), Pal.:kṓr, Ri.:kɔ́l

far as can be guessed at present, this merger appears to be quite
, i.e. dating from the early period of Pre-Waic: at that time,
g and short Proto-vowels were still in contrast, and the merger in
stion only affected two long vowels, leaving aside the short
l *ə which later became PW *ɤ.

The other Pre-waic innovation is a late one, according to my
koning: Pre-Waic *u moved to Proto-Waic *ɨ without causing any
ger and leaving a gap in the Proto-Waic vowel system:

Proto-Waic:	i	ɨ	←
	e	ɤ	o
	ɛ	a	ɒ	ɔ

PW *sɨ? "sick, pain", Lam:sú?, Pal:śū, Ri:sú?¯

PW *nɨm "urine", Lam:nùm, Pal:hnyūm,, Ri:nùm

PW *hɨk "hair", Lam:múk, Pal:hu, Ri:húk¯

PW *hlɨt "deaf", Lam:lúut, Pal:hlu, Ri:lút

PW *hɨm "bathe", Lam:húum, Pal:hūm

PW *tɨ? "curry, vegetable", Lam:túu?, Pal:tū

The Lamet reflexes show that this Pre-Waic *u is, itself, the result of an earlier merger, presumably of PPal.*u and *uu; but the phonetic shift to Proto-Waic *ɨ affects both vowels indifferently, and probably occured after the vowel length distinction disappeared in Pre-Waic times. The loss of vowel length, although it is a distinct innovation, cannot be used as a defining feature for Waic since it also took place in all the Palaungic languages West of the Salween: Palaung[45], Riang, and Danau; it is an areal feature which cuts across historical classifications.

2) Post-Waic innovations

The gap left in the [u] position was soon to be filled by one of the nearest vowels: PW *o or PW *ɤ ; and the choice of one or the other distinguishes Samtau, where PW *o moves to /u/, from Proto-Wa-Lawa-La where *ɤ (which) fills the empty position. From the poor notations available, it is difficult to judge how early the move PW *o → u occured in the Samtau branch; but it conditions and probably precedes the other vowel shifts which took place in Samtau, such as the raising of *ɔ to /o/ without merger, and the later movement of *ɒ to /ɔ/ (except before *-h but including *-s, i.e. earlier than the merger of these two finals). As for PW *ɤ, it

ıply went to /ə/ in Samtau. For this vowel, Wenk's data show
t KienKa agrees with Samtau,and not with Wa-Lawa-La:

*hɤn "many"(N24), KK: hün
*s?ɤŋ "snake"(N2), KK: saün
*sɤm "to plant"(M41), KK:tăsüm
*yɤm "to die",(M43) KK: yöm
*pɤr "to fly"(R11), KK: pü
*kdɤl "stomach"(L11), KK: kătöi
*hɤl "to go"(L26), KK: hüi, höi

As we go down in time in the Wa-Lawa-La branch, one of the
ly innovations which separates Proto-Wa from Proto-Lawa is
merger of *-om and *-ɔm finals in Proto-Wa. This can be seen in
following etyma where Samtau and Lawa maintain the older
trast:

PW *-om:

*ɲom "delicious, well"(M7a), KW:ɲòm, Um.-Lawa:ñum, Sam.:ɲùm
*-som "night"(M40) KW:sóm, Um.-Lawa:saum, Sam::nəŋsúm

PW *-ɔm

*ɲɔm "young"(M7) KW:ɲòm Sam::?əŋɲòm
*sɔm "to eat"(M39) KW:sóm, Um.-Lawa:som, Sam.:sóm

though vowel notations in Scott (1900) leave something to be
ired, it seems that the merger of *-om and *-ɔm did not occur
either Son nor En:

: nyawm "young" vs. nyom "well"
sawm "eat" vs. sōm "night"

we may be reaching here the limit of what can be said with
fidence about the "minor sources".

*

* *

The regularity of sound changes within Waic is actually quite impressive, as soon as spurious cognates are mercilessly abandonned; but this becomes apparent only when we can work with precise notations and sizable collections, and not with the deficient but fascinating material available until recently. This regularity, and the apparent rarity of intra-Waic borrowings, are probably due to certain social values shared by speakers of Waic languages, and to the geographic dispersal connected to such values; but I, unfortunately, have no personal knowledge of either.

Such historical patterns also offer encouraging prospects for building a Proto-Palaungic, and, hopefully, one day, a Proto-Mon-Khmer Etymological Dictionary: the various Palaungic languages are not only scattered, but also physically separated from each other by other language families and solid geographic barriers.

D. WAIC ETYMOLOGICAL LEXICON

Abreviations:

Ant : Wa (Antisdel, 1911)
Bib : Wa from Bible translations (Young, 1934)
BL : Bo Luang dialect of Lawa (Mitani, 1972)
Dav : Wa (Davies, 1909)
Dr : Wa (drage, 1907)
En : En (Scott, 1900)
Ferr : P'uman (Ferrell, 1971)
K'ala : K'ala (Harding, 1927)
Kawa : Wa (also called Kawa) (Yinnan Min'qu Qu'banse, 1958-60)
KemD : Kha Kem Dègne (Lefèvre-Pontalis, 1892)
Khalo : Khalo (Flatz, 1970)
KK : Kien Ka (Wenk, 1965)
La : La (Davies, 1909)
L'up : L'up dialect of Lawa (also La-oop)(Schlatter, 1976 and notes)
Milne : Wa (Milne, 1931)
North : Mapa dialect of Lawa (Rangsidh, 1942)
and North dialect of Lawa (Diffloth, 1976 notes)
Pap : Ban Pa Pae dialect of Lawa (Ratanakul, 1976 notes)
Ph : Ban Phae dialect of Lawa (Mitani, 1972)
Praok : Praok-Wa (Shorto, 1963, 1971)
Saam : Ban Saam dialect of Lawa (Diffloth, 1976 notes)
Sam : Samtao (Harris-Gainey tapes, 1976)
Son : Son (Scott, 1900)
SW : South Wa (Harris-Gainey tapes, 1976)
Tailoi: Tailoi (Scott, 1900)
TV : Tung Va Wa (Luce, 1965)
Um : Umphai dialect of Lawa (Mitani, 1972)
WaKng : Wa of Kengtung (Scott, 1900)

NB1. In the following Lexicon, some reconstructions are given in parentheses, e.g.: ʔ75*(ŋriʔ) "pestle". This indicates that the data available at present is not sufficient to reconstruct the etymon for Proto-Waic; e.g. no cognate for "pestle" has been recorded so far in the Samtao branch. The form in parentheses is a prediction of what the proto-form is likely to be when and if such data becomes available. In most cases, cognates outside Waic, not quoted here, support these reconstructions.

NB2. Probable borrowings, mostly from the Thai family, have not been systematically discriminated from indigenous Mon-Khmer material. In several cases, the direction of borrowing is not evident.

Order of Consonants: ʔ, k, ŋ, c, ɲ, t, n, p, m, w, r, l, s, y, h.

?1 *?E? "We, Inclusive, more than two"

Sam: ?é?

PWL*?e?. Wa: Dr: i, ē; TV: ɛ?[1]; SW: ?ɛe̯?; Bib: e; Kawa: eix /?é?/

Lawa: BL, Um, Ph : ?e?; L'up: qeq

?2 *k?ɔ? "bamboo"

TL: ko-aw

PWL*?ɔ?. En: u; La: o

Wa: Dr: o; Ant: o:; TV: o?[1]

Lawa: BL: ?o? ; Um, Ph, Pap: ?ɔ?

?3 *r?o? "to crow"

Sam: rə?ó?

PWL*r?o?. Wa: Dr: ro

Lawa: Pap: ra ɔ?

?4 *?ɨ? "I"

Sam: ?ú?; TL: u

K'ala: (?) awn

PWL*?ə?. La: o; Son: au; En, WaKng: ao

Wa: Dr: aü, ao; Ant: au, au:; Pr: aə; Bib: au; TV: ɔ́ə?[1]

SW: ?ae̯?; Kawa: ex /?ə́?/

Lawa: BL: ?ai?; Um: ?au?; Ph: ?aï?; L'up: qaïq

?6 *ka? "fish, N."

Sam: ká?; KK: kā; KemD: cà; TL: ká

K'ala: kā; Khalo: ka

PWL*ka?. La: ka; Son, En, WaKng: ka

Wa: Dr: ka(5); Bib, Pr, Dav: ka; TV: ka?[1], SW: ka?;

Kawa: gax /ká?/

Lawa: BL, Um, Ph, Pap, Saam: ka?; L'up: kaq

*skɔʔ "wet"

Sam: skóʔ

PWL*skɔʔ. Wa: SW: skoʔ

Lawa: BL: sakɒʔ; Um, Ph: sakɔʔ ; L'up: sʌkɔq

*rŋkoʔ "rice (uncooked)"

Sam: ʔəŋkúʔ; Ferr: kă-kʊ̄ʔ; TL: en-ko

K'ala: a-kao; Khalo: kó

PWL*rŋkoʔ. La: kao; En: gao; Son, WaKng: kao (?from Thai: khăaw ?)

Wa: Dav: 'n-gow; Milne: gāu; TV: ŋ-gáuʔ3; Kawa: ngaox /ŋkáɔʔ/

Lawa: BL: ʔakɒuʔ; Um: rakoʔ; Ph: ɣakoʔ; L'up: rʌkoq

*N-koʔ "yesterday"

Sam: namkúʔ

PWL*N-koʔ. Wa: SW: punkɔʔ (irreg. vow. but cf. kauʔ "day after tomorrow")

Lawa: BL: ŋgɒuʔ; Um: ŋgoʔ

*kɨʔ "body, Classifier for humans", in Lawa, also:"animal", in Kawa, also:"name")

PWL*kəʔ. Son, WaKng: gao; En: kaü

Wa: Dr: kaü; Ant: kau; Milne: kăi; Dav: ka; Praok: kaə;

SW: kaəʔ ; Bib: kau; Kawa: gaeex /káɯʔ/

*rkɨʔ "dove, pigeon"

Sam: kɯ́ʔ

PWL*rkəʔ. Wa: Bib: sikau

Lawa: BL: ʔakɒuʔ; Um, Pap: rakoʔ

*ŋgiʔ "pine tree"

PWL*ŋgiʔ. Wa: Dr: ki5, chi5

Lawa: BL: ŋgaiʔ ; Um: ñjiʔ; Ph, Pap:ŋgiʔ; L'up: giʔ

?13 *(rgaʔ) "to get thin"

PWL*rgaʔ. Lawa: BL: ʔakɬaʔ: Um: rakhɬaʔ: Ph: l-/χakɬaʔ

?14 *(ŋgoʔ) "live coal" (in cpd. w. -*ŋɒl "fire" L8) DMI: p.328

PWL*ŋgoʔ. Wa: Praok: gao; Bib: gao

?15 *ŋeʔ "day"

Sam: ɲiʔ

Khalo: ngi

PWL*ŋeʔ. La: gö-e: Son: nyé; WaKng: nge: En: ngai

Wa: Dr: nyi, nie, ni; SW: ŋaiʔ; Praok: ŋay: Kawa: ngāix /ŋàiʔ/

?16 *sŋeʔ "sun, day"

Sam: səŋʲìʔ; KK: sani; Ferr: sə̆ŋi_; KemD: seigné;

TL: si-nyi, s'ngi

K'ala: ss-ngai, singai; Khalo: sangi

PWL*sŋeʔ. En: s'ngai, Son: nge

Wa: Dr: sanie, hsani; Dav: si-ngai; Ant: (hsi)ngai;

Milne: ṣ́a-ngyē; Bib: singai; Praok: siŋay: TV: ʃi⁴ŋɑiʔ³;

SW: sŋaiʔ; Kawa: si'ngāix /səŋàiʔ/

Lawa::BL: saŋaiʔ; Um: sañiʔ; Ph: saŋeʔ; L'up: sʌŋeq;

North: sŋɛʔ/-eʔ

?17 *ŋaʔ "tusk"

Sam: ŋàʔ; KK: n̈a

PWL*ŋaʔ. Wa: Dr: ngöa, SW: ŋaʔ (irreg. vow.)

?18 *rŋaʔ "sesamum" Cf. Thai: ŋaa: Austronesian *ləŋaʔ

Sam: kəŋàʔ

PWL*ŋaʔ. Wa: TV: ŋɛ̀², ŋɑʔ³, ŋyéʔ³, SW: ŋa (irreg.vow.)

?19 *(sʔŋaʔ) "be clean"

PWL*sʔŋaʔ. Wa: Bib: singa, Kawa: si'ngax /səŋáʔ/

Lawa: BL, Um: saʔŋaʔ

) *hŋɔʔ "rice plant"

KemD: ngoô, TL: ngaw

K'ala: ngaw; Khalo: ngó

PWL*hŋɔʔ. La: go; Son, En: ngo; WaKng: ngu

Wa: Dr: ngo5; Dav: ngo; TV: ŋoʔ^{3}; Praok: ŋo; Bib: ngo;

SW: (h)ŋoʔ; Kawa: hngoux /hŋóʔ/

Lawa: BL: hŋɒʔ; Um, Pap, Ph, L'up: hŋɔʔ; North: hŋauʔ

*g-/jiʔ "to make"

KK: khī

PWL*jiʔ. Wa: Ant: ci; Bib: chi; Kawa: jīx /cìʔ/

2 *k-/ɲeʔ "needle"

Sam: ɲèʔ; KK: kăyī; TL: kall-nye

PWL*ɲeʔ. WaKng, Son: nyur; En: ngyé

Wa: Dr: nyi; SW: ɲiʔ; TV: ñeʔ^{3}; Bib: nye

Lawa: BL: ñeʔ; Um: ñiʔ

3 *ɲaʔ "house"

Sam: ɲàʔ; Ferr: nyaʔ_; KemD: nha; TL: nya

K'ala, Khalo: nya

PWL*ɲaʔ. La: cha(t); WaKng: nha; En,Son: nya

Wa: Dr: niüa, nia5; Dav: nyen; Ant: nyeh; TV: ñeʔ^{3};

Milne: nī-ö; Bib: nyeh; SW: ɲeʔ; Kawa: nyīex /ɲìɛʔ/

Lawa: BL, Um, Ph, Pap, North: ɲɨaʔ; L'up: ñïeɑ

4 *ɲɨʔ "to drink"

Sam: ɲŭʔ (irreg. tone); Ferr: nyŪ_; KemD: nga-(lo); KK: yü

TL: nyu

K'ala: nyū

PWL*ɲəʔ. Son: nyu-a; WaKng: nyu; En: ya

Wa: Dr: niö; Milne: nyū; Ant: nyau; Bib: nyau; SW: ɲa(ə)ʔ

?25 *te? "hand"

Sam: tí?; Ferr: təy?¯; Tailoi: ti; KK: tāī

Khalo: di; K'ala: tai

PWL *te?. La: teh; WaKng: dae; Son: de; En: tai

Wa: Dr: te, tè; TV: tɑi?1; Dav, Ant, Bib: tai; Praok: tay;

Sw: tai?; Kawa: daix /tái?/

Lawa: BL: tai?; Um, L'up, Sam, North: te?

?26 *snte? "eight"

Sam: sətí?; Ferr: hɔŋte:?; KemD: leti

K'ala: ss-tai; Khalo: di

PWL*snte?. La: tai; Son: dai; En: pindai; WaKng: tai

Wa: Dr: sate5: Ant: hsindai: Dav: sdai: Bib: sidai; TV: n\dɑi?3

SW: (?ə)dai ; Kawa: ndaix /ntái?/

Lawa: BL: satai?; Um, Ph: sate?; Saam: sate?: L'up: sate?:

North (Rangsit's Mapä): sande

?27 *(rnte?) "eighty"

PWL *rnte . Wa: Ant: ridai

Lawa: BL: latai?, Um: rate?, North (Rangsit): rande

?28 *ktɛ? "earth"

Sam: kəté?; Ferr: kă-tay¯; KemD: kadè; Tailoi: ka-de; KK: kă tī

Khalo: ka de; K'ala: kʌ-tê

PWL *te?. Dav: te; WaKng: de; Son: dé; En: té

Wa: Dr: tè. teh5; Bib: teh; Praok: tɛ; TV: dè?3; SW: tɛ?

Kawa: diex /té?/

Lawa: BL: tai?; Um,Ph,Saam: te?: L'up: te?: North (R.): te

?29 *ta? "grand father, old man"

Sam: ?a-ta?; Tailoi: ta

Khalo: da

PWL *ta?. Son: ta

Wa: Dr: ta(5): Praok: ta; TV: ta?1: SW: ta?; Kawa: dax /tá?/

Lawa: PL, Um, Ph, L'up, North: ta?

*snta? "tail"

Sam: sɔtá?; KK: sătā

PWL *snta?. Wa: Dr· shata(5), satā; Bib: sida; Praok: sidɒ:

TV:∫i4ta?1; SW: da?

Lawa: BL, Um, Ph: sata?; L'up: səta?

*ti? "meat, vegetables, foodstuff, curry"

Sam: tẃ?; KK: tǫ

Khalo: dö

PWL *tə?. Wa: Dr: taü: TV; tɒw?1; SW: tw?; Kawa: daeex /taẃ?/

Lawa: BL: tɔu?; Um, Ph, Pap, North: to?

*(nti?) "inside"

PWL *ntə?. Wa: Dr: taü; Bib, Ant: dau; Kawa: ndaeex /ntáw?/

*knti? "hole"

Sam: ktẃ?

PWL *ntə?. WaKng: dao

Wa: Dr: taü; TV: n\dɒw?3; Bib: dau; SW: daə?

Lawa: Um, Ph, North: to?

*k-di? "one"

Sam: (k)tì?; Ferr: kate·?; KK: tī; Tailoi: ka-ti

Khalo: ti

PWL *di?. La: t'ie; En, Son: tē; En: tai; WaKng: te

Wa: Dav: ti; SW: ti?; Bib, Ant: ti; Ant: te; Kawa: dīx /tì?/

Lawa: BL, Ph, L'up, Saam: ti?; BL: te?; Um: thi?

*(ndi?)"last (as in:last year)"

PWL *ndi?. Wa: Kawa: ndīx /ntì?/

Lawa: BL: nde?; Um: thi?

?36 *s-nde? "near"

Sam:?ənte?; KK: tē; Tailoi: en-tē

Khalo: dë; K'ala: tê

PWL *snde?. En, Son: dé

Wa: Dr: tè, te; Dav: de; SW: de; Bib: de

Lawa: BL: sandai?; Ph,Um: sandi?; L'up: səndi?

?37 *(da?) "to sow (broadcast)"

PWL *da?. Wa: Dr: htö5

Lawa: BL: tïa?; Um: thïa?

?38 *tn-da? "finger-span (from thumb to little-finger)"

Sam: təŋtà?

PWL *tn-da?. Wa: Dr: tatö

Lawa: Pap: dïa?

?39 *(ndɨ?) "dumb, mute"

PWL *ndə?. Wa: TV: n dɒu?3: SW: də?

Lawa: BL: ndɒu?; Um, Ph: ndo?

?40 *(sdɨ?) "silk"

PWL *sdə?. Wa: TV; tɒ́ə?1

Lawa: BL: sato?; Pap, Um: satho?

?41 *(?)ne? "muscle, meat"

Sam: nè?

Khalo: ka nä

PWL *?ne?. Wa: Dr: nè, ne; SW: ni?; Bib: ne; TV: ne?3

Lawa: BL: nai?; Um: ni?; Ph: ?ne?

?42 *?nɛ? "(Shan) hat"

Tailoi: ka-ne

PWL *?nɛ?. La: deh; En: né; WaKng: ne

Wa: Dav: ne(t); Kawa: niex /né?/

Lawa: BL: ?nai?: Um:?ne?

*(ʔn-)naʔ "sour"

Sam: ʔəŋnàʔ; KK nā

PWL *(ʔn-)naʔ. Wa: Dr: nöʔ5; SW: ʔənnɛʔ

Lawa: BL,Um, Ph: naʔ

*(sʔnaʔ) "middle"

PWL *sʔnaʔ. Wa: Dr: sanā(5); Kawa: si'nax /sənáʔ/, nax /náʔ/

Lawa: Um: saʔnaʔ

*hnaʔ "face"

Sam: n̥háʔ

PWL *hnaʔ. Wa: Dr: na

Lawa (Rangsit): BL, Um, North: nā

*(nɔʔ) "he, this"

PWL *nɔʔ. Wa: Ant, Bib: naw

Lawa: Ph: nɔʔ

*spiʔ "millet"

Sam: səpíʔ

PWL *spiʔ. Lawa: BL: sapiʔ

*pEʔ "you Pl."

Tailoi: pe

PWL *pEʔ. En, WaKng: pi; En: pē

Wa: Dr: bè, be; Praok, Bib: pe; TV: pèʔ1; Kawa: beix /péʔ/

Lawa: BL: paiʔ; Um, Ph: peʔ

*s(m)paʔ "cheek"

Sam: səpáʔ

PWL: *s(m)paʔ. Wa: Dr: pao (?); SW: paʔ; Bib: siba

Lawa: BL, Um, Ph, Saam: sapaʔ; L'up: səpaʔ, Pap: spaʔ

*(pɒ/ɔʔ) "to wake up"

PWL *pɒ/ɔʔ. Wa: Kawa: box /pɔ́ʔ/

Lawa: L'up: pəoʔ; North: paoʔ

?51 *bi? "person"

KemD: phé

PWL *bi?. La: p'i; En: pi

Wa: Dr: hpi

?52 *(r(m)be?) "clothes"

PWL *r(m)be?. La: p'ei; En: s'be

Wa: Dr: hsape; Dav: sha-be; SW: səbe?; Bib: sibe; Ant: hsimbe

Lawa: BL: ?ape?; Um: raphi?; L'up: ləpi?; Saam:?api?;

Ph: ɣapi?, lapi?

?53 *bɛ? "goat"

Sam: ?a-pè?; Ferr: mɛ?_; Tailoi: pé

K'ala: pê-ê

PWL *bɛ?. En: lé; Son, WaKng:: pé

Wa: Dr: pè; Dav: pe; SW: pɛ?; Praok: pe; TV: bè?3

Lawa: BL: pe?; Um: phe?; L'up, Ph: pi?

?54 *ba? "father"

Tailoi: paw

Khalo: pa

PWL *ba?. Lawa: BL, Ph: pïa?; L'up: pïə?; Um: phïa?

?55 *(bo?) "each other"

PWL *bo?. Wa: Dr: po; SW: pau?; Kawa: bāox /pàɔ?/

Lawa: BL: po?; L'up; Ph: pu?; Um: pho?

?56 *bɤ? "younger sibling"

Khalo: po

PWL *bu?. En, Son: po

Wa: Dr: pu, po5; SW: pou?; Bib: pu; Kawa: būx /pù?/

Lawa: BL, L'up, Ph: pu?; Um: phu?

?57 *bɤ? "to suck breast"

KK: pǖ

PWL *bu?. Son: pu

Wa: Dr: pū

Lawa: L'up: pu?

*me? "you. Sg."

Sam: mɯ̀ɪ?; Tailoi: mö (irreg. vowels)

PWL *me?. La: bö; Son: mē; WaKng: me

Wa: Dr: me; Milne: mɛ̄; SW: mai?; Praok: may; Bib: mai; Ant: mai:;

TV: mɒ́ɪ?3; Kawa: maix /mái?/ (tone irreg.)

Lawa: BL: mai?; Um: mi?; North: me?

*rme? "male"

Sam: kəmè?; Ferr: ka-me?_; KK: kă mē; khamē; Tailoi: ra-me,ru-me

Khalo: ta mä; Khalo: a-mê

PWL *(r)me?. En. Son. WaKng: mé

Wa: Dr: rameh; Dav: rame(t); SW: mi?; Bib: (si)me; Ant: hsime;

TV:ʃi4mé?3; Kawa: (si')mēix /(sə)mè?/

Lawa: BL: ?amai?; Um: rami?; L'up: rəme?; Ph:ɣame?, lame?

North (R.): (r)ami

*rm-me? "sugar (cane)" (rm- may be a reduced form of the word

*r?om "water")

Sam: həmé?: Ferr: ?um¯me¯; KK: kmmē; KemD: lammi

PWL *(rm)-me?. Wa: Dr: me, meh, awm meh5; SW: səbi?; TV: me2;

Kawa: mēix /mè?/

Lawa: BL: ?amai?; Um: rami?; Pap: ləme?; L'up: ləme?; Ph:ɣame?

*ma? "mother"

Sam: mà?; Ferr: ma-ma? ; KK: ma; Tailoi, KemD: ma

Khalo. K'ala: ma

PWL *ma?. La, En. Son, WaKng: ma

Wa: Dr: möa; Dav: me; SW: mɛ?; Bib: meh; TV: mè?3, mé?3, ma?3;

Kawa: mɪ̄ex /mɛ̀?/

Lawa: BL, Um, L'up, Ph, North· ma?

?62 *kma? "sky"

K'ala: kʌ-ma

PWL *(rom)ma?. La: ba; En, WaKng: ma

Wa: Dr: (hāk)mā; Dav: ru-ma; Bib: raoma

Lawa: L'up, North: ma?

?63 *(mɔ?) "who?"

PWL *mɔ?. WaKng: ma

Wa: Dr: mo, maw; SW: mɔmɔ?; Praok: mɔ; Bib: maw; Ant: maw;

Kawa: mox /mɔ́?/

Lawa: L'up: mə

?64 *(?mɔ?) "to hide (oneself)"

PWL *?mɔ?. Wa: Kawa: moux /mó?/

Lawa: BL: ?mɒ?; Um:?mɔ?

?65 *?/hmo? "rope"

Sam: m̥hũ?; Tailoi: mo

PWL *?mo?. En, Son: mao; WaKng: mow

Wa: Dr: mao; SW: mau?; Bib: mao; Ant: mau'; TV: mɒu?3;

Lawa: BL:?mɒu?; Um, L'up, Ph:?mo?; Pap: mo?

?66 *rmo? "dream (V., N.)"

Sam: kəmù?; Tailoi: l'mo

PWL *rmo?. En: maw; Son: s'mao; WaKng: s'mo

Wa: Praok -mao; Bib: camao

Lawa: BL: ?amɒu?; Um: ramo?

?67 *smo? "stone"

Sam: (s)mú?; KK: samuṅ; Tai loi: sa-mol; KemD: samo

Khalo: ta mo; K'ala: ss-mao

PWL *smo?. La: bao; En: s'mao; Son: mow; WaKng: mo

Wa: Dr: hsamo; Dav: shi-mao; Milne: smō; SW: (t)mau?; Praok: simaw;

Bib: simao; Ant: hsimao; TV:ʃi4mɒu?3

*(hmo?) "lung"

PWL *hmo?. Wa: Dr: nao (?)

Lawa: BL: hmɒu?; Um, Pap, Ph, L'up: hmo?; North: mho?

*we? "to buy"

Sam: vè?

PWL *we?. Wa: Dr: vè, ve; Dav: ve

*-wɛ? "left (side)"

Sam: ?a?-ve? (tone?)

PWL *-wɛ?. Wa: Dr: kave; Praok: gwɛ; Bib: gweh; Kawa: nguiex /ŋkwé?/.

Lawa: BL, Pap: we?; Ph: wi?; L'up, Saam: vi?; North: viə?

*(wa?) "to pull, take along"

PWL *(wa?). Wa: Bib: veh; Kawa: vt̄ex /wè?/

*r-wa? "door" (cf. to pull" *wa?)

Sam: kvà?; Ferr: kă-wah¯

K'ala: a-va, ʌ-va

PWL *rwa?. La: tao-wa

Wa: Dr: ra-wöa, ravüa, ravöa; Dav: ra-ve(t); SW: svɛ?;

Bib: siveh; Kawa: si'vt̄ex /səwè?/

*(r-)wa? "a La, a Lawa, a Wa"

K'ala: ss-va

PWL *(r-)wa?. La: wa

Wa: Dr: vüa5; Dav: rave(t); Ant: hsiveh

Lawa: BL: ?awĭa?; Um: rawĭa?; Ph: ɣ/lawĭa?; North (R): rawüa

*hwa? "monkey"

Sam: fá?

Khalo: wa

PWL *hwa?. Lawa: BL, L'up, Um, Ph: fĭa?; Sam, North: fwa?

?75 *(ŋri?) "pestle"

PWL *ŋri?. Wa: Dr: ngri; Praok: gri; TV: ŋ4gri?3

Lawa: BL: ŋgrɐi?; Um: ŋgre?; Ph: ŋgrɛi?; North: grai?

?76 *pre? "sharp, harsh taste"

Sam: phrí? (vowel unclear)

PWL *pre?. Lawa: BL: phrai?; Um: pre?; Ph: phye?

?77 *bre? "forest, outside, sky, weather"

Sam: phrè?; Tailoi: pri

Khalo: pi

PWL *bre?. Son, WaKng: pre

Wa: Dr: preh, pre(1); Praok: pray; Bib: prai; TV: brɒi?3

Kawa: brāix /pràì?/

Lawa: BL, Um: phre?; Ph, Saam: phyi?; Pap: phye?; L'up: phri?

North: priə?

?78 *ra? "big"

Sam: rà?

PWL *ra?. WaKng: mra ("strong (of persons)")

Wa: SW: ra?.(irreg. vowel); Bib: reh; Kawa: rīex /rè?/

Lawa: BL, Um, L'up, North: ra?; Ph: ɣa?

?79 *kra? "road, way"

Sam: khrá?; KK: kha

Khalo: kha; K'ala: kya

PWL *kra?. La: kra

Wa: Dr: kra; Dav: ka-ra; SW: kya?; Bib; Ant: kra;

Kawa: grax /krá?/

Lawa: BL; L'up: khra?; Um: kra?; Pap: kya?; Ph: khya?;

North: kra?

?80 *bra? "to eat"

Sam: phrà?

Khalo: pa

PWL *bra?. Son: pra

Wa: Dr: parö; Bib, Ant: preh; Kawa: brr̄ex /prè?/

*mra? "to steal"

Sam: ?əŋrà?

PWL *mra?. Wa: Dr: marö(5); SW: byɛ?; Praok: brɛ; Bib: breh;

TV: brè?3; Kawa: nbrr̄ex /mprè?/

Lawa: BL, Um: mbra?; Ph: mbya?

*krɔ? "enough (food)"

Sam: khró?

PWL *krɔ?. Lawa: BL: khrɒ?; Um: krɔ?; Ph: khyɔ?

*cro? "new"

Sam: sú?; Ferr: thyo·¯; KK: sọ

K'ala: sao

PWL *cro?. La: sao

Wa: Dr: shrao; Dav: se-ro; SW: sau?; Bib: khrao; TV: k'rɒu?1

Kawa: kraox /khraɔ?/

Lawa: BL: khrɒu?; Um, L'up: khro?; Ph: khyo?

*brɤ? "cloth, blanket, clothes"

Sam: phrù?, KemD: proô

PWL *bru?. Son: pro

Wa: Dr: pru; SW: pyu?; Bib: pru

Lawa: BL, Um, L'up: phru?; Pap, Ph: phyu?

*?rɨ? "deep"

Sam: rẃ?; KK: họ

PWL *?rə?. Wa: Dr: raü5, rau; SW: ?daə?, ɣaə?; Praok: raw; Bib: rau

Ant: rao, rau; TV: rẃ3; Kawa: raeex /ráw?/

Lawa: BL: ?dɒu?; L'up: ?do?

*kli? "penis"

Khalo: kü

PWL *kliʔ. Wa: Dr: kle; SW: kliʔ; TV: kliʔ1

Lawa: BL: klɘiʔ; North: klaiʔ

787 *pliʔ "fruit"

K'ala: pʌ-li

PWL *pliʔ. La: bli

Wa: Dr: ple; Dav: ɓle(t); Milne: pli; SW: pliʔ; Bib, Ant: pli

TV: pléʔ1; Kawa: blix /plíʔ/

Lawa: BL: plaiʔ; Um, L'up: pleʔ; Ph, Saam: plɛiʔ; North: plaiʔ

788 *hlɛʔ "rain"

Sam: l̥héʔ; KK: li; Tailoi: le

Khalo: la

PWL *hlɛʔ. En, Son, WaKng: le

Wa: Dr: leh(5); SW: ɬɛʔ; Bib: leh; TV: lèʔ3; Kawa: hliex /hléʔ/

Lawa: BL: hlaiʔ; Um, Ph, L'up, Pap, Saam: hleʔ; North: lhɛʔ

789 *(plaʔ) "tool, knife (classif.)"

PWL *plaʔ. Son, WaKng: bla

Lawa: Um: plaʔ

790 * hlaʔ "leaf"

Sam: l̥haʔ; Ferr: hya¯; Tailoi: la

K'ala: la

PWL *hlaʔ. La, En, Son, WaKng: la

Wa: Dr: la; Dav: nla; SW: laʔ; Praok, Bib: la; TV: laʔ3

Kawa: hlax /hláʔ/

Lawa: BL, Um, Pap, L'up, Ph: hlaʔ; North: lhaʔ

791 *nlɔʔ "snail"

Sam: ʔəŋlò(h) (irreg. final)

PWL *lɔʔ. Wa: SW: loʔ

Lawa: BL: lɒʔ; Saam, Ph: lɔʔ

792 *hlɔʔ "tree bark"

Sam: l̥hóʔ

PWL *hlɔ?. Wa: Dr: lo, lō; SW: lo?

Lawa: BL: hlɒ?; Um, L'up, Pap, Ph: hlɔ?; North (R): laho

3 *(?lɔ?) "voice, language"

PWL *?lɔ?. Wa: Dr: lo; SW: lo?; Bib: lo; Kawa: loux /ló?/

4 *(blo?) "betel"

PWL *blo?. Wa: Dr: bo; TV: pu2

Lawa: BL: plo?; Um, Ph: phlo?; L'up, Ph: phlu?

5 *(ŋlo?) "swamp, pond"

PWL *ŋlo?. Wa: Ant: glao; Kawa: mglāox /ŋklàɔ?/

Lawa: BL: ŋglɒu?; Um, Ph: ŋglo?; L'up: glo?

6 *si? "head louse"

Sam: si(?); Ferr: si?¯

PWL *si?. Wa: Dr: hse5; SW: si?; TV:ʃi?1

Lawa: BL: sɐi?; Um: se?; Saam, Ph: sɛi?; North: saɛ?

7 *(sa?) "(time to) eat"; Lawa:"breakfast, morning"

PWL *sa?. WaKng: sha

Lawa: BL, Um, Ph: sa? (in cpd. with ma-, mïa- "time to")

8 *sɔ? "dog"

Sam: só?; Ferr: so?¯; KK: sū

Khalo: só; K'ala: saw(k)

PWL *sɔ?. La: ts'ou; En, Son, WaKng: so

Wa: Dr: hso5; Dav: so; SW: so?; Bib: so: TV: so?1:

Kawa: soux /só?/

Lawa: BL: sɒ?; Um, Ph, L'up, Pap, Saam: sɔ?; North (R): sọ

9 *sɨ? "pain, disease"

Sam: sẃ?; KK: sọ; Tailoi: su

K'ala: sāl

PWL *sə?. La: sao; En, WaKng: sao; Son: sau

Wa: Dr: hsaü, hsau; Dav: so; SW: saə?; Praok: saə; Bib: sau

Ant: hsau; TV: sɔ́uɔ?1; Kawa: saeex /sáw?/

Lawa: BL: sɒu?; Um, L'up, Ph: so?

?100 *(sɨ?) "grand-child"

PWL *sə?. Wa: Dr: hsaü5; SW: saə?; Praok: saə; TV: sɔ́ə?1

Lawa: BL: sɒu?; Um, L'up, Ph: so?

?101 *?yi? "We Excl."

Tailoi: ye

PWL *?yi?. Wa: Kawa: yix /yí?/

?102 *ya? "grand-mother"

Sam: yà?

Khalo: nya

PWL *ya?. Wa: Dr: yia; SW: ye?; Praok: yɛ; TV: ya?3 (irreg. vowel)

Kawa: yɪ̄iex /yìɛ?/

Lawa: BL, Um, Ph: yïa ; L'up, North: yɨə?

?103 *yo? "to see"

Sam: ɲù?; Tai_loi: nyo (initials unexplained); KK: yū.iu

PWL *yo?. La: yow; En: yau; WaKng: yo; Son: ya

Wa: Dr: yo, yö; Dav: yow; SW: yau?; Bib: yao; Kawa: yāox /yàɔ?/

Lawa: BL, Um, Ph: yo?; Ph, L'up: yu?

?104 *khi? "wood. firewood"

Sam: ma khɛ́? (irreg. vowel); Ferr: khi?¯

PWL *khi?. Wa: Dr: ki5, ke3; Praok: khi; TV: k'i?1; Ant: hkae

Lawa: BL: khəi?; Um: che?; L'up: khe?

?105 *khi? "moon, month"

Sam: khì?; KemD: khi

Khalo: khü

PWL *khi?. La: k'i; En: si; Son, WaKng: kyi

Wa: Dr: ke5; Dav: kyo; SW: khi?; Bib, Ant: hki; Kawa: kix /khí?/

Lawa: BL: khəi?; Um: che?; L'up: khei?; Ph: khɛi?

06 *(khe?) "after"

PWL *khe?. Wa: Bib: hkai; Kawa: kaix /khái?/

Lawa: BL: khai?; Um: che?; L'up, Ph, North: khe?

07 *ha? "to burn (intr.)"

Sam: há?

PWL *ha?. Wa: SW: ha?; Kawa: hax /há?/

Lawa: BL, Um, L'up, Ph: ha?

08 *kho? "tree"

Sam: khú?; KK: khū; Tailoi: ko

Khalo: kỏ, K'ala: k'ao

PWL *kho?. La: k'ao; En, Son, WaKng: kao

Wa: Dr: kao5; Dav: k'o, k'ow; Milne: kau; SW: khau?;

Praok: khaw; Bib, Ant: hkao; TV: khɒu?1; Kawa: kaox /khá ɔ?/

Lawa: BL: khɒu?; Um, Saam, L'up, Ph, North: kho?

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1 *?ik "taro"

Sam: ?a?ik (tone unclear)

PWL *?ik. Wa: SW: ?ek

Lawa: BL: ?əic; Um: ?eic; Ph: ?ɛic

2 *(?ɛk) "few"

PWL *?ɛk. En: ek, Son: yek

Wa: Dav: ek; SW: ?ɛk, ?ɛak; Bib: ehk, eh-ak; Ant: iak;

Kawa: iag /?íak/

3 *?ek "elder brother"

Sam: ?ét; Tai Loi: ek

PWL *?ek. Son, WaKng: ek

Wa: Dr: ēk, ēt; SW: ʔac; Bib: aik

Lawa: BL, Um, Ph: ʔiak

K4 *ʔak "bow (N.)"

Sam: ʔák; KemD: hak; Tailoi: āk

Khalo: äk; K'ala: ă(k)

PWL *ʔak. La: ak; En: āk; WaKng: ák

Wa: Dr: āk; Dav : ak; SW: ʔak; Praok: ak: TV: aʔ1

Lawa: BL, Um, L'up, Ph: ʔak

K5 *l(ŋ)-ʔak "crow (N.)"

Sam: ʔaʔák

PWL *l(ŋ)ʔak. Wa: Dr; löak, lāk; SW: ʔak; Praok: lak; TV: lakʒ

Kawa: lag /lák/

Lawa: BL: laʔak; Um:raʔŋak; Pap: ləŋak; North: ləŋŋak

K6 *kak "branch"

Sam: kák

PWL *kak. Wa: Dr, Praok, Bib: kak; Dr: kak; Kawa: gag /kák/

Lawa: BL, Um, Ph, Pap, L'up: kak

K7 *kɒk "to call"

Tailoi: kawk (kŏk)

PWL *kɒk. Son: kok

Wa: Dr: kōk; Bib: kok; Kawa: goug /kók/

Lawa: BL: kɒk; Um, Ph: kɔk

K8 *gɒk "to eat (of animals)"

Sam: kɔ̀k

PWL *gɒk. Lawa: BL: kok; Um, Pap: khok

K9 *ŋɔk "neck"

Sam: ŋɔ̀k; Ferr: ŋoʔ¯; KK: ṅōk

Khalo: ngok

PWL *ŋɔk. Wa: Dr: (h)sangawk; SW: ŋɔk; Praok: ŋɔk; Bib: ngawk

TV: ŋɔʔ3; Kawa: ngōk /ŋɔ̀k/

Lawa: BL: ŋɔk; Um, Ph, L'up, Pap: ŋok

10 *(ʔn)cik "cock's comb"

Sam: ʔəŋcík

PWL *cik. Wa: SW: cik

11 *cak "sambhar deer"

Sam: cák: KK:čāk; Tailoi: hsāk

Khalo: jāk

PWL *cak. En: hsāk; Son, WaKng: jāk

Wa: Dr: chāk, chak; SW: ssak; Kawa: jag /cák/

Lawa: BL, Um, L'up, Ph, Saam, Pap, North: cak

12 *(cɔk) "to pierce"

PWL *cɔk. La: chawk

Wa: SW; cɔk

13 *-tɛk "lizard (flying -)"

KK: kătāk

PWL *-tɛk. Lawa: Saam: səntiək

14 *k-l/n-tak "tongue"

Sam: ʔəŋták; Ferr: (ka)tak; KK: katāk; Tailoi: l'tak

KemD: ndak

K'ala: tă(k)

PWL *ntak. La: tak; En: lāk; Son, WaKng: dāk

Wa: Dr: tak; Dav: nda; SW: dak; Praok: dak; TV: n-dak3

Lawa: BL: tak; Um, Ph, L'up, Pap: ndak; Saam: North: ntak

15 *tɔk "to nibble"

Sam: tók

PWL *tɔk. Wa: SW: tɔk

16 *tɤk "to hold hand"

Sam: ták

PWL *tuk. Wa: SW: tək (irreg. vowel); Kawa: dug /túk/

K17 *(dak) "jungle, hill, wilderness" (a semantic shift from the original MK meaning:"water, river")

PWL *dak. En: lāk

Wa: Dr: htöak, htök; Dav: te(k); Milne: te-ạk; SW: teak

Bib: tehk; Ant: tiak; Kawa: dīaq /tìak/

K18 *(ndak) "to fry"

PWL *ndak. Wa: SW: deak

Lawa: Um: ndïak

K19 *rndak "palm, sole"

Sam: ʔəŋtàk

PWL *rndak. Wa: Dr: (h)töak, (h)tāk; SW: dak (irreg. vowel);

TV: tiak1

Lawa: BL: (ʔa)ndïak; Um: rathïak; L'up: lətïək; Saam:ʔatwək;

Pap: ləthïak; North: lətwak

K20 *-ndɒk "blind"

Sam: ʔəntɔ̀k; Ferr: hu-nɔk¯

PWL *ndɒk. Wa: Dr: tuak; Bib: duk; Kawa: ndūq /ntùk/

K21 *dok "tray"

KK: tọk

PWL *dok. Wa. Dr: htōk

Lawa: BL: tuak; Um: thuak; L'up: tuək

K22 *snak "vein"

Sam: snàk; KK: sănak

PWL *snak. Wa: Dr: sanök; Wa: tneak

Lawa: BL: sanak; L'up, Saam, North: sənak

K23 *nok "full"

KK: nok

PWL *nok. Wa: Dr: nōk; Praok, Bib: naok; TV: nɒuk3, nƱk3;

Kawa: nāog /nàɔk/

Lawa: Um: nauk

*m-pɤk "to snap, to break (tr.)"

Sam: pə́k; KK: mbü̈k

PWL *m-puk. Wa: Dr: puk

Lawa: BL: pəup; Um, Ph: mbək

*r(n)pɨk "bridge"

Sam: ʔəŋpɯ́k

PWL *rpək. Wa: Dr: rapaü̈k, rapauk

Lawa: BL: ʔapaï̈k; Um: rapaï̈k (irreg. vowel); Ph: ɣapaï̈k, lapaï̈k

*(mbok) "pierce, stab"

PWL *mbok. Wa: Dr: pōk

Lawa: BL, Um, Ph: mbuak; L'up: mbuək

*bɨk "to tie"

KK: pö̈k

PWL:*bək. La: p'uk

Lawa: BL,Ph: puk; Um: phuk

*mɒk "to cut down, to slash"

Sam: mɔ̀k

PWL *mɒk. Wa: Dr: muak, muk; SW: muk; TV: mƱk3

Lawa: L'up: mɔk

*hmɔk "hat"

Tailoi: mok

PWL *hmɔk: Son, WaKng: mawk; En: māk

Wa: Dr: mawk; Praok, Bib: mok

*(ʔmok) "to cough"

PWL * mok. Wa: Dr: maok

Lawa: BL: ʔmoak; Um, L'up, Ph: ʔmauk

K31 *mok "to sit"

Sam: mók, múk (tone unexpl.); KK: mōk, mok; Tailoi: mawk (mŏk)

PWL *mok. Lawa: North: mɔk

K32 *mʏk "cow"

Khalo: muk

PWL *muk. Son: mōk

Lawa: BL: məup; Um, Ph: mək; Pap: məok

K33 *wɛk "earthworm

Khalo: wēk

PWL *wɛk. Lawa: Saam, Pap: wiək

K34 *wɛk "belly"

Sam: vàc (irreg); Tailoi: wait

PWL *wɛk. La: wet

Wa: Dr: vēt; Dav: vetch; Bib: vaik; SW: wac

Lawa: BL, Um, Ph, L'up, Pap: wiak

K35 *hwek "dark"

KK: fēk; khăwēk

PWL:*hwek. En, WaKng: vyek

Wa: Bib: vaik; Kawa: hvaig /hwáik/

Lawa: BL, Um,Ph: fiək

K36 *wak "insect, worm"

Sam: vàk

PWL:*wak. Wa: Dr: vöak, vök; SW: vak (irreg. vow., cf. Sam.)

Lawa: BL, Um, L'up, Pap: vïak; North: vɯək; BL also: ʔbak (unexpl.)

K37 *(hwak) "to take off (clothes)"

PWL *hwak. Wa: Kawa: hvag /hwák/

Lawa: Um: fïak; BL: hoak (irreg.)

*rak "to moan, to cry (anim.)"

Sam: rà̀k

WL *rak. Wa: Dr: rak; SW: ɣak (irreg. vowel, cf. Sam.)

Kawa: rī̀ag /rìak/

Lawa: Pap: rak

*krak "buffalo"

Sam: ʔakhrák; Ferr: khak¯; KK: khāk; Tailoi: krāk; KemD: krac

Khalo: kāk; K'ala: kya(k)

WL *krak. La: ka-rak; En, Son, WaKng: krāk

Wa: Dr: krāk; Dav: ka-rak; SW: kyak; TV: krakī; Kawa: ɑrag /krák/

Lawa: BL, L'up, Pap: khrak; Um, North: krak; Ph: khyak;

Saam: kyak

*s(ŋ)krak "red"

Sam: sakhrák; KK: tăkhāk; Tailoi: su-krāk

Khalo: k(r)ak; K'ala: si-kyă(k)

WL *s(ŋ)krak. La:krak; En: sung grāk; Son: krāk

Wa: Dr: (h)sakrāk; Milne: sgrāk

Lawa: BL: sakhrak; L'up: sakhrak; Um: sakrak; Pap: sakyak;

Ph: sakhyak; North: sakrak

*mbrɒk "to ride"

Sam: phɔ̀k; KK: kahọk

K'ala: pyăwk

WL *mbrɒk. La: pruk

Wa: Dr: pruak; SW: byuk; Ant: brook; Bib: bruk; Kawa:nbrūg /mprùk/

*prok "ribs"

Sam: khrúk

WL *prok. Wa: Dr: praok; SW: ra(ɔ)k; Bib: praok; Kawa: braoɑ /práɔk/

Lawa: Saam: phyaɔk

K43 *rok "toad"

Sam: ʔərùk

PWL *rok. Wa: SW: ruk

Lawa: BL: roak; Um: rauk; Pap: raok

K44 *mrok "wild dog"

Sam: ʔəŋrùk

PWL *mrok. Wa: Dr: maruk

Lawa: Sam: mbyaɔk; North: mbrɔk

K45 *lik "pig"

Sam: lik; Ferr: le·k_; KK: lɛ̄k, lɛ̆; KemD: lék

Khalo: lük; K'ala: lT(k)

PWL *lik. La: lik

Wa: Dr: lik; Dav: lik; SW: lik; Praok, Bib, Ant: lik; TV: li:k3

Kawa: lTg /lìk/

Lawa: BL, Pap: ləic; Um, L'up: leic; Ph, Saam, North: lɛic

K46 *hlic/k "iron"

Sam: l̥hét; Tailoi: lek

PWL *hlic/k. La: lik; En: lek; WaKng: lit

Wa: Dr: lik; SW: lek

Lawa: BL, Pap: hləic; Um: hleic; Ph: hlɛic

K47 *(klɛk) "armpit"

PWL *klɛk. Son: le

Wa: TV: klai?1

Lawa: Pap: kliak; North: kliək

K48 *(glak) "to lick"

PWL *glak. Wa: TV: k'leak1

Lawa: BL, Ph: klïak; Um: khlïak; L'up: khlɨək

K49 *plak "side, direction, (river) bank"

Sam: plák

PWL *plak. Wa: SW: plak; Praok, Bib, Ant: plak; Kawa:blag /plák/

Lawa: BL, Ph, Ph: lak

*lɔk "inside"

Tailoi: lŏk

PWL *lɔk. Wa: Kawa: lōg /lɔ̀k/

*sak "full (with food)"

Sam: sák; Ferr: sak¯; KK: sak

PWL *sak. Wa: (Dr: hsōk ?); SW, Bib: sak; Kawa: sag /sák/

Lawa: BL, Um, L'up: sak

*sak "to wash clothes"

Sam: sak (tone ?)

PWL *sak. Lawa: BL, Um, Ph: sak

*yok "to lift"

Sam: yùk

PWL *yok. Son: yawk

Wa: Dr: yōk, yuk; SW: yaɔk; Praok, Bib: yaok; TV: yʊk3;

Kawa: yāog /yàɔk/

Lawa: BL, Um: yuak

*hyok "ear"

Sam: yhúk; Ferr: hyʊk¯; KK: yuk; Tailoi: yok; KemD: (la)youk

Khalɔ : yōk; K'ala: yăw(k)

PWL *hyok. La: yok; En: yŏk; Son, WaKng: yauk

Wa: Dr: yaok; Dav: yow(k); SW: yaɔk; Bib: yaok, yauk; Ant: yaok

TV: yɒw?3; Kawa: hyaog /hyáɔk/

Lawa: BL, Um, Ph, Pap: suak; Sam: suɔk: L'up: hyuɔk; North: sɨk

*hak "skin"

Sam: hák; Tai‿loi, KK: hāk

PWL *hak. Son, En, WaKng: hāk

Wa: Dr: hāk, hak; SW: hak; Bib,Praok: hak-; TV: hɔ?1;

Kawa: hag- /hák-/

Lawa: BL, Um, Pap, L'up, Ph, North: hak

K56 *phak "wash dishes"

Sam: phák

PWL *phak. Wa: SW: phak

Lawa: BL: phak

K57 *phak "vegetable"

Ferr: phak¯

PWL *phak. Wa: TV: p'ak1 (="tamarind")

Lawa: BL, Um: phak

K58 *hɒk "to dry sth. in the sun"

Sam: hɔ́k

PWL *hɔk. Wa: Dr: hōk; SW: hok

Lawa: BL: hɒk; Um: hɔk

K59 *thɔk "to spit out"

Sam: thɔ́k

PWL *thɔk. Wa: SW: thɔĸ

K60 *hok "to climb"

Sam: hú́k; Ferr: hŰ?¯; KK: huk, hūk; Tailoi: huk

Khalo: hỏk: K'ala: hăw(k)

PWL *hok. La: hök; En: hawk

Wa: Dr: hao; Dav: hu-; SW: haɔk; Bib: haok; Kawa: haog /háɔk/

Lawa: BL: hoak; Um, Ph: hauk; Pap: haɔk; L'up: haok

K61 *hɨk "hair"

Sam: hŵk; Ferr: hʉk¯; KK: hük; Tailoi: huk; KemD: huc

Khalo: hük; K'ala: hö(k)

*hək. La: hök; En: hak; Son, WaKng: hāk

Wa: Dr: haük, hauk; Dav: how(k); SW: haək; Praok: haək;

Bib: hauk; TV: hɒwk1; Kawa: haeeg /hə́wk/

Lawa: BL, Ph, L'up: haï̈k; Um: hauk; Saam: haək; North: haik

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ʔiŋ "to come, return"

Sam: ʔiŋ; Ferr: ʔin¯; KK: in; Tailoi: ing

K'ala: igŋ

WL *ʔiŋ. Son, WaKng: ing; En: in

Wa: Dr: ing; SW: ʔeŋ; Praok: iŋ; Bib: ing; TV: i:ŋ2; Kawa:ing /ʔíŋ/

Lawa: BL, L'up, Pap: ʔəiñ; Um: ʔeiñ; Ph: ʔɛiñ

*ʔɛŋ "dung"

Sam: ʔéŋ/ʔéɲ

PWL *ʔɛŋ. Wa: Dr: ēng, ēn; SW: ʔeaŋ; TV: ɒiŋ2

Lawa: BL, Um, Pap: ʔiaŋ; North: ʔiəŋ

*(ʔaŋ) "not"

PWL *ʔaŋ. Son: ang; WaKng: āng

Wa: Dr: ang; SW: ʔaŋ; Bib, Ant: ang; Kawa: ang /ʔáŋ/

*(rʔaŋ) "rock"

PWL: *rʔaŋ. Wa: Dr: ra-āng, rāng; Bib: rang

Lawa: BL: laʔaŋ; L'up, North: ləʔaŋ

*sʔaŋ "bone"

Sam: sʔáŋ; KK: sǎāṅ; Tailoi: sa-āng

PWL *sʔaŋ. Son, WaKng: āng; En: sāng

Wa: Dr: hsaang; Milne: sa-āng; SW: sʔaŋ; Bib: si-ang; TV: sǎ↖ʔaŋ2

Kawa: si'ang /səʔáŋ/

Lawa: BL; Um, Ph, Pap: saʔaŋ; L'up, Saam, North: səʔaŋ

Ṅ6 *ʔɔŋ "hornet"

Sam: (ʔa-)ʔóŋ

PWL *ʔɔŋ. Wa: TV:ɔ̃ŋ2

Lawa: BL:ʔɔŋ: North: ʔoŋ

Ṅ7 *keŋ "head"

Tailoi: ching; KK: kiṅ; KemD: kigne

Khalo: King, K'ala: kyen

PWL *keŋ . La: kēn; En, WaKng: kaing; Son: gaing

Wa: Dr: kēn; Dav: kain; SW: kaiɲ; Bib: kaing; TV: kén2;

Kawa: gaing /káiŋ/ or /káɲ/

Lawa: BL, Um, L'up, Pap, Ph, Saam: kaiñ; North: kain

Ṅ8 *(koŋ) "peacock"

PWL *koŋ. Wa: Dr: kaong; Milne: kāūn; TV: kʊ́wŋ2; Kawa: gaong /káɔŋ/

Ṅ9 *koŋ "to dig"

Sam: kúŋ; KK: kuṅ

PWL *koŋ. Wa: Dr: kaong, kaüng; SW: ka(ɔ)ŋ

Lawa: BL: koaŋ; Um, Ph: kauŋ; L'up: kaoŋ

Ṅ10 *kɨŋ "country, lowlands, whet rice-field"

Sam: kʊ́ŋ; Tailoi: kung; KemD: keugne

K'ala: köng

PWL *kəŋ. En: köng

Wa: Dr: kaüng; Kawa: gaeeng /káwŋ/

Ṅ11 *gaŋ "mouse"

Sam: kàŋ; Ferr: kaŋ¯

Khalo: kāng

PWL *gaŋ. Wa: Dr: hköang; TV: kiaŋ2; SW: keaŋ, kyɛŋ;

Lawa: BL, L'up, Ph: kïaŋ; Um: Pap: khïaŋ

12 *ŋgaŋ "scabbard"

Sam: ʔəŋkàŋ

PWL: *gaŋ. Dr: kŏang

13 *ŋg(ɔ)ŋ "mountain" (vowel uncertain: apparently a TB borrowing)

Sam: ʔəŋkòŋ; KK: mkǹ̰; Tailoi: an-kŏng; KemD: ngooung

Khalo: gǒng; K'ala: kawng

PWL * g(ɔ)ŋ. La: k'awng

Wa: SW: gaung; Kawa: mgūang /ŋkùaŋ/

14 *rŋ-goŋ "pillow"

Sam: ʔəŋkùŋ

Khalo: gǒng

PWL *rŋ-goŋ. Wa: Dr: kōng; SW: -kauŋ; -gauŋ

Lawa: Um: raŋguaŋ

15 *rŋɒŋ "knife"

Sam: ŋɔ̀ŋ

PWL *rŋɒŋ. Wa: Dr: ranguang, rangōng

Lawa: BL: ʔaŋɒŋ; Um: raŋɔŋ; Ph: laŋɔŋ

16 *ŋɔŋ "knee"

Sam: ŋòŋ

PWL *ŋɔŋ. Wa: Praok: ŋɔŋ; Bib: ngawng

Lawa: BL: ŋɔŋ; Um, L'up, Saam, North: ŋoŋ

17 *jeŋ "to sew"

Sam: cìŋ

PWL *jeŋ. Wa: SW: tsaiɲ; Praok: caɲ

Lawa: BL: cĭŋ; Um: chiŋ; Ph: ciŋ, chiŋ; L'up: chiñ

18 *joŋ "foot"

Sam: cùŋ; Ferr: tyuŋ_; KK: cun̰; Tailoi: cong; KemD: kio

Khalo: jǒng

PWL *joŋ. La: sho; En, Son: sawng; Son: saung; WaKng: song, shong

Wa: Dr: chōng; Dav: chan; Milne: chūn; SW: tsauŋ, tsaɔŋ;

Praok, Bib, Ant: caong; TW: tjɒuŋ2; Kawa: jāong /càɔŋ/

Lawa: BL, Ph: cuaŋ; Um, Ph: chuaŋ; Pap: chuoŋ; Saam: cuɔŋ;

L'up: chuaŋ; North: cɨŋ

Ṅ19 *j(ɤ)ŋ "to stand (up)"

Sam: c(ə̀)ŋ (vowel unclear); Tailoi: sang: KK: cǫng

K'ala: chawng

PWL *jɒŋ. La: shong; En: chwŏng; Son, WaKng: song

Wa: Dr: chūang, chuang; Dav: jong; SW: tsuŋ ; Bib: cung;

Kawa: jūng /cùŋ/

Lawa: BL: coŋ; Um: choŋ; Ph: cuŋ; North: juoŋ

Ṅ20 *ɲɒŋ "waist"

Sam: ɲɔ̀ŋ(Vowel not certain): KK: ǫ̇ṅyǫ̇ṅ

PWL *ɲɒŋ. Wa: niuang

Lawa: BL, Um, Ph: ñoŋ

Ṅ21 *(ntiŋ) "wall"

PWL *ntiŋ. Wa: Dr: tēng5

Lawa: BL: taiñ; Um: ndeiñ; Ph: ndɛiñ

Ṅ22 *(taŋ) "different"

PWL *taŋ. Wa: Bib: tang; Kawa: dang /táŋ/

Lawa: L'up : taŋ

Ṅ23 *tɒŋ "to burn, to roast"

KK: (hǫ̇ṅ)tǫ̇ṅ

PWL *tɒŋ. Wa: Dr: taung; Kawa: doung /tóŋ/

Lawa: BL: tɒŋ; Um, Ph: tɔŋ

Ṅ24 *sntɒŋ "brain"

Ferr: ñ-tawng¯

PWL *s(n)tɒŋ. Wa: Dr:-tōng

Lawa: L'up: sətawŋ; Saam: stɔŋ; North: sədauŋ

25 *ktɔŋ "cooking pot"

Sam: któŋ

PWL *tɔŋ. Wa: Dr: tawng

26 *(toŋ) "to trap"

PWL *toŋ. Wa: Dr: taong

Lawa: BL: toaŋ; Um: tauŋ

27 *(tɒŋ) "to boil (tr.)"

PWL *tuŋ. Wa: Dr: tong

Lawa: BL: tɒum: Um, Ph: təŋ: L'up, Pap: təoŋ

28 *diŋ "paternal uncle/aunt; parent's elder brother; father's elder sister"

Sam: tì( )

PWL *diŋ. Wa: Dr: hting

Lawa: BL: tiŋ; Um: thiŋ

29 *kdiŋ "big"

Sam: kətìŋ

Khalo: tung; K'ala: kʌ-ting

PWL *diŋ. La: ting; Son: teng; En, WaKng: ting; En: tin

Wa: Dr: hting; Dav: ting; Milne: tū-ōng; SW: tɪɲ, teɪŋ; Bib: tin

Ant: ding; Kawa: dĪng /tìŋ/

30 *k/r-diŋ "navel"

Sam: ktèŋ

PWL *rdiŋ. Wa: SW: teɪŋ/ɲ

Lawa: BL: tiŋ; Um: rathiŋ; Ph: lathiŋ, ɣathiŋ; Pap: ləthiñ;

Saam: totiñ; North: lətiñ

31 *(daŋ) "to cross, to ford"

PWL *daŋ. Wa: Dr: htöang, htöng; Ant: tiang

Lawa: BL: tĭaŋ; Um: thĭaŋ

Ṅ32 *ndaŋ "pot, kettle"
Sam: ʔəŋtàŋ
PWL *ndaŋ. Lawa: Um: ndīaŋ

Ṅ33 *ndɒŋ "jar, cooking pot"
Sam: ma-tɔ̀ŋ
PWL *ndɒŋ. Son, WaKng: dawng
Wa: Kawa: dūng /tùŋ/
Lawa: BL: tɒŋ; Um, Ph: ndoŋ

Ṅ34 *(ʔnɒŋ) "forest"
PWL *ʔnɒŋ. Wa: Dr: nong; Kawa: noung /nóŋ/
Lawa: L'up: ʔnɔŋ

Ṅ35 *m-piŋ "to roast" (tr.)
Sam: ʔəŋpíŋ
PWL *piŋ. Wa: Dr: peng; SW: piŋ

Ṅ36 *mpɛŋ "tooth"
Tailoi: en-paing
Khalo: peng
PWL *mpɛŋ. Son: beng
Lawa: BL: piaŋ; Um, Ph: mbiaŋ; L'up, Saam, North: mbiəŋ

Ṅ37 *(m-)paŋ "bamboo cluster"
Sam: ʔəŋpáŋ
PWL *paŋ. Wa: SW: paŋ; Kawa: bang /páŋ/
Lawa: BL, Pap: paŋ

Ṅ38 *pɒŋ "window"
Sam: pɔ́ŋ
PWL *pɒŋ. Lawa: BL: pɒŋ; Um, Ph: pɔŋ

39 *mpɔŋ "stairs, ladder"
Sam:ʔəŋpóŋ
Khalo: bǭng
PWL *mpɔŋ. Wa: Dr:pawng;Kawa:nbong /mpóŋ/
Lawa:BL:pɔŋ;Um:mboŋ

40 *pɨŋ "to blow (instr.)"
Sam: pŵŋ
PWL *pəŋ. Wa:Dr:paüng, paung, paing.
Lawa:BL, Ph:paɨ̈ŋ;Um:pauŋ

41 *krpɨŋ "to bury"
Sam:kpŵŋ;KK:tapüm
PWL *rpəŋ. Wa:SW:spa(ə)ŋ;Bib:sipaung
Lawa:BL:ʔapaɨ̈ŋ;Um:rapauŋ;L'up:rəpaɨŋ;Ph:ɣəpaɨŋ
(cf. PWL *r-m-pəŋ "burial":Kawa:si'nbaeeng /səmpáwŋ/)

142 *(mbiŋ) "mud"
PWL *mbiŋ. Wa:Dr:bing
Lawa:BL:mbəiñ; Um, Ph:mbiŋ

N43 *baŋ "top, above"
Sam:pàŋ
PWL *baŋ. Wa Kng:pāng
Wa: hpöang;Bib:pehang;Kawa:bīang /pìaŋ/

N44 *bɒŋ "bamboo shoot"
Sam: ʔa-pòŋ
PWL *bɒŋ. Lawa: BL:poŋ:Um, Ph, Pap:phoŋ;Ph:phuŋ

N45 *bɔŋ "to speak"
Sam:pòŋ
Khalo:pong
PWL *bɔŋ. Wa:Dr:pawng, porng
*rbɔŋ "language":Lawa: Ph: ɣapuŋ, lapuŋ

N46 *(miŋ) "bamboo tube, pot"
PWL *miŋ. Wa:Dr: ming
Lawa: L'up, North:meiñ

N47 *hmeŋ "male"
Sam: m̥híŋ;Tailoi:ming
PWL *hmeŋ. En, WaKng:maing
Wa: SW: maiŋ;Ant: maihn; TV: méŋ2; Kawa: hmaing /hmáiŋ/ or /hmáŋ/
Lawa: BL, Um, Pap: hmaiñ; North(Rangsidh):ramhain (<*rhmeŋ?)

N48 *hmɒŋ "to hear, listen"
Sam: m̥hɔ́ŋ
Khalo: mǒng
PWL*hmɒŋ. La: bong
Wa: Dr: mōng; Dav:mong; SW: moŋ; Praok:moŋ;Bib:mong;
Kawa: hmoung /hmóŋ/
Lawa:BL: hmɒŋ; Um, Ph, L'up: hmɔŋ;North: mhə(ɯ)ŋ
(Rangsidh: mhōṅ)

Ṅ49 *?moŋ "to look up"
Sam: ʔəŋmúŋ
PWL *?moŋ. Wa: Dr: mawng; Bib: mao ; Kawa: maong /maɔ́ŋ/
(also māong /màɔŋ/, perhaps an error)

Ṅ50 *rwaŋ "thigh"
Sam: kəvàŋ; Tailoi:ma-wang; KemD: rewang
K'ala: a-vang
PWL *rwaŋ. Son, WaKng: wāng; En: wŏng
Wa: Dr: ravuang
Lawa: BL: ʔawĭaŋ; Um: rawĭaŋ; Ph: ɣawĭaŋ, lawĭaŋ; Pap: ləwĭaŋ
L'up: rəvĭəŋ; Saam: ʔavwəŋ; North: ləvɨəŋ

Ṅ51 *hr(e)ŋ "thousand" (the vowel is irregular in most of Waic)
KemD: seugne
K'ala: ying
PWL *hr(e)ŋ. La: riŏng; WaKng: hēng
Wa: Dr: rihiang; Dav: rein; Bib: reng; Ant: hring;
Kawa: hreing /hréŋ/ (or /hráŋ/)

Ṅ52 *rɛŋ "strong" (cf. Thai).
Sam: rèŋ
PWL *rɛŋ. En: reng
Wa: Dr:riang; SW: ɣɛaŋ; Kawa: rĭang /rìaŋ/
Lawa: BL, Um: riaŋ

Ṅ53 *raŋ "to be light, clear"
Ferr: haŋ
PWL *raŋ. Son, WaKng: rang; En: rāng
Wa: Dr: rang, h'rang; Bib:rehang; Kawa: rĭang /rìaŋ/

Ṅ54 *hraŋ "tooth"
Sam: ráŋ; KK: hāng; KemD: ragne
K'ala: ghang
PWL *hraŋ. La: Sa-rang; En, WaKng: rāng
Wa: Dr: h'rang, rang, rāng; Dav: rang; SW:ɣaŋ; Bib:rang
TV: rɒŋ2; Kawa: hrang /hráŋ/
Lawa: L'up: hraŋ

Ṅ55 *praŋ "roof"
Sam: phraŋ (tone unclear)
PWL *praŋ. (Son: blong ?)
Wa: SW: pyaŋ; Bib:prang; Kawa: brang /práŋ/
Lawa: BL, L'up: phraŋ; Um: praŋ; Ph: phyaŋ;
cf. Dr: prāng tua:"top, crest of hill"

Ṅ56 *?rɒŋ "house pole"
Sam: rɔ́ŋ
K'ala: wawng
PWL *?rɒŋ. Wa: Dr: rōng(3); Dav: rum; Ant: rong
Lawa: BL: ʔdɒŋ; Um: ʔrɔŋ; L'up: ʔdɔŋ; Ph: ʔɣɔŋ

Ṅ57 *crɒŋ "bowl, cup"
Sam: krɔ́ŋ
PWL *crɒŋ. Wa: Kawa: krong /khrɔ́ŋ/

*mrɒŋ "horse"
Sam: ʔəŋrɔ̀ŋ; Ferr: (ň)-hɔŋ–; KK: kǎhǫ́ń; Tailoi: n'rāng
KemD: progne
Khalo: mōng; K'ala: pyung
PWL: *mrɒŋ. La:brong; En: m'blawng; Son: m'long; WaKng: m'lŏng, l'lŏng
Wa: Dr: maruang; Dav: brum; SW: byuŋ; Ant: broong; TV: bruŋ2;
Kawa: nbrūng /mprùŋ/, (also: nbrung /mprúŋ/, probably a misprint)
Lawa: BL: mbrɒŋ; Um: mbrɔŋ; Ph: mbyɔŋ; Pap: byɔŋ; North: mbrəɔŋ

*(rɔŋ) "ravine, ditch, stream" (cf. Shan)
PWL *rɔŋ. En: hawng
Wa: Dr: rawng; Praok: rɔŋ; Kawa: rōng /rɔ̀ŋ/

*krɔŋ "the back"
K'ala: (ss-)kyaung
PWL *krɔŋ. La: (an-)graung
Wa: Dr: krawng, Kawa: grong /krɔ́ŋ/

*sŋroŋ "knee cap"
KK: sǎkhǫ́ń
PWL *sŋroŋ: Wa: Dr: shangrōng
Lawa: Saam: ŋgyaɔŋ; North: səgrɔŋ

*ʔrɤŋ "horn (anim.)"
Sam: rə́ŋ
PWL *ʔruŋ. Wa: Dr: rōng4; Praok: ruŋ
Lawa: BL: ʔdəĭŋ; Um: ʔrəŋ; Ph: ʔɣəŋ

*krɨŋ "drum"
Sam: khrŵŋ
PWL *krəŋ. Wa: (Dr: klōng ?)
Lawa: BL: khraĭŋ; Um: krauŋ; L'up: khraĭŋ; Ph: khyaĭŋ

*grɨŋ "clothes, tools, belongings"
KK: khṓń
PWL *grəŋ. Wa: Dr: hkrüng, hkrung, khrüng; SW: kya(ə)ŋ;
Bib, Ant: kraung; Kawa: grāeeng /kràwŋ/
Lawa: Um:khrəŋ; Ph: khyəŋ

*ʔliŋ "long (time)"
Sam: lə́ŋ; Ferr: leŋ¯
PWL *ʔliŋ. Wa: Kawa: ling /lĺŋ/
Lawa: BL: ʔdĭŋ

*(lɛŋ) "to raise (animals)"
PWL *lɛŋ. Wa: Bib: lehang; Kawa: lTang /lìaŋ/
Lawa: BL, Um: liaŋ

*(hlaŋ) "house (classif.)" (cf. Thai)
PWL *hlaŋ. Wa: Bib: lang; Kawa: hlang /hláŋ/
Lawa: BL: laŋ (irreg. init.)

*ʔlaŋ "long"
Sam: láŋ
Khalo: lāng; K'ala: lang
PWL *ʔlaŋ. Wa: Dr: lāng4; SW: laŋ; Ant: lang; Kawa: lang /láŋ/
Lawa: BL: ʔdaŋ; Um, L'up, Ph: ʔlaŋ

Ṅ69 *(klaŋ) "hawk, eagle"
PWL *klaŋ. Wa: Dr: klāng; Bib: klang; TV: klaŋ2
Lawa: North: klaŋ

Ṅ70 *plaŋ "clear, fine (weather)"
: Sam: pláŋ
PWL *plaŋ. Wa: Dr: plāng, plang; Praok: blaŋ (irreg. initial)

Ṅ71 *lɒŋ "black" (perhaps also: "blue")
Sam: lɔ̀ŋ; KK: lo̱ŋ́
Khalo: lŏng, K'ala: lawng
PWL *lɒŋ. La: long; En: lawng, lwŏng; Son: long; WaKng: lu-ong
Wa: Dr: luang (in: luang nam leh "gathering storm"); Dav: lum
SW: luŋ; Bib: lung; Kawa: lūng /lùŋ/
Lawa: BL: lɒŋ; Um, L'up, Ph: lɔŋ

Ṅ72 *(klɒŋ) "rice-bowl"
PWL *klɒŋ. Wa: Dr: klōng; SW: kloŋ; Bib, Ant: klong;
Kawa: gloung /klóŋ/
Lawa: Um: klɔŋ

Ṅ73 *plɒŋ "thatching-grass"
Sam: plóŋ
K'ala: pʌ-lung
PWL *plɒŋ. La: plong; Son, WaKng: blong
Wa: Dr: plōng, plong; Dav: blum; SW: ploŋ; TV: plɔŋ2
Lawa: BL: plɒŋ; Um, L'up, Pap: plɔŋ

Ṅ74 *hlɒŋ "cool"
Khalo: long
PWL *hlɒŋ. Son: long
Wa: Dr: lōng
Lawa: BL: hlɒŋ; Um, L'up, Ph: hlɔŋ; North: lhəɔŋ

Ṅ75 *(ʔlɔŋ) "coffin"
PWL *ʔlɔŋ. Wa: Dr: lawng; Kawa: long /lóŋ/
Lawa: Um, Ph: ʔloŋ

Ṅ76 *klɔŋ "river"
Sam: klóŋ; Tailoi: klŏng
PWL *klɔŋ. En: klong; Son: klong
Wa: Dr: klawng; Dav: klawng; SW: klɔŋ; Bib, Ant: klawng;
Praok: klɔŋ; Kawa: glong /klóŋ/
Lawa: BL: klɔŋ; Um, L'up, Ph, Pap: kloŋ
(Note: there seems to be a conflicting *krɔŋ form: K'ala: kyawng;
La: krong; WaKng: krawng)

Ṅ77 *hloŋ "high"
Sam: l̥húŋ; KK: lo̱ŋ́; Tailoi: long; KemD: loung
Khalo: long; K'ala: lawng
PWL *hloŋ. La: long; En: lawng, laung; Son, WaKng: long
Wa: Dr: laong, laung; Dav: löng; SW: ɬau ; Praok: laoŋ;
Bib: laong; Ant: long; Kawa: hlaong /hlɔ́ŋ/, also: laong
/lɔ́ŋ/
Lawa: hloaŋ; Um, Ph: hlauŋ; L'up, Pap: hlaoŋ; North: lhɔŋ

8 *(mloŋ) "mountain"
PWL *mloŋ. Son: m'long; En: blao
Wa: Dr: m'long, malōng; Dav: lang; Praok: blaoŋ; Milne: brạ̄ng
Kawa: nblāong /mplàɔŋ/
Lawa: BL: mbloaŋ; Um, Ph: mblauŋ; L'up: mblaoŋ; North: mblɔŋ

*ksaŋ "elephant"
Sam: kəsáŋ; Ferr: tyaŋ¯; KK: kǎsāń; Tailoi: k'sang;
KemD: kesang; Khalo: ka sāng
PWL *saŋ. Son: sāng
Wa: Dr: hsang; SW: saŋ; Praok: saŋ; Ant: hsang; TV: sɒŋ2
Lawa: BL, Um, Pap, L'up, Saam, Ph, North: saŋ

*sɒŋ "bitter"
Sam: sɔ́ŋ
PWL *sɒŋ. Wa: Dr: hsōng4; SW: soŋ, shoŋ; Praok: soŋ; Bib: song;
TV: so:ŋ2;Kawa: soung /sóŋ/
Lawa: BL: sɒŋ; Um, Ph: sɔŋ

*(sɒŋ) "to open a house"
PWL *sɒŋ. Wa: (Dr: hsōng ? in: hsōng ravüa "to shut a door")
Kawa: soung /sóŋ/
Lawa: BL: sɒŋ; Um, Ph: sɔŋ

*(sɔŋ) "small bag"
PWL: *sɔŋ. Wa: Dr: hsuang
Lawa: BL: sɔŋ

*(n-)yɒŋ "to know"
Sam: ɲɔ̀ŋ; KK: yǫń; Tailoi: yang
Khalo: yong, K'ala: yawng
PWL *yɒŋ. La: yong; En: yawng; Son, WaKng: yong
Wa: Dr: yuang, yōng; Dav: yong
Lawa: BL, Um, Ph: yoŋ; L'up: yuŋ

*pryɔŋ "rainbow"
Sam: pəyoŋ (tone unclear)
PWL *ryɔŋ. Wa: Dr: riawng; SW: səyoŋ; TV: ʃi4yɔ̆ŋ2
Lawa: BL: ?ayoŋ; Um: rayoŋ

*(c)yoŋ "light (in weight)"
Sam: səyúŋ; Ferr: sə̆-yuŋ (no tone mark)
K'ala: kʌ-chung
PWL *choŋ. La: shöng
Wa: Dr: chaong; Dav: ch'öng
Lawa: Um, Ph: chauŋ (BL: thoaŋ ?)

*?yoŋ "village (small)"
Ferr: yuŋ¯; KK: yuń ("house"); Tailoi: yung
Khalo: yóng; K'ala: yung
PWL *?yoŋ. La: yong; En: yawng, yaung; Son: yaung; WaKng: yawng
Wa: Dr: yaong; Dav: yan; SW: yauŋ; Bib, Ant: yaong;
TV: yɒ́uŋ2; Kawa: yaong /yáɔŋ/
Lawa: BL, Um, Ph: ?yuaŋ; Pap: yuoŋ; Saam: yuəŋ;
North (Rangsidh): yŭ̈ń

Ṅ87 *(hɛŋ) "clever"
PWL *hɛŋ. Wa: Dr: hēng
Lawa: BL, Um: hiaŋ

Ṅ88 *hoŋ "to steam rice"
Sam: húŋ; KK: hǫ̀
PWL *hoŋ. La: höng
Wa: Dav: höng
Lawa: BL: hoaŋ; Pap: haoŋ

Ṅ89 *rŋ-hoŋ "rice-steamer"
Sam: ʔəŋhúŋ
Khalo: hóng
PWL *rŋhoŋ. Wa: SW: ŋãũŋ, ŋaoŋ
Lawa: BL(Kraisri): ahuang; North: ləhŋɔŋ

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C1 *ʔic/k "a tuber"
Sam: ʔaʔík
PWL: *ʔic/k. Wa: SW: ʔɪk
Lawa: BL: ʔəic; Um: ʔeic; Ph: ʔɛic

C2 *ʔɤc "all, out of, exhausted"
Sam: ʔɔ́c
PWL *ʔəc. Wa: Dr: uit; SW: ʔuc; Bib: u-ik; Ant: oet; Kawa: uig /ʔúc/

C3 *koc "hot"
Sam: kúc; KK: kuint
Khalo: kot
PWL *koc. Wa: Dr: koit; SW: koc; Kawa: gouig /kóc/
Lawa: BL: kaïk; Um, Ph, L'up, North: kɔic

C4 *(gac) "ashamed, shy"
PWL *gac. Wa: Dr: hköit, köit; TV: kɔic5
Lawa: BL: kik; Um: chiaic; Ph: kuic

C5 *gɬc "to burn (tr.)"
Sam: kʉ̀c
PWL *gəc. Wa: Dr: köit; SW: kɯc

C6 *ɲac "wet"
Sam: ɲəcɲàc
PWL *ɲac. Wa: SW: ɲac

C7 *(ʔɲɤc) "drunk"
PWL *ʔɲuc. Wa: Dr: yoit
Lawa: BL: ʔyuic; Um, L'up, Pap: ʔñuic

C8 *(dac) "thrash, tread out (grain)"
PWL *dac. Wa: Dr: htöit, htüit
Lawa: BL: tik

*pɨc "put away, take off (clothes)"
Sam: púc (irreg. vowel)
PWL *pəc. Wa: Dr: pöit, poit; Bib: pui-ik
Lawa: BL: païk; Um, Ph: pɔic

*(hmac) "sand"
PWL *hmac. Wa: Dr: mait5; Praok: mac; Bib: maik
Lawa: BL, Um, L'up, Pap: hmaic; North (Rangsidh): mhait

*(rmɨc) "grave"
PWL *rməc. Wa: ramoit; Bib: si-mui-ik
Lawa: BL: ʔamaïk; Um: ramɔic; Ph: ɣamɔic

*wac "sword"
Sam: vàc; Tailoi: waik
K'ala: vă(t)
PWL *wac. La: wet; En, Son, WaKng: waik
Wa: Dr: vöit, voit; Dav: wai; SW: wac, vac; Bib: vait;
TV: vwɒic5; Kawa: vāig /wàc/
Lawa: BL: wik; Um: wiaic; Ph: wuic

*prɤc "bird wing"
Sam: phréc
PWL *pruc. Wa: Dr: pröit; SW: phrʌc (irreg. vowel ?); TV: p'rɤɪtl
Lawa: BL: phrəïk; Um: proic; Ph: phyoic; North: proic

*(ʔloc) "back of heel"
PWL *ʔloc. Wa: Dr: loit; Bib: lo-ek
Lawa: BL: ʔdaïk; Saam: ʔlɔic

*(hac) "to scratch (self)"
PWL *hac. Wa:Dr: hait
Lawa: BL, Um, Ph, L'up: haic

*hɔc (ɔ̃ʔ) "finished"
Sam: hɔ́c
PWL *hɔc. Wa: Dr: hoit, hait; SW: hɔ̃c, hɔc; Bib: hoit; Ant: hoieht;
Kawa: hoig /hɔ́c/
Lawa: BL: hoic; Um: hɔic; L'up: huɛc [fuæic]; Saam: huic

*hoc "arrive"
Tailoi: hwit
K'ala: hö(t)
PWL *hoc. La: huit; WaKng: hwe
Wa: Dr: hoit; SW: hoic; Bib: hwet; Ant: hoet; Kawa: houig /hóc/
Lawa: BL: haïk; Um, Ph, L'up, Pap, North: hɔic

*hɨc "to sting"
Sam: hɯ́c
PWL *həc: Wa: Dr: höit; SW: hɯc; Bib: hui-ik

*h-m-ɨc "ant"
Sam: ʔa-m̥hɯ́c; Ferr: kă-muy¯; KK: kămɯ̄it; Tailoi: müt
PWL *hməc. En: mwēt; Son: mwet; WaKng: mawt
Wa: Dr: möit, moit, mŏit; SW: mɯc; TV: mɔIt3
Lawa: BL: ʔmaïk; Ph, Um: ʔmɔic; Pap: mɔic

C20 *khoc "to wash (self)"
Sam: khúc; KK: khuit
PWL *khoc. Wa: Dr: koit; SW: khoc; Bib: hko-ek
Lawa: BL: khaïk; Um, Ph: khɔic

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Ñ1 *ʔaɲ "wasp"
Sam: ʔáɲ
PWL *ʔaɲ. Lawa: North: ʔaiñ

Ñ2 *sʔɤɲ "snake"
Sam: sʔáɲ; Ferr: sə̆-ʔuən¯; KK: săün; KemD: saeuigne
PWL *sʔuɲ. Wa: Dr: hsaüin; SW: sʔuɲ; Bib: si-u-ing; TV: ʃi4ʔúiñ2;
Kawa: si'uing /səʔúɲ/
Lawa: BL: saʔəïŋ; Um, Ph: saʔoiñ; L'up, Pap: səʔoiñ;
North: səʔuiñ

Ñ3 *kɨɲ "father"
Sam: ʔa-kɯɲ (tone unclear); Ferr: kon¯; KemD: keuigne;
K'ala: kön
PWL *kəɲ. La: keng; En: kuwin; WaKng: gung
Wa: Dr: köin; SW: kɯɲ; Bib: kui-ing; Ant: kuing; TV: kɤIñ2;
Kawa: geeing /kɯ́ɲ/

Ñ4 *taɲ "to weave, to plait"
Sam: táɲ; KK: tāin
PWL *taɲ. Wa: Dr: taing; SW: taɲ; Bib, Ant: taing; TV: tɒiñ2;
Lawa: BL, Um, Ph, Pap, L'up, North: taiñ

Ñ5 *(naɲ) "war, army"
PWL *(naɲ). Wa: Dr: noin; Praok: naɲ; Bib: naing; Kawa: nāing /nàɲ/

Ñ6 *pɤɲ "to shoot"
Sam: páɲ
PWL *pəɲ. Wa: Dr: poin; SW: puɲ; TV: púiñ; Kawa: buing /púɲ/
Lawa: BL: pə́ïŋ; Um, Ph, L'up: poiñ

Ñ7 *baɲ "white"
Sam: pàɲ (also páɲʔ); KK: pōnt; Tailoi: paing
Khalo: phān; K'ala: pan
PWL *baɲ. La:p'ain; Son, En, WaKng: paing
Wa: Dr: pöin; Dav: pain; Milne: pyi̯n (!); SW: paɲ; Bib: paing
Kawa: bāing /pàɲ/
Lawa: BL: piŋ; Um: phiaiñ; Ph: puiñ; L'up, North: pīñ

Ñ8 *hmaɲ "to ask"
KK: hōimaint
K'ala: hu-man
PWL *hmaɲ. La: main
Wa: Dr: main; Praok: maɲ; Bib: maing; TV: mɒiñ2;
Kawa: hmaing /hmáɲ/
Lawa: BL, Um, Ph: hmaiñ

Ñ9 *mɔŋ "mouth"
Sam: mɔ̀ŋ; KemD: moègne
Khalo: muan; K'ala: mawn
PWL *mɔŋ. La: bwain
Wa: Dr: moin; Praok: mɔŋ; Bib: mo-eng
Lawa: L'up: muɛñ; North: muñ

Ñ10 *s?mɤŋ "star"
Sam: s(m)máŋ; KemD: samigne
Khalo: mun; K'ala: ezm-un
PWL *s?muŋ. La: mu-bun; Son, WaKng: semwīn; En: si mwin
Wa: Dr: (h)simüin; Dav: samui; SW: sm?uŋ; Praok: simuŋ;
Bib: sim-u-ing; TV: ʃi4múiñ2
Lawa: BL: sa?bəïŋ; Um, Ph: sa?moiñ; L'up: sə?moiñ

Ñ11 *rmɤŋ "wife"
Sam: màŋ; KK: khămain; Tailoi: ra-mwin, ramwin
PWL *rmuŋ; Son: mwē; En: mu-win
Wa: Dr: ramöin; SW: mŬŋ; Bib: mo-eng; Kawa: mōuing /mòŋ/

Ñ12 *(hwaŋ) "to fish with a landing net"
PWL *hwaŋ. Wa: Kawa: hvaing /hwáŋ/
(cf. Lawa: North: ləfiñ "small fish-net" from PWL *r-hwaŋ)

Ñ13 *mrɤŋ "body louse"
Sam: ?əŋràŋ
PWL *mruŋ. Wa: Dr: maruin
Lawa: BL: mbrəïŋ; Pap: byɔiñ; Saam: mbyɔiñ

Ñ14 *ŋrɨŋ "termite"
Sam: ?əŋrɯ̀ŋ
PWL *ŋrəŋ. Wa: Dr: ngrēn
Lawa: L'up: reim

Ñ15 *klɤŋ "fat"
Sam: kláŋ; Tailoi: kling
PWL *kluŋ. En: Klwing; Son: klwīn; WaKng: klwin, glwīn
Wa: Dr: kloin, klōin; SW: kluŋ; Kawa: gluing /klúŋ/
Lawa: Um, Ph: kloiñ

--T

T1 *?it "to sleep"
Sam: ?ít; KK: īt; Tailoi: it
Khalo: īt
PWL *?it. En, Son, WaKng: it
Wa: Dr: it; SW: ?it; Praok, Bib: it; TV: it1; Kawa: id /?ít/
Lawa: BL, Um, Ph, L'up, North: ?aic

T2 *?ɛt "small,a few"
Sam: ?ét; Ferr: ?it¯; KK: ăt; Tailoi: et
K'ala: êt
PWL *?ɛt. En: et; Son, WaKng: yet; WaKng: yit

Wa: Dr: iet; SW: ʔɛt
Lawa: Um: ʔɛt

T3 *(ʔot) "dwell, be located"
PWL *ʔot. La: ut
Wa: Dr: awt; Dav: ut; SW: ʔot; Bib, Ant: ot; Kawa: oud /ʔót/
Lawa: BL: ʔaïk; Um,L'up, Ph: ʔaut; Ph: ʔaït; North: ʔaot

T4 *kat "thorn"
Sam: kát
PWL *kat. Wa: Dr: kāt; SW, Bib: kat; TV: katl
Lawa: Um, L'up, Pap: kat

T5 *kɒt "cold"
Sam: kɔ́t; KK: kǫt; Tailoi: kat
Khalo: kuat; K'ala: kawt
PWL *kɒt. La: Kwat; WaKng: gut
Wa: Dr: kuat; Dav: kwet; SW: kɔt; Bib: kwat; Kawa: guad /kúat/
Lawa: BL: koat; Um, Ph: kɔt

T6 *get "to bite"
Sam: cɛ̀t
PWL *get. Wa: Dr: chiet; SW: jɛt; Praok: kiat; Bib: ki-eht;
TV: ki:tl; Kawa: gī̀ad /kì̀at/
Lawa: BL, Ph: kiat; Um: chiat; L'up: kiət

T7 *gɒt "old (hum.)"
Sam: kɔ̀t
K'ala: kŭ(t)
PWL *gɒt. La: k'u-at; En: kwāt; Son: kŏt; WaKng: kut
Wa: Dr: kuat, kut; Dav; ku-at; SW: kot; Bib: kuwat;
Kawa: gūad /kù̀at/
Lawa: BL, Ph: kuat; L'up: kuət; Um: khuat

T8 *hŋe/ɛt "to hear"
KK: n̂it
K'ala: nye(t)
PWL *hŋe/ɛt. Wa: Dr: niet; Bib: ngeht; Kawa: hngiad /hŋíat/

T9 *(ʔn̈t) "to extinguish"
PWL *ʔnət. Wa: Dr: ÿ̈ot; Bib: yuit
Lawa: BL: ʔyï̈t; Um, Ph, L'up: ʔn̈ï̈t

T10 *(ntɔt) "to smoke (tr.), to swallow"
PWL *ntɔt. Wa: Dr: tawt
Lawa: BL: tuat; Um: nduat

T11 *tɨt "to pull"
Sam: tɯ́t; Tailoi: tut
PWL *tət. Son: dawt
Wa: Dr: tü̈t, tut; SW: tɯt

T12 *(ndɤt) "to be torn"
Sam: ʔəntɛ̀t
PWL *ndut. Wa: SW: dut

T13 *snat "gun"
Sam: sə?nát
Khalo: sināt; K'ala: ss-nă(t)
PWL *snat. La: dat
Wa: Dr: (h)sanöt; Dav: nat; SW: nat; Kawa: nād /nàt/
Lawa: BL, Um, Ph: sanat; Pap: s nat

T14 *bit "sticky, glutinous (rice)"
Sam: pìt
PWL *bit. Wa: Dr: pit; SW: pit
Lawa: BL, L'up, Ph: pit; Um: phit

T15 *hmɤt "to catch, feel, grope"
Sam: m̥hét
PWL *hmut. Lawa: BL: hməïk; Um, Ph: hmət; L'up: hməot

T16 *?mɨt "cloud, smoke"
Tailoi: mut
PWL *?mət. En: mut
Wa: Dr: (a)möt
Lawa: BL: ?maïk; Um: ?maut; Ph: ?maït

T17 *s-wet "to twist"
Sam: vèt
PWL *swet. Wa: SW: sivit
Lawa: BL, Um: saviat

T18 *hlat "to fear"
Sam: l̥hát; KK: lat
Khalo: lāt
PWL *hlat. Wa: Dr: lāt; SW: ɬat; Bib: lat; Kawa: hlad /hlát/
Lawa: BL, Um, Ph, L'up: hlat

T19 *?ŋ-hlat "to frighten"
Sam: ?əŋl̥hát
PWL *?ŋ-hlat. Wa: Dr: nglāt

T20 *lɔt "to take out, draw out"
Sam: lɔ̀t
PWL *lɔt. Wa: Dr: lawt
Lawa: BL, Um: luat

T21 *hlɨt "deaf"
Sam: ?əŋlhɯ́t
PWL *hlət. Wa: Dr: lot; SW: lɯt; TV: lət3
Lawa: BL: hlaïk; Um: hlaut; Ph: hlaït

T22 *sat "sleeping-mat"
KemD: sat
PWL *sat.
Lawa: BL, Um:sat

T23 *sat "to comb"
Sam: sat (tone unclear)
PWL *sat. Wa: SW: sat; Kawa: sad /sát/
Lawa: BL, Um: sat

T24 *n-sat "a comb"
Sam: ?əŋsát; KK: msāt

T25 *sɤt "to pick up"
Sam: sə́t
PWL *sut. Wa: Dr: hsut; SW: sut
Lawa: BL: səïk; Um, Ph: sət

T26 *hɨt "to smell sth."
Sam: hɯ́t (*hŋɨt?)
PWL *hət. Wa: Dr: hŏt

--N

N1 *?in "this"
Tailoi: en
PWL *?in. Wa: Dr: in; SW: ?in; Bib, Ant: in

N2 *?ɨn "to place, to put"
Sam: ?ɯ́n; KK: ün; Tailoi: un
PWL *?ən. La: ön; En, Son, WaKng: un
Wa: Dr: ön, on; SW: ?ɯn; Bib: uin; Kawa: een /?ɯ́n/

N3 *(ŋkɛn) "small finger"
PWL *ŋkɛn. Wa: Dr: kien; Bib: gehn; Kawa: mgian /ŋŋkían/
Lawa: BL: kean; Saam, North: ŋgɛn

N4 *kɔn "child"
Sam: kɔ́n; Ferr: kun; KK: kun; Tailoi: kŏn
Khalo: khan; K'ala: kawn
PWL *kɔn. La: kuan; En: kŏn; Son: kun; WaKng: kawn
Wa: Dr: kawn; SW, Praok: kɔn; Bib, Ant: kawn; TV: kɔn2
Kawa: gon /kɔ́n/
Lawa: BL, Um, Ph: kuan; L'up: kuən; Pap: kuon

N5 *ŋkɤn "thumb"
Sam: ?əŋkə́n; KemD: ngeune
PWL * kun. Wa: Dr: kun
Lawa: BL: kəïŋ; Um: ŋgïn; Pap: ŋkəïn; Saam: ŋgəɯn; North: ŋgaor

N6 *s-jen "heavy"
Sam: səkʸɛ̀n, səcɛ̀n; Ferr: sə̆-kIn; KK: săcēn
K'ala: kʌ-chyen
PWL *jen. La:shen; En: chen
Wa: Dr: chien, kin; Dav: chen; SW: tsIn, tsen; Praok: cɛn
Bib: cehn
Lawa: BL: cian; Um, Ph: cian; Um: chïan

N7 *jon "to take sth. s.where"
Sam: cùn
PWL *jon. Wa: SW: tson

N8 *tɒn "to order"
Sam: tɔ́n
PWL *tɒn. Wa: Sw: tɔn

N9 *non "soft"
Sam: nùn
PWL *non. Wa: SW: non

N10 *pon "four"
Sam: pún; Ferr: pun¯; Tailoi: pun; KemD: pône
Khalo: bon; K'ala: pun
PWL *pon. La: pon; Son, WaKng: wun; En: pun
Wa: Dr: bun; Dav, SW, Praok, Bib: pon; TV: pɔn2;
Kawa: boun /pón/
Lawa: BL: païŋ; Um, Ph, Saam: paun; L'up: paon

N11 *(r-pon) "forty"
PWL *rpon. Wa: Dr: rabun; Bib: tipon; Ant: ripon
Lawa: BL: lapaïŋ; Um, Ph: rapaun

N12 *rmpɤn "woman, wife, female"
Sam: ʔəŋpán; Ferr: kă-pu·n¯; KK: kăpūn; Tailoi: en-pun
KemD: beune
Khalo: bun
PWL *rmpun. Son, WaKng: wun
Wa: Dr: rabun; Dav: mbun; Milne: ā-pōn; SW: bun; Bib: bon;
Ant: boon; TV: mbʊn2; Kawa: nbun /mpún/
Lawa: BL:ʔapaïŋ; Um: rapən; Ph: ɣapən; L'up: rəpəon

N13 *bon "to be able, to get"
Sam: pòn
PWL *bon. Wa: Dr: pun, puen; Bib, Ant: pon; TV: pɔn2;
Kawa: bōun /pòn/

N14 *kmɤn "wife, bride, daughter in law"
Sam: kəmàn
K'ala: kʌ-mun
PWL *mun. Wa: Praok: mun

N15 *(hmɨn) "ten thousand"
PWL *hmən. Wa: Dr: mün; Kawa: hmeen /hmún/
Lawa: BL: hmaïŋ; Um: hmaun

N16 *wɤn "angry, mad"
Sam: vàn
PWL *wun. Wa: Dr: wun

N17 *(mran) "Burman"
PWL *mran. Wa: Dr: marön, marōn
Lawa: BL: mbran; Um: mblan

N18 *lan "earring"
Tailoi: lan
PWL *lan. Lawa: BL, L'up: lan

N19 *lɒn "to go"
K'ala: lun
PWL *lɒn. Son, WaKng: lun
Wa: Dr: luen; Kawa: lūan /lùan/

N20 *(klɤn) "python, rock snake"
PWL *klun. Wa: Dr: klun
Lawa: BL: klaïŋ; Um: klən; Pap: klaïn

N21 *sin "cooked, ripe"
Sam: sín; KK: sin; KemD:-sine
K'ala: ch'yen
PWL *sin. Wa: Dr: hsin; SW: sin; TV: ʃi:n2
Lawa: BL, Um, Ph, L'up: saiñ

N22 *phɒn "five"
Sam: phɔ́n; Ferr: phuən¯; Taioloi: pan; KemD: hone
Khalo: pün: K'ala: p'un
PWL *phɒn. En: pan; Son: pu-on; WaKng: pawn
Wa: Dr: puawn; Dav: p'wan; SW: phɔn; Bib: hpawn; TV: p'uən2;
Kawa: puan /phúan/
Lawa: BL: phoan; Um, Ph, L'up, Saam: phɔn

N23 *(hon) "a tuber"
PWL . *hon. Wa: Dr: hawn; SW: hon; Kawa: houn /hón/
Lawa: BL: haïŋ; Um, Ph: haun; L'up: haon

N24 *hɤn "many"
Sam: hán; KK: hūn
PWL *hun. En, Son, WaKng: hun
Wa: Dr, SW, Bib: hun; Kawa: hun /hún/
Lawa: BL: həïŋ; Um, Pap, Ph: hən; L'up: həon

--P

P1 *s?ep "centipede"
KK: sahäk
PWL *s?ep. Lawa: BL: sa?aic; Um: sa?aip; Saam: sə?aip;
North: s?aip

P2 *?ɨp "cooked rice"
Sam: ?ŭ́p; KK: ūp, up; KemD: hup
Khalo: ŏp; K'ala: ö(p)
PWL *?əp. La: op
Wa: Dr: öp; Dav: up; SW: ?ɯp; Ant: up; Kawa: eeb /?ŭ́p/
Lawa: BL, Um, Ph: ?aup; L'up, Pap:?aop

P3 *kap "chin, jaw"
Sam: káp; KK: kāp
PWL *(ŋ)kap. Son, WaKng: āng kāp
Wa: Dr: kāp
Lawa: BL: ŋgap; um, Ph, L'up, Saam, North: kap

P4 *(hŋap) "to yawn"
PWL *hŋap. Wa: Dr: ngāp; TV: ŋap3
Lawa: BL, Um: hŋap

P5 *ŋɒp "early (in morning)"
Sam: ŋùp
PWL *ŋɒp. Wa: Dr: ngawp; SW: ŋɔp; Bib: ngawp; Kawa: ngōb /ŋɔ̀p/
Lawa: BL: ŋap; Um: ŋɔp

6 *(cɨp) "to put on, to wear"
PWL *cəp. Wa: SW: tsɯp; Bib: cuip
Lawa: BL, Um, L'up, Ph: caup

7 *hɲap "difficult"
Sam: ŋháp
PWL *hɲap. Wa: SW: yap; Kawa: hnyab /hɲáp/

8 *tɛp "flea"
Sam: ʔə-tɛ́p; Tailoi: tep
PWL *tɛp. Son, WaKng: dup; En: lep
Wa: Dr: tiep
Lawa: BL: teap; Um, Ph, Pap, Saam, North: tɛp; L'up: tæp

9 *(dap) "to cover (with a roof), to obstruct (a road)"
PWL *dap. Wa: Dr: tŏp
Lawa: BL: tïap; Um, Ph, Pap, Saam, North: t p; L'up: t p
(cf. Lawa: BL: ʔandïap; Um: randïap: "a cover, a lid" from *rn-dap)

10 *rep "grass"
Sam: ʔa-rɛ̀p; Ferr: he·p¯; KK: hə̄p; Tailoi: rip
K'ala: yi(p)
PWL *rep. En: rēp; Son: rip; Dr: rĭp; Kawa: rīb /rɨ̀p/
Lawa: BL: raic; Um, L'up, Pap, North: raip; Ph: ɣaip

11 *rɤp "fishing net"
Sam: rə̀p
PWL *rup. Son, WaKng: rup
Wa: Dr, Bib: rup
Lawa: BL: rəup; Um: reup

12 *(klip) "shoulder"
PWL *klip. Wa: TV: kli:p1;Kawa: glib /klɨ́p/
Lawa: BL, Um, Ph: klep; North: kleip

13 *(yip) "to fan, wave the hand"
PWL *yip. Wa: Bib: yip; Kawa: yīb /yɨ̀p/
Lawa: Um: yip

14 *yɛp "to close one's eyes"
Sam: yɛp (tone unclear)
PWL *yɛp. Wa: Dr: yip
Lawa: BL, Um: yiap

--M

1 *ʔem "to be alive"
Sam: ʔɨ́m
PWL *ʔem. Wa: Dr: im; SW: ʔim; Praok, Bib: im; Kawa: im /ʔɨ́m/
Lawa: BL: ʔaiñ; Um, L'up: ʔaim

M2 *r?om "water"
Sam: ?úm; Ferr: ?um¯; KK: ōm, um; Tailoi: om; KemD: loum
Khalo: ŏm; K'ala: kʌ-awm
PWL *r?om. La: rōm; En: rōm, rom; En, Son, WaKng: om; Son: ōm
Wa: Dr: rawm, lawm; Dav: rowm; Milne: a̱m; SW: ɣɔm;
Praok: rɔm; Bib, Ant: rawm; TV: rŏm2; Kawa: rom /rǒm/
Lawa: BL: la?aum; Um: ra?aum; Ph: ɣa?aum; L'up: rə?aom

M3 *?ɤm "salty"
Sam: ?ém
PWL *?um. Lawa: BL: ?əum; Um: ?eum; Ph: ?əm

M4 *s?ɤm "rotting"
Sam: s?ém
PWL *s?um. Wa: Dr: sa-am; Bib: si-om
Lawa: sa?um (irreg. vowel); Um: sa?eum; L'up: sə?eĭm

M5 *kam "husk (of grain)"
Sam: kám
PWL *kam. Wa: Dr: kām; SW: kam; TV: kɒm2
Lawa: L'up: kam

M6 *ŋom "to sit"
Khalo: ngǒm; K'ala: ngawm ("to get up" !)
PWL *ŋom. En: nawm; Son: ngawm; WaKng: yawm
Wa: Dr: ngawm3, ngawm4; Dav: ngawm; SW: ŋɔm; Bib: ngawm;
Lawa: BL: ñaum; Um, Ph: ŋaum; L'up: ŋaom

M7 *ɲɔm "young"
Sam: ?əŋɲòm; Tailoi: nyawm
Khalo: -yom; K'ala: kʌ-nyawm
PWL *ɲɔm. En: yom; Son, WaKng: nyawm
Wa: Dr: niawm; SW, Praok: ɲɔm; Bib, Ant: nyawm; Kawa: nyōm /ɲò̌m

M7a *ɲom "delicious, sweet"
Sam: ɲùm
PWL *ɲom. Son, WaKng: nyom
Wa: Dr: nyim, ngim; SW: ɲom; Ant: nyawm; Kawa: nyōm /ɲò̌m/
Lawa: BL, Um: ɲum; Ph: ɲĭm; L'up: ɲɨm

M8 *s(n)tem "nine"
Sam: sətím; Ferr: setɪm¯; KemD: setine
Khalo: dim; K'ala: ss-tim
PWL *s(n)tem. La: tim; En, Son, WaKng: dim
Wa: Dr: shatim; Dav: sdin; SW: dɪm; Bib: sidim; Ant: hsindim
TV: dim2; Kawa: ndim /ntím/
Lawa: BL: sataiñ; Um, Ph: sataim; L'up, Saam: sətaim

M9 *ktam "crab"
Sam: kətám
Khalo: ka dam
PWL *tam. Wa: Dr: tām; SW: tam (tan ?); TV: tɒm2
Lawa: BL, Um, Ph, saam, L'up, Pap, North: tam

M10 *kn-tɒm "right (side)"
Sam: ?atǒm
PWL *(kn-)tɒm. Wa: Dr: katawm; SW: tɔm; Praok: dɔm; Bib: dawm;
Kawa: ndom /ntǒm/
Lawa: BL: katɒm; Um, Ph, L'up, North: ndɔm; Um: tɔm; saam: ntɔm

M11 *ktɒm "egg"
Sam: kətɔ́m; Ferr: kă-tam̄; KK: khatǫm; KemD: khatom
K'ala: kʌ-tun
PWL *tɒm. La: tom
Wa: Dr: tawm; Dav: tam; SW, Praok: tɔm; TV: tɔ̌m2
Lawa: BL: tɒm; Um, Ph, Pap, L'up: tɔm

M12 *(tɒm) "to give orders"
PWL *tɒm. La: tawm
Wa: Dr, Bib: tawm; SW: tɔm
Lawa: BL: tɒm; Um: tɔm

M13 *ktɔm "liver"
Sam: kətɔ́m
PWL *tɔm. Wa: Dr: tawm
Lawa: BL: tɒum; Um, Ph, L'up, Pap, North: tom

M14 *tɔm "to fill up"
Sam: tɔ́m
PWL *tɔm. Wa: Bib: tom; Kawa: dom /tɔ́m/

M15 *(ntɤm) "to begin, to start, to just V"
PWL *ntum. Wa: Kawa: ndum /ntúm/
Lawa: BL: tɐum; Um: ndeum; Ph: ndəm

M16 *dɛm "short, low"
Sam: tɛ̀m; Tailoi: tim; KemD: -tème; (cf. KK: kătem "below")
PWL *(n)dɛm. La: t'em; Son, WaKng: tum
Wa: Dr: tiem, tem1K; Dav: tem; SW: tɛm; Bib: tehm;
Kawa: dī̀am /tìam/
Lawa: BL: ndiam; Um, Pap: thiam; Ph: tiam

M17 *dɒm "table, plank"
Sam: tɔm (tone unclear)
PWL *dɒm. Lawa: BL: tom; Um: thom

M18 *kdɨm "ripe"
Sam: kətù̀m
PWL *dəm. Wa: Dr: htö̀m, tö̀m; TV: tɤm2; SW, Praok: tɯm
Lawa: BL: tum; Um: thum

M19 *hnam "blood"
Sam: n̥hám; Ferr: nam̄; KK: nam; Tailoi: nam
PWL *hnam. En, WaKng: nām
Wa: Dr: nām, nam; SW: (h)nam; Praok, Bib: nam;
Kawa: hnam /hnám/
Lawa: BL, Um, Ph, L'up: hnam

M20 *(ʔ)nɤm "plant (N)"
KK: nüm; Tailoi: num
PWL *(ʔ)num. En: num
Wa: Dr: nam5, nem; Bib, Praok: num; Kawa: num /núm/

M21 *(rnɤm) "thunder"
PWL *rnum. Wa: Dr: ranem; Bib: sinum; TV: ʃɨ̌4num2
Lawa: BL: nɐum; Um: neum; Pap: nɐom; Ph: nəm; North: rənaom

M22 *nɤm "year"
Sam: nəm (tone unclear)
Khalo: num
PWL *num. Wa: nɔ̈m, nem; SW, Praok, Bib: num; Ant: noom; TV: num2;
Kawa: nūm /nù̀m/
Lawa: BL: nəum; Um: neum; Ph: nəm; L'up: nəɨ̈m

M23 *( )nɨm "urine, urinate"
Sam: ŋhʷ́m
PWL *nəm. Wa: Dr: nɔ̈m, nōm4; SW: nɯm; TV: nɯm2
Lawa: BL, Um: naum; L'up: naom

M24 *bam "to chew"
Sam: pà̀m
PWL *bam. Wa: Dr: pɔ̈m; SW: pam

M25 *(rm)bɨm "fence, garden"
Sam: pʷù̀m; KK: tăpʷ̄m̄
PWL *(rm)bəm. Wa: SW: spɯm ("garden"), pɯm ("fence"); Bib: sipuim;
Kawa: si'nbēem /səmpʷù̀m/
Lawa: BL: ʔapum; Um: raphum; Ph: ɣaphɨ̈m

M26 *hmɒm "good, beautifull"
K'ala: maw-m[ö]
PWL *hmɒm. La: bom; En, Son, WaKng: mōm; WaKng: mŏm
Wa: Dr: mawm; Dav: mowm; SW: mɔm; Bib, Ant: mawm;
Kawa: hmom /hmɔ́m/

M27 *prem "ancient"
Sam: phrím
PWL *prem. La: pyim
Wa: Dr, Dav, Praok, Bib: prim; SW: pim; TV: pă4pri:m2;
Kawa: brim /prím/
Lawa: BL: phraiñ; Um: praim; Ph: phyaim; L'up: phraim

M28 *(rɛm) "to weed (out)"
PWL *rɛm. Wa: Dr: riem, h'riem; Kawa: rɪ̄am /rɨam/
Lawa: BL: ream; Um, L'up: rɛm

M29 *hrɛm "iron"
K'ala: yɪ̄m
PWL *hrɛm. Son, WaKng: rum
Wa: Dr: h'riem, riem; Dav: rhem; Bib: rehm; TV: rièm2;
Kawa: hriam /hrím/

M30 *(krɨm) "fish-trap, fish-basket"
PWL *krəm. Wa: Dr: krɔ̈m
Lawa: BL: khraum; Um: kraum

M31 *(knrɨm) "under"
PWL *(k)ŋrəm. Wa: Dr: krɔ̈m; Bib: gruim; Kawa: mgreem /ŋkrʷ́m/
Lawa: BL: ŋgraum; Um: kaŋgrum; Ph:ŋgɨ̈m

M32 *(ʔlɒm) "knife"
PWL *(ʔ)lɒm. Wa: Dr: lōm; Kawa: lom /lɔ́m/
Lawa: BL: lɒm

33 *lɒm "sharp"
Sam: lɔ̀m
Khalo: lom
PWL *lɒm. Wa: Dr: lōm; SW: lom; Bib: lawm
Lawa: BL: lɒm; L'up, Um, Ph: lɔm

34 *klɒ̀m "to carry on shoulder"
Sam: klɔ́m
PWL *klɒm. Wa: Dr: klawm; Praok, SW: klɔm; Kawa: glom /klɔ́m/
Lawa: BL: klɒm; Um, Ph: klɔm

35 *plɨ/om "land-leech"
Sam: plɯ́m
Khalo: prom
PWL *plom. Wa: Dr: plawm; SW: plɯm (irreg. vowel, see Samtau)
Lawa: BL, Um, Saam, North: plaum; Pap: plaom

36 *(lɨm) "pus"
PWL *ləm. Wa: Dr: lom
Lawa: BL, Um: laum

37 *sem "bird"
Sam: sím; Ferr: sim¯; KK: sīm; KemD: xim;
Khalo: sim; K'ala: sīm
PWL *sem. La: sim
Wa: Dr: hsim; Dav, SW, Praok, Bib: sim; Ant: hsim; TV: ʃi:m2
Lawa: BL: saiñ; Um, Ph, L'up, saam, North: saim

38 *s(y)ɛm "Shan, Northern Thai, Siamese"
K'ala: syēm
PWL *s(y)ɛm. La: shyem
Wa: Dr: hsiem; Dav: shem; Praok: sɛm; Ant: hsiehm; TV: ʃiɛ̀m;
Kawa: siam /siam/
Lawa: BL: seam; Um: sɛm

39 *sɔm "to eat (rice)"
Sam: sóm; Ferr: sum¯; KK: sum; Tailoi: sawm; KemD: sôm
Khalo: sǒm; K'ala: tsăwm
PWL *sɔm. En, Son: sawm
Wa: Dr: hsam, hsām; SW, Praok: sɔm; Bib: sawm; Ant: hsawm;
Kawa: som /sɔ́m/
Lawa: BL: sɒum; Um, Ph, L'up, Pap: som

40 *som "night"
Sam: nəŋ-súm; Tailoi: ta-som
K'ala: pălsăwm
PWL *som. En: sōm; Son, WaKng: sawm
Wa: Dr: sawm; SW: pn-sɔm; Bib: pon-sawm; TV: sɔm2;
Kawa: som /sɔ́m/
Lawa: BL, Um: saum; L'up: saom; Ph: lasaum, ɣasaum;
North: ləŋhaum, rəmhaom, (Rangsidh: ranhāum)

41 *-sɤm "to plant (e.g. a tree)"
Sam: ʔəŋsə́m; KK: tasüm
PWL *sum. Wa: Dr: hsam, hsem; TV: sŬm2; SW, Praok, Bib: sum;
Kawa: sum /súm/
Lawa: BL: səum; L'up: səɨm

M42 *yam "to weep"
Sam: yàm; KK: yām
Khalo: yām; K'ala: yam
PWL *yam. La: yam
Wa:Dr: yöm; Dav: yam; SW: yem; Bib: yehm; TV: yIm2;
Kawa: yīam /yìam/
Lawa: BL, Um, Ph: yïam; L'up: yïəm; North: zwəm

M43 *yɤm "to die, dead"
Sam: yàm; Ferr: yum_; KK: yöm; Tailoi: yum, yim
PWL *yum. La: yung; En, Son, WaKng: yum
Wa: Dr: yim; Dav, SW, Bib: yum; TV: yŬm2; Kawa: yūm /yùm/
Lawa: BL, Um, Ph, L'up: yum

M44 *-yɤm "to kill"
Sam: ʔəŋyàm
PWL *-yum. Wa: SW: pəywm; Bib: pa yum; Ant: payoom; TV: tɤi2yŬm2

M45 *hmem/mhem "fingernail"
Sam: ʔəŋhím; Ferr: ň-him¯
PWL *hmem. Wa: Dr: mem, mim, min; SW: hIm
Lawa: BL: hmaiñ; Um, Ph, Saam: hmaim; North: mhaɛm, mhaim

M46 *rmhom "heart, mind"
Sam: mhúm; KK: tāṅpūm, phūm, phōm; Tailoi: pōm
PWL *(r)(m)hom. En: pōm; Son: kom, kōm; WaKng: kŏm
Wa: Dr: pawm, rahawm, rawm; SW: ɣɔm; Bib: rawm;
Kawa: hrom /hrɔ́m/
Lawa: BL: ʔaphaum; Um: raphaum; Ph: laphaum, ɣaphaum;
L'up, Pap: phaom; North: phaum

M48 *phɤm "to fart"
Sam: phém
PWL *phum. Wa: Dr: pöm; SW: phum
Lawa: BL: phəum; Um: pheum

M47 *hɤm "bedbug"
Sam: ʔa-hém
PWL *hum. Lawa: BL: həum

M48 *hɨm "to bathe"
Sam: hŭm; Ferr: hum¯; KK: hūm
PWL *həm. Wa: Dr: hom; SW: hum; Bib: huim; TV: həm2
Lawa: BL, Um, Ph: haum; North: haim

M49 *(rhmɨm/rmhɨm) "nest (N.)"
PWL *rhməm/rmhəm. Wa: Dr: mŏm; Praok: mum; Bib: muim
Lawa: BL: ʔahmaum; Um: rahmaum; North: ləmhaim

-- W

W1 *raw "sky"
Tailoi: hau
PWL *raw. Son, WaKng: rao
Wa: Dav: ru (-ma); Bib: rao (-ma)

W2 *(law) "to speak"
PWL *law. La: lao
Wa: Kawa: lāo /làw/
Lawa: BL: lau

W3 *klaw "testicle"
Sam: kláw, klāw
PWL *klaw. Wa: Dr: kla; TV: klɒ2; SW: kla
Lawa: North: kla

-- R

R1 *ʔɛr "fowl"
Sam: ʔél; Ferr: ʔɛh¯; KK: ä̃; Tailoi: err; KemD: ea
Khalo: yai; K'ala: ī
PWL *ʔɛr. La:en; En: ya; Son, WaKng: yer
Wa: Dr:ia; SW: ʔɛa; Bib: i-ya; Ant: ia; TV: iɒ2;
Kawa: ia /ʔía/
Lawa: BL, Um, Ph, Saam, Pap, North: ʔɛ; L'up: ʔæ

R2 *lʔar "two"
Sam: ləʔál; Ferr: lay¯; Tailoi: la-al; KemD: la
Khlao: ā; K'ala: gha
PWL *(l/r-)ʔar. La, En: ra; WaKng: á: Son: a
Wa: Dr: rā; Dav: ra; SW: ɣa; Praok, Bib, Ant: ra; TV: rɒ2;
Kawa: ra /rá/
Lawa: BL, um, Ph, Saam: la a; L'up: l a

R3 *sʔɤr "warm"
Sam: səʔál; Tailoi: sa-urr
PWL *sʔur. En: su; Son, WaKng: ur
Wa: Dr: sa-ua; SW: sʔu; Praok: siao; Kawa: si'u /səʔú/
Lawa: BL: saʔəu; Um, Ph: saʔeu

R4 *kɒr "strong"
Sam: kól; Tailoi: ko-karr
PWL *kɒr. Lawa: BL: kɒ; Um, Ph, L'up: kɔ

R5 *kɨr "wind"
Sam: kɯ́l; KK: kük; Tailoi: kurr
K'ala: kăl
PWL *kər. La: ken; En: kö; Son, WaKng: gur
Wa: Dr: küa, kua, kia; SW: kɯI; Milne: kū
Lawa: BL, Pap, Ph, L'up: kaï; Um: kau

R6 *ʔŋar "twenty"
Khalo: ngai; K'ala: nga
PWL *ʔŋar. Son, WaKng: nga
Wa: Dr: nga; Ant: nga; Kawa: nga /ŋá/
Lawa: BL, Um, Ph, L'up: ʔŋa

R7 *ʔɲor/l "slippery"
Sam: ʔəŋɲúl
PWL *ʔɲor/l. Wa: Dr: niua
Lawa: Um: ʔñua

R8 *dɤr "hill"
PWL *dur. Son: tur
Wa: Dr: tüa, tua; Bib: tu; Kawa: dū /tù/
Lawa: Um, Pap: thu; Ph: tu

R9 *(mper/l) "watermelon"
PWL *mper/l. Wa: Kawa: nbi /mpí/
Lawa: BL: pai; Um: mbai

R10 *pɒr/l "to wrap"
Sam: pɔ́l
Khalo: po
PWL *pɒr/l. Wa: SW: pɔ; Praok: poa; Bib: pu-a

R11 *pɤr "to fly"
KK: pū; Ferr: puəh¯
Khalo: pu
PWL *pur. La: pun
Wa: Dr: pūa, pua; Dav: pu; Bib: po; Kawa: pu /pú/
Lawa: BL: pəu; Um, Ph: peu; L'up: pəo; North (Rangsidh): pōi

R12 *bor "evening"
Sam: nəm-pùl; KK: tăpū
PWL *bor. La: p'un
Wa: Dr: pua; SW: po; Bib: ponbo; Kawa: mbōu /mpò/
Lawa: BL, Ph: pu; Um: phu

R13 *ʔmar "dry ricefield"
Sam: m̥hál; Ferr: mah¯; KK: mă; Tailoi: marr
PWL *ʔmar. La: ban; En: ma; Son, WaKng: mar
Wa: Dr, Dav: ma; SW: ʔmma; Praok, Bib: ma; TV: ma2;
Kawa: ma /má/
Lawa: BL, Um, Ph, L'up: ʔma

R14 *mor/l "to crawl"
Sam: mùl
PWL *mor/l. Wa: SW: mu
Lawa: BL, Um, Ph: mau; L'up: mao; North: moa

R15 *kmɔr/l "earth-worm"
Sam: kmɔ́l
PWL *mɔr/l. Wa: Dr: mu3; SW: mo

R16 *sɒr/l "civet-cat"
Sam: sɔ́l
PWL *sɒr/l. Wa: Dr: hsua; Kawa: sua /súa/
Lawa: l'up: sɔ

R17 *(sɨr/l) "to pour, to water"
PWL *sər/l. Wa: SW: saɯ; Praok: sɯ; Bib: sau; Kawa: saee /sáɯ/
Lawa: l'up: so

R18 *phɛr/l "bee"
Sam: ʔa-phɛ́l; KK: phăh(ă), pā̆, pă̆
Khalo: pī(yai)
PWL *(p)hɛr/l. Wa: Dr: hia; SW: phya; Praok: hiia; Bib: hi-ya;
TV: hiɒ2
Lawa: Bl, Um, Ph, Saam, L'up, Pap: hɛ

1 *ʔɒl "elder sister"
Sam: ʔɔ́l, ʔɔ̃l
Khalo: o
PWL *ʔɒl. En, WaKng: u; Son: o
Wa: Dr: o; SW: o; Kawa: ou /ʔó/
Lawa: Ph: ʔɔ

2 *kʔɔl "cooking pot"
KK: kaui; Tailoi: kaw-all
Khalo: o
PWL *ʔɔl. En: aw
Wa: SW: ʔɔ; Bib: aw; TV: ɔ2

3 *kɛr/l "cucumber"
Sam: ʔa-cél
PWL *kɛl/r. Wa: SW: kɛ
Lawa: BL, Ph, Pap: kɛ; Um: cɛ

4 *kol "ten"
Sam: kul (tone unclear); Ferr: kul¯; KemD: koul
Khalo: kǒ, K'ala: kao
PWL *kol. La: kow; En: ko
Wa: Dr, Bib, Ant: kao; Dav: kow; SW: kau; TV: kʊ́u2;
Kawa: gao /káɔ/
Lawa: BL: koa; Ph, Um: kau; L'up: kao; Saam: kaɔ

5 *ŋgɒl/r "to cut down (trees)"
Sam: ʔəŋkɔ̀l
PWL *ŋgɒl/r. Wa: Kawa: mgū /ŋkù/
Lawa: BL: ŋgɒ

6 *sŋal "green"
Sam: səŋàl
Khalo: ngā
PWL *sŋal. En: s'nga; WaKng: ngall; Son: nga
Wa: Dr: sangöa, sango; SW: ŋa
Lawa: North: səŋa

7 *ŋɒl "fire"
Sam: ŋɔ̀l; Ferr: ngwaɛ_; KK: hǫi; Tailoi: ngall; KemD: ngo
Khalo: ngǒ; K'ala: ngaw
PWL *ŋɒl. La: go; En, Son: ngo; WaKng: ngall
Wa: Dr, Dav: ngu; Milne: ngū; SW: ŋu; Praok: ŋu; Bib: ngu;
TV: ŋu2; Kawa: ngū /ŋù/
Lawa: BL: ŋɒ; Um, Ph, L'up, Pap: ŋɔ

8 *tɒl "to run"
KK: tǫi; Tailoi: tal
Khalo: tün
PWL *tɒl. Wa: Milne: tu-Q̄; SW, Praok, Bib: to; Kawa: dou /tó/
Lawa: BL: tɒ; Um, Ph, Pap: tɔ; North: tə

9 *dɒl/r "shallow"
Sam: tɔ̀l
PWL *dɒl/r. Lawa: BL: to; L'up: tu

L10 *(rndɒl/r) large bottle, gourd
PWL *rndɒl/r: Wa: Kawa: si'ndū /səntù/
Lawa: BL: ʔandɒ; Um: (ra)ndo

L11 *kdɤl "stomach"
Sam: kətàl; KK: ka tŏi
Khalo: ka tū; K'ala: k -tu
PWL *dul. En, Son, WaKng:tu
Wa: Dr: tu
Lawa: BL, North: tu; Pap: thu

L12 *lmpal/r "shoulder"
Ferr: mwa
PWL *(lm)pal/r. Wa: Dr: laba
Lawa: L'up: pa

L13 *(pɒl/r) "mortar"
PWL *pɒl/r. Wa: Dr: paw; TV: po2
Lawa: (Rangsidh): Um, North: mbō; BL: pō

L14 *pɨl "grey, blue"
Tailoi: pul
PWL *pəl. Son: pao
Lawa: BL: paĭ; Um: pau; Saam: paə

L15 *kbɤl "thick"
Sam: kəpàl; KK: pöi; Tailoi: ka-pull
K'ala: kʌ-paw
PWL*bul. La:p'u; En, Son: pu; WaKng: po
Wa: Dr: hpu4C; Dav: pu; SW: pə; Kawa: pū /pù/
Lawa: BL, L'up, Ph: pu; Um: phu

L16 *(hmal/r) "bamboo strips"
PWL *hmal/r. Wa: Kawa: hma /hmá/
Lawa: BL, Um, L'up: hma

L17 *smal/r "seed"
Sam: səmàl
PWL *smal/r. Wa: Dr: hsamö, tsamöa; Praok: simɛ; Bib: simeh;
Kawa: si'mĭe /səmɛ̀/
Lawa: BL, Um, Ph: sama

L18 *ʔ( )mɤl/r "round, classifier for round objects"
Sam: ʔəŋmál; KK: mū
PWL *ʔmul/r. Son: mu
Wa: SW: tmu; Ant: moo; Bib: mu; Kawa: mu /mú/
Lawa: BL: ʔbəu; Um: ʔmeu

L19 *kmɨl "silver, money"
Sam: mùl (irreg. initial); KK: kămŏi; Tailoi: ka-mull
K'ala: kʌ-mal
PWL *məl. La: bai; Son: mu; En: mö; WaKng: mur
Wa: Dr: mŏa; Dav: mŏ; SW: ma(ə); Bib: mau; Ant: mau:;
TV: mɒ̆ɯ2; Kawa: māee /màɯ̆/
Lawa: BL, Ph, Pap: maĭ; L'up: maɨ; Um: mau; North: mai

L20 *crel/r "gold"
Sam: sĭl;
K'ala: si
PWL *crel/r. La: k'ri; En: krē; Son: kyu we
Wa: Dr: shre; Dav: Khre; Milne: sɛ-rē; Bib: hkri; SW: si
Lawa: BL: khrea; Um: L'up: khrai; Ph: khrai

*hril "thin"
Sam: l̥híl; KK: hă; Tailoi: vil
K'ala: yi
PWL *hril. La, Son, En, WaKng: ri
Wa: Dr: re; Dav: ri; SW: sli (irreg. initial)
Lawa: BL: hləi; Um: hre; L'up: hrei; Ph: khyɛi

*prɛl/r "hail"
Sam: ʔa-phɛ́l
PWL *prɛl/r. Wa: Dr: prel; SW: pli; Praok: pre
Lawa: BL: phrɛ; Um: prɛ; Ph: phyɛ; Pap: pyɛ;

*ʔnrɛl/r "forehead"
Sam: hɛ́l
PWL *ʔnrɛl/r. Wa: Dr: rè
Lawa: BL: ʔdɛ; Um: ʔrɛ; Ph: ʔɣɛ; North: nare

*(ryol) "gibbon"
PWL *ryol. Wa: Dr: uè
Lawa: BL: ʔayua; Um: rayua; Pap: ləyua; Saam: ʔayoa;
North: ləzɯ

*hol "to vomit"
Sam: húl
PWL *hol. Wa: Dr: hao; SW: haw; TV: hɒ́u2
Lawa: Um, L'up: hao

*hɤl "to go"
Sam: hə́l; Ferr: hwe¯; KK: hüi, hūi; Tailoi: hull
Khalo: hu
PWL *hul. La: hu
Wa: Dr: ho; Dav: hu; Milne: hē-o; SW, Bib:hu; Ant: hoo;
Kawa: hu /hú/
Lawa: BL: həu; Um, Ph: heu; L'up: həo; North: haɔ

-- S

*ʔɒs "to swell, be swollen"
Sam: ʔɔ́h
PWL *ʔɒs. Wa: Dr: o-ech, oich; SW: ʔɔah; TV: ɑ́ah5; Kawa: uah /ʔúah/
Lawa: BL: ʔɔih

*lʔos "fat, grease"
Sam: rʔúh
PWL *lʔos. Wa: Dr: loich
Lawa: BL: laʔauh; Um: raʔaus; Ph: layɔih; L'up: ləʔɔih;
North: ləʔɔh
*(kes) "ibex"
PWL *kes. Wa: Dr: kich
Lawa: BL: kaih; Um: cɛs; L'up: kɛh; North: keh

S4 *(ŋkos) "porcupine"
PWL *ŋkos. Wa: Dr: koih; TV: ŋ-goh5
Lawa: BL: kauh; Um: ŋgaus; North: ŋgɔh

S5 *kɤs "to cook"
Sam: ké́h
PWL *kus. Wa: Dr: kwich; SW: kuh
Lawa: BL: kəuh; Um: kəs; L'up, Ph: koih

S6 *gis "salt"
Sam: cì̀h; Ferr: kih¯; Tailoi: kith; KemD: kè
PWL *gis. En: gyi; Son: kyi; WaKng: kwi
Wa: Dr: kich; SW: kih; Bib: ki; TV: ki:h5
Lawa: BL, Ph, L'up: kih; Pap: khih; Um: chis

S7 *(ŋɔs) "price"
PWL *ŋɔs. En, WaKng: noi
Wa: Dr: ngoich, ngöich; SW: ŋɔh; Praok: ŋɔ; Bib: ngaw;
TV: ŋɔh5; Kawa: ngōih /ŋɔ̀s/
Lawa: BL: ŋuah; Um: ŋuas; Ph: ŋoih

S8 *kɲas "to smile"
Ferr: ka-nyah_; KK: kăyă
K'ala: kʌ-nyai
PWL *ɲas. La: che
Wa: Dr: ni oich; Dav: nia; SW: ɲah; Bib: ngeh; TV: ñéh5, ñah5;
Kawa: ngī̀ah /ŋì̀ah/ or /ɲàh/
Lawa: BL, Ph: ñɪ̈ah; Um: ñɪ̈as; L'up: ñuæh, ñ+aih; North: ñwəh

S9 *tes "mushroom"
Sam: tẃh; KK: tŏ
PWL *tes. Wa: Dr: tēch; SW: tIh; Praok: ti; TV: ti:h5
Lawa: BL, L'up, Ph: taih; Um: tas

S10 *(tɤs) "thunder"
PWL *tus. Wa: Dr: töich
Lawa: BL: təuh; Um: təs; Ph: toih

S11 *tɬs "breast"
Sam: tẃh; Ferr: təh¯; KK: tă; Tailoi: tuss
PWL *təs. En: tü; WaKng: dwe
Wa: Dr: toich; SW: təwh; Praok: tɯ; TV: təh5
Lawa: Um: taus; Ph, Pap: taɪ̈h; Saam: taəh; North: taɛh

S12 *(des) "to start a fire"
PWL *des. Wa: Dr: tia
Lawa: BL: teh; Um: thias

S13 *pes "to sweep"
Sam: pí́h
PWL *pes. Wa: Dr: pich; SW: pih; Praok, Bib: pi; TV: bi:h5;
Kawa: bih /pí́h/
Lawa: L'up: paih

S14 *rm-pes "broom"
Sam: ʔəŋpí́h; KK: mpī
PWL *r(m)pes. Lawa: BL: ʔaphaih; Um: rapas; North: rəbeh

15 *pos "barking deer"
Sam: púh; Tailoi: puss
PWL *pos. En: po; Son: buh
Wa: Dr: poich3; TV: poh5
Lawa: BL: pauh; Um: paus; Pap: paoh; Saam: pɔih; North: pɔh

16 *bɤs "to carry on back"
Sam: pəh (tone unclear)
PWL *bus. Wa: Dr: puich, pwich; SW: pɯh
Lawa: BL: pɨ̈h; Um: phɨ̈s; Ph, L'up: puih

17 *rmɒs "banana"
Sam: kəmɔh; Ferr: kă-mɔ_
Khalo: pu moi
PWL *rmɒs. Wa: Dr: mwech, muech; SW: mɔah; Kawa: mūah /mùah/
Lawa: BL: ʔamɔih; Um: ramɔs; Ph: ɣamɔih; L'up, Pap: ləmɔih;
North: ləmaoh

18 *mɨs "nose"
Sam: mə̀h; Ferr: mɑh¯; KK: mū̄; Tailoi: mus
Khalo: mö
PWL *məs. La: pei; En: mö; Son: mu; WaKng: mwe
Wa: Dr: muich, mwich; Dav: mui; Milne: mūs; SW: mɯh; TV: mɤh5;
Kawa: mēeih /mə̀s/
Lawa: BL, Pap,L'up, Ph: maɨ̈h; Um: maus; Saam: maəh

19 *mɨs "name"
Sam: mə̀h; Tailoi: muths
PWL *məs. Wa: Dr: much; Praok: mɔ
Lawa: BL: maɨ̈h; Um: maus; L'up, Ph: mɔih; North: mɔh

20 *ʔmɤs "to love"
Sam: máh
PWL *ʔmus. Wa: Dr: moich3; SW: muh; Bib: mo; Kawa: muih /mús/

21 *ris "spider"
Sam: ʔ-rə́h
PWL *ris. Wa: SW: rɯh/lɯh
cf. Lawa: BL: ñaŋraih; Um: ñaŋres "spider web"

22 *kris "a bear"
Sam: khrʃh; Ferr: kheh¯
Khalo: kui
PWL *kris. Wa: Dr: krech5; SW: klih; TV: krih5; Kawa: grih /krí̀h/
Lawa: BL: khraih; Um: kres; Saam: khyɛih; North: khraih

23 *rɛs "root"
Sam: rɛ̀h; KK: he
PWL *rɛs. Wa: Dr: riach, rich; Praok: riə; Bib: ri-a; TV: riah5;
Kawa: yɪ̄eih /yɛ̀s/ or /yɪ̀eh/
Lawa: BL: rɛh; Um: rɛs; Ph: ɣɛh

24 *rɒs "to choose"
Sam: rɔ̀h
PWL *rɒs. Lawa: BL: rɔih; Um: rɔs; Ph: ɣɔih

S25 *prɤs "to blossom"
Sam: phrə́h
PWL *prus. Wa: Dr: pruich, pröich; Kawa: bruih /prús/
Lawa: BL: phrəuh; Um: prəs; L'up: phroih; North: proah

S26 *rɨs "turtle"
Sam: ʔarɯ́h
PWL *rəs. Wa: Dr: rich, rīch; SW: rɯh
Lawa: BL: raïh; Um: raus; Ph: ɣaĩh

S27 *lɛs "six"
Sam: lɛ̀h; Ferr: lIh_; KemD: lè
Khalo: li; K'ala: lé
PWL *lɛs. La: lie; En: li-ă; Son: lu-a; WaKng: lu-a, lu-erh;
Wa: Dr: lich; Dav: lia; SW: leah; Bib: li-a; Ant: lia;
TV: lyah5; Kawa: lĨah /lì̃ah/

S28 *ʔar-lɛs "seven" (cf. R2 "two")
Sam: harré́h; KemD: halè
Khalo: ali
PWL *ʔa-lɛs. La: a-lie; En: a-li-erh; Son, WaKng: a-lu-a
Wa: Dr: ālich; Dav: a-lia; SW: ʔəliah; Bib: ali-a; Ant: alia;
TV: ɒ4lyah5; Kawa: alĨah /ʔalì̃ah/
Lawa: BL, Ph, Saam: ʔa-lɛh; Um: ʔa-lɛs

S29 *bles "spear (N.)"
K'ala: p(ʌ)lé
PWL *bles. La: piao; En: bia; Son, WaKng: plur
Wa: Dr: plech, pliach; Dav: plia; Praok: plia; Bib: pli-a;
TV: pliah5
Lawa: BL: pleh; Um: phlias; Ph: pliah

S30 *ʔlɒs "loud"
Sam: lɔ́h
PWL *ʔlɒs. Wa: Dr: loich; SW: lɔh; Kawa: luah /lúah/
Lawa: ʔdɔih

S31*(lɤs) "to answer"
PWL *lus. Wa: Dr: lwich
Lawa: BL: ləuh; Um: ləs; Ph: loih

S32 *ksɒs "charcoal"
Sam: psɔ́h (perhaps ksɔ́h); Ferr: kă-nyoh¯; KK: kăyŏ
PWL *sɒs. Wa: Dr: hsoi5; SW: sɔh; TV: ʃuah5
Lawa: BL, L'up, Saam: sɔih; Um: sɔs; North: lə-səɔh

-- Y

Y1 *lʔɔy "three" : lə-oi
Sam: ləʔɔ́̃y; Ferr: luy¯ ; Tailoi; KemD: loye; (KK: lup ?)
Khalo: ói; K'ala: wei
PWL *lʔɔy. La, En: loi; Son, WaKng: oi

Wa: Dr: loi, oi; Dav: loe; SW, Praok: loy; Bib: lo-e; Ant: loe;
TV: lúɛ2; Kawa: loui /lóy/
Lawa: BL: laʔoi; Um: laʔua; Ph: laʔuai; L'up: ləʔuæ; Saam: lʔuɛ

Y2 *sʔoy "to smell (intr.)"
Sam: sʔúy
PWL *sʔoy. Wa: Dr: sa-oi, (h)saoi; SW: sʔoy; Bib: si-o-e
Lawa: BL: saʔau; Um: saʔɔi

Y3 *ʔɨy "to bring up, raise animals"
Sam: ʔúy
PWL *ʔəy. Wa: Dr: ӧi; SW: ʔɯy; Praok: ɯy; Bib: ui-e; Kawa: eei /ʔúy/

Y4 *koy "to have"
Sam: kúy; KK: kuy; Tailoi: kwe; KemD: kouille
PWL *koy. WaKng: gwe
Wa: Dr: koi; SW: koy; Bib: kwe; Ant: koe; Kawa: goui /kóy/
Lawa: BL, L'up: kay; Um, Ph: kɔi

Y5 *(ŋkoy) "lizard"
PWL *ŋkoy. Wa: Dr: kwe
Lawa: Pap: ŋkɔi; Saam: ŋgɔy

Y6 *kɨy "cotton"
Sam: kúy
PWL *kŋy. Wa: Dr: kӧi; SW: kɯy, kuy; TV: kɯi2;
Lawa: BL: kau; Um, Ph: kɔi

Y7 *gɔy "slow, slowly"
Sam: kɔ̀y
PWL *gɔy. Lawa: BL: koi; Um: kua

Y8 *ʔŋay "eye"
Sam: ŋáy; Ferr: ŋay¯; KK: ṅāi; Tailoi: ngai; KemD: ngè;
Khalo: ngai; K'ala: ngai
PWL *ʔŋay. La: gai; En, Son, WaKng: ngai
Wa: Dr, Dav, Bib: ngai; SW: ŋay; TV: ŋɒ́i2; Kawa: ngai /ŋáy/
Lawa: BL: ʔŋea; Um, Ph, L'up: ʔŋai; North: ŋɛ

Y9 *sŋay "far"
Sam: səŋày; Ferr: kay¯; KK: sǎṅāi; Tailoi: sa-ngai
Khalo: sa ngai; K'ala: ss-ngai
PWL *sŋay. La: gai; En, Son, WaKng: ngai
Wa: Dr: hsangӧi; Dav: si-ngai; SW: səŋay; Praok: siŋay;
Bib: singai; Ant: hsingai; TV: ʃĭ4ŋɒi2; Kawa: si'ngāi /səŋà
Lawa: BL: saŋia; Um, Ph: saŋai; L'up: səŋai; North: səŋɛ

Y10 *(cay) "to pay"
PWL *cay. Wa: Kawa: jai /cáy/
Lawa: BL: cea; Um: cai

Y11*(ɲɔy) "waist"
PWL *ɲɔy. Wa: Dr: nioi; SW: ɲɔy; Bib: nyoi; Kawa: nyōi /ɲɔ̀y/

Y12 *ntay "skirt"
Tailoi: en-tai
PWL *ntay. En: lai; Son, WaKng: dai
Lawa: BL: tea; Um, Ph: ndai

Y13 *(ntoy) "orphan"
PWL *ntoy. Wa: Bib: do-e; Kawa: ndoui /ntóy/
Lawa: L'up: dɔi

Y14 *day "flower"
Sam: tày
PWL *day. Wa: Dr: htöi, töi; Dav: tai; Bib: tai; SW: tay; TV: tɒi2;
Kawa: dāi /tày/
Lawa: BL: tia; Um, Pap: thia; L'up: tiə; Ph: tuai

Y15 *dɨy "to take, to bring"
Tailoi: twe; K'ala: tui
PWL *dəy. Wa: SW: tɯy; Kawa: dēei /tɯ̀y/
Lawa: Um: thui

Y16 *pay "to use medicine"
Tailoi: pai
PWL *pay. Wa: Dr: pai; Kawa: bai /páy/

Y17 *m-pay "medicine, tobacco"
Sam: ʔəŋpáy; KK: mpāi; Tailoi: mpāi

Y18 *r-pɨy "shadow"
Sam: spɯ́y
PWL *(r)pəy. Wa: Dr: poi; SW: spɯy (irreg. vowel, cf. Samtau);
TV: pɤi2
Lawa: BL: ʔapau; Um: rapɔi

Y19 *bɤy "person"
Sam: pày; Ferr: pwe_; KK: pōi; KemD: peuei
Khalo: pui; K'ala: püi
PWL *buy. Wa: Dr: (h)pwi; Dav: pui; SW: puy; Bib: pwi; Ant: pooy;
Kawa: būy /pùy/
Lawa: BL, Ph, L'up, Saam, North: pui; Um: phui

Y20 *(ʔmay) "with"
PWL *ʔmay. Wa: SW: may; Bib: mai; Ant: mai; Kawa: mai /máy/
Lawa: BL: ʔmea; Um, L'up, Ph: ʔmai

Y21 *(k)mɔy "(wild) cow, buffalo"
Sam: ʔamɔ̀y; Ferr: kă-meən_; KK: pōi; Tailoi: moi; KemD: moè;
K'ala: kʌ-moi
PWL *mɔy. La: boi; En, WaKng: moi
Wa: Dr, Dav, Bib: moi; SW: mɔy; Ant: moe, moie; Milne: mō-ɛ;
Kawa: mōi /mɔ̀y/
Lawa: BL: moi; Um: mua; Saam: muɛ

Y22 *ʔmo/ɨy "axe"
Sam: m̥hɯ́y; Tailoi: mwe
Khalo: mui

PWL *?mo/ɨy. En: mwé; Son: mwē
Wa: SW: mɔy; Bib: mo-e
Lawa : BL: ?mau; Um, Ph, L'up: ?mɔi; North: moa

23 *(way) "to borrow"
PWL *way. Wa: Dr: voi; Praok: vay; TV: vwɒi2
Lawa: BL: wia; Ph: wuai

24 *rway "tiger"
Sam: vày; Ferr: (kă)-way-; KK: kăwāi; KemD: revè
Khalo: ka wai; K'ala: a-vai
PWL *rway. La: wai
Wa: Dr: ravöa, ravoi, rawoi; Dav: ra-wai; Milne: ra-vī-er;
SW: sə-/təway; Ant: hsivai; TV: ʃi4vwɒi2;
Kawa: sivāy /səwày/
Lawa: BL: ?awia; Um: rawia; L'up: rəviə; Ph: ɣawia, ɣawuai;
Pap: ləwia; Saam: ?vuɛ; North: rəvi, ləvi

25 *rwɤy "whirl in hair"
Sam: kəvày
PWL *rwuy. Lawa: BL: ?awuy; Um: rawuy; Saam: ?əvuy

26 *(rɔy) "fly (N.)"
PWL *rɔy. Wa: Dr: roi, rui; TV: rɔi2
Lawa: BL: roi; Um: rua, Ph: ɣuai; L'up: ruæ

27 *?lay "squirrel"
Sam: láy
PWL *?lay. Wa: Dr: lai; TV: lɒi2
Lawa: BL: ?dea; Um, L'up: ?lai

28 *play "liquor"
Sam: pláy
PWL *play. Wa: Dr: plai; SW: play; Ant: plai; TV: plɒi2;
Kawa: blai /pláy/
Lawa:BL: plea; Um, L'up, Ph: plai; Saam: plaɛ;

-- H

H1 *(?eh) "to need, take, want, wear, eat"
PWL *?eh. La:i
Wa: Dr: ich; Dav, Bib: i; SW: ?ih; Kawa: ih /?íh/
Lawa: BL: ?eah; Um, L'up, Ph: ?aih

H2 *(?ah) "to say"
PWL *?ah. Wa: Dr: ach, āch; SW: ?ah; Bib: a; Kawa: ah /?áh/
Lawa: BL, L'up, Um, Ph: ?ah

H3 *s?ɒh "to be dry"
Sam: s?óh
PWL *s?ɒh. La: o
Wa: Dr: hsa-och, hsaoch; SW: s?oh
Lawa: BL: sa?ɒh; Um, L'up, Ph: sa?ɔh; North: sə?əɔh

H4 *kah "to untie, separate"
Sam: káh
PWL *kah. Lawa: BL, Um, Ph, L'up: kah

H5 *koh "to get up"
Sam: kúh
Khalo: kǒ
PWL* koh. La: kow
Wa: Dr: kaoh; Dav: kow; SW: kauh; Bib: kao; Ant: kao;
Kawa: gaoh /kaɔ́h/
Lawa: BL: kɒuh; Um, L'up, Ph: koh

H6 *(geh) "to be born"
PWL *geh. Wa: Dr: kih; Bib: ke; Kawa: gēih /kèh/
Lawa: BL: keh; L'up: kih; North: kiəh

H7 *gah "to give"
Sam: kàh
PWL *gah. Wa: Dr: hkö5; Bib: keh; Kawa: gT̄eh /kèh/
Lawa: BL, Ph: kT̈ah; Um: khT̈ah

H8 *tah "to rest"
Sam: táh
PWL *tah. Wa: SW: dah (initial uncertain)
Lawa: BL: tah

H9 *(rntah) "medicine"
PWL *rntah. En: ta; WaKng: da
Wa: Dr: ratach, ratāch; SW: sədah; Bib: sida; TV: ʃi4tah5;
Kawa: si'ndah /səntáh/

H10 *toh "to pound"
K'ala: takh
PWL *toh. La:ta
Wa: Dr: taoch, tāch
Lawa: BL: tɒuh; Um, Pap: toh
cf. L'up: rətoh "pestle" (PWL *rntoh)

H11 *dah "buttocks"
Sam: tàh
PWL *dah. Lawa: BL: tT̈ah; Um, Pap: thT̈ah; North: tɬəh

H12 *(ndah) "to slap, to clap hands"
PWL *ndah. Wa: Kawa: ndT̄eh /ntèh/
Lawa: BL, Um: ndT̈ah

H13 *ndɬh "to fall (off, down)"
K'ala: pö-to
PWL *ndəh. Wa: Dr: htöch; Dav: dö; SW: t(ə)oh
Lawa: BL: ndɒuh; Um, Ph: ndoh; Ph, L'up: nduh

H14 *(s-ndɬh) "to fall (headlong)"
PWL *sndəh. Wa: Dr: hsatöch
Lawa: BL: sandɒuh; Um: sandoh

H15 *pih "to pick, to pluck"
Sam: píh
PWL *pih. Wa: Dr: piach, pech, peh5; Praok: pɛ
Lawa: BL: pəih; Pap: peh

H16 *p(ɨ)h "to flower, to blossom"
Ferr: pəh
K'ala: puikh
PWL *p(ə)h. Wa: Dr: pöh, pö

H17 *bɨh "to beat, pound, launder"
Sam: pùh; Tailoi: pu
PWL *bəh. Wa: Kawa: bāeeh /pàwh/
Lawa: BL: poh; L'up: puh; Um: phuh

H18 *wah "wide"
Sam: vàh
PWL *wah. La: wa(h); En, Son, WaKng: wa
Wa: Dr: vöach; Dav: va; SW: vɛh; Bib: veh; Kawa: vTeh /vèh/
Lawa: BL, Um, Ph: wïah

H19 *krih "unmarried woman"
Sam: khríh; KK: khǎ
PWL *krih. Wa: SW: kih; Kawa: grih /kríh/
Lawa: BL: khrəih; Um: kreh; Ph: khyɛih

H20 *(roh) "to bark"
PWL *roh. Wa: Dr: ruch; SW: ɣəh (irreg. vowel); Kawa: rāoh /ràɔh/
Lawa: BL: rɒuh; Um, L'up: roh

H21 *lih "to go down, fall"
Sam: lìh; Ferr: le
Khalo: lü; K'ala: likh
PWL *lih. La: lie
Wa: Dr: lih, lich; Dav, Bib, Praok: li
Lawa: BL: ləih

H22 *lih "to go out"
Sam: lìh
PWL *lih. La: lie
Wa: Dr: lih, lich; Praok, Bib:li; SW: lIh; TV: lih5;
Kawa: līh /lìh/

H23 *(lah) "to slice"
PWL *lah. Wa: Dr: löch
Lawa: BL, Um: lah

H24 *(plah) "classifier for sheet-like objects"
PWL *plah. Wa: Dr: blach; Bib, Ant: pla; Kawa: blah /pláh/
Lawa: BL, Um: plah

H25 *( )lɔh "to exchange"
Sam: plóh
PWL *( )?lɔh. Wa: SW: loh; Bib: lo; Kawa: louh /lóh/
Lawa: BL, Um: ra?lɔh

H26 *s(e)h "down"
Khalo: sɨ
PWL *s(e)h. En: hsé; WaKng: se
Wa: Dr: seh; SW: se(h); Kawa: seih /séh/
Lawa: BL: -saih; Um, Ph, Saam, Pap, L'up: -seh

H27 *sɒh "to cut grass"
Sam: sóh
PWL *sɒh. Wa: Dr: hsoh; SW: soh
Lawa: BL: sɒh; L'up: sɔh; North: saɔh

H28 *ryah "hundred" (often in cpd. with *di? "one")
KemD: t-reia
K'ala: ti-pʌ-cha
PWL *ryah. La: t'ie-ya; Son: ya; WaKng: ti-ya
Wa: Dr: (ta)riya; Dav: ta-ra-je; SW: dəyeh; Bib: siyeh; Ant: riyeh;
TV: yɪ?ɜ; Kawa: yɪ̄ieh /yɪ̀ɛh/
Lawa: BL: ?ayɪ̈ah

H29 *yɒh "to do"
Sam: yòh; KK: yō, yōk
K'ala: yukh
PWL *yɒh. La: yuh; Son: yu
Wa: Dr: yuch; SW: yuh; Bib: yu; Ant: yoo; Kawa: yūh /yùh/
Lawa: BL, Um, Ph: yuh

H30 *(hoh) "more"
PWL *hoh. Wa: Kawa: haoh /haɔ́h/
Lawa: BL: hɒuh

A. 1. STATIVES

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cient M27
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hamed C4
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A. 2. VERBS

Able to N13
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Boil (tr) Ṅ27
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Cooked N21
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Do H29
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A. 3. PREPOSITIONS, MODALS

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Tooth Ṅ36, Ṅ54
Voice ʔ93
Waist Ṅ20, Y11
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B. 4. KINSHIP

Aunt Ṅ28
Child N4
Daughter in law N14
Elder Brother K3
Elder Sister L1
Father ʔ54, Ñ3
Grand child ʔ100
Grand father ʔ29
Grand Mother ʔ102
Mother ʔ61
Orphan Y13
Uncle Ṅ28
Wife Ñ11, N12, N14
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B. 5. SOCIOLOGY

Army Ñ5
Burman N17
Country Ṅ10
La ʔ73
Language ʔ93, Ṅ45
Lawa ʔ73
Name S19
Orphan Y13
Person Y19
Price S7
Shan M38
Thai M38
Village Ṅ86
Wa ʔ73

B. 6. FOODSTUFF, MAN-MADE OBJECTS

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Bag Ṅ82
Bamboo pot Ṅ46
Bamboo strips L16
Basket (fish-) M30
Belongings Ṅ64
Betel ʔ94
Blanket ʔ84
Bridge K25
Broom S14
Bow K4
Bowl Ṅ57
Charcoal S32
Cloth ʔ84
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Coffin Ṅ75
Comb T24
Cooking pot Ṅ25, Ṅ32, L2
Cotton Y6
Cup Ṅ57
Curry ʔ31
Door ʔ72
Drum Ṅ63
Earring N18
Fat S2
Fence M25
Field (hill-) R13
Field (wet) N10
Firewood ʔ104
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Garden M25
Gold L20
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Hat ʔ42, K29
House ʔ23, Ṅ67
House-pole Ṅ56
Iron K26, M29
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Knife ʔ89, Ṅ15, M32
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Needle ʔ22
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Pestle ʔ75
Pillow Ṅ14
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Pot (cooking) Ṅ25, L2
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Salt S6
Scabbard Ṅ12
Silk ʔ40
Silver L19
Skirt Y12
Spear S29
Stairs Ṅ39
Sugar (cane-) ʔ60

Sword C12
Table M17
Thatching grass Ṅ73
Things (household-) Ṅ64
Tool Ṅ64
Trap (fish-) M30
Tray K21
Vegetables ?31, K57
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B. 7. FAUNA

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Bear S22
Bedbug M48
Bee R18
Bird M37
Buffalo K39, Y21
Centipede P1
Civet R16
Cock's comb K10
Cow K32, Y21
Crab M9
Crow K5
Deer (sambhar) K11
Deer (barking) S15
Dog ?98
Dog (wild) K44
Eagle Ṅ69
Earthworm K33, R15
Egg M11
Elephant Ṅ79
Fish ?6
Flea P8
Fly Y26
Fowl R1
Gibbon L24
Goat (wild) S3
Hawk Ṅ69
Horn Ṅ62
Hornet Ṅ6
Horse Ṅ58
Ibex S3
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Leech (land-) M35
Lizard K13, Y5
Louse (head-) ?96
Louse (body-) Ñ13
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Monkey ?7-
Mouse Ṅ11
Nest M49
Peacock Ṅ8
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Pigeon ?11
Porcupine S4
Python N20
Snail ?91
Snake Ñ2
Spider S21
Squirrel Y27
Tail ?30
Termite Ñ14
Tiger Y24
Toad K 43
Turtle S26
Tusk ?17
Wasp Ñ1
Wing C13
Worm K33, K36, R15

B. 8. FLORA

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Bamboo cluster Ṅ37
Bamboo shoot Ṅ44
Banana S17
Bark ?92
Betel ?94
Cucumber L3
Flower Y14
Forest ?77, K17, Ṅ34
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Grass P10
Husk M5
Jungle K17
Leaf ?90
Millet ?47
Mushroom S9
Pine ?12
Plant M20
Rice plant ?20
Rice grain ?8
Rice husk M5
Root S23
Sesamum ?18
Seed L17
Sugarcane ?60
Taro K1
Thatching Grass Ṅ73
Thorn T4
Tree ?108
Tuber C1, N23
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B. 9. LIFELESS NATURE

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Coal (embers) ʔ14
Cloud T16
Country Ṅ10
Day ʔ15
Ditch Ṅ59
Earth ʔ28
Evening R12
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Iron K46, M29
Lake Ṅ
Lowlands Ṅ10
Month ʔ105
Moon ʔ105
Morning P5
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River Ṅ76
Rock Ṅ4
Sand C10
Shadow Y18
Silver L19
Sky ʔ62, ʔ77, W1
Smoke T16
Star Ñ10
Stone ʔ67
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Swamp ʔ95
Thunder M21, S10
Water M2
Weather ʔ77
Wilderness K17
Wind R5
Year M22
Yesterday ʔ9

Footnotes

1) The term is mine, unfortunately; I would be happy to replace it with some other convenient label, especially since some of the people who speak these languages are said to resent the appellation "Wa". Suggestions are welcome.

2) In Ferlus (1974), a small error occurs on his map (p.52) regarding the location of the K'ala, labelled "4.6". Harding(1927) places it "on the Mekong slope of the Salween watershed, near the Wa country". This would place 4.6 much further East, a location consistant with the linguistic similarity of K'ala to Samtau.

3) Drage does not say anything about "-ich" noting a [-ɕ]. He only describes -ch as being "somewhat like ch in Scott loch"; but as he notes /-c/ and /-ɲ/ with "-it" and "-in", I take his "-ich" to also represent a final palatal, with a palatal glide typical of Mon-Khmer languages.

4) Here and in the rest of this paper, references like (S26) indicate entry numbers in the Waic Etymological Lexicon; the capital letter represents both the final consonant and the section of the Lexicon where such finals are listed; the number indicates the entry number in that section.

5) Words of Proto-Palaungic and Mon-Khmer origin always have a final consonant in Proto-Waic. Certain Mon-Khmer languages, such as Khmer, have words of Mon-Khmer origin with open syllables: these have final -? in Proto-Waic. See:?67 "stone", ?98 "dog", ?74 "monkey", ?87 "fruit", ?108 "tree" etc. The necessity to have a final consonant is also found in Senoic (Diffloth, 1977).

6) For *-s in this word, and in "breast" and "name" see Diffloth,1976

7) In the South Wa tape, I sometimes hear a very faint friction (velar? pharyngeal?) at the end of these open syllables. But I may be overhearing.

8) the phonetic correlates of this two-way tone contrast are not simple: the high tone is mid-high rising, the low tone is mid falling except in checked syllables where it is mid level. Low tone is sometimes accompanied by breathy voice. The inflection in pitch for the high tone is very pronounced. Absolute pitch seems to vary from one word to the next, but this is probably due to the long pauses which often occur between them and include translations, comments and conversations in Thai and Shan. The discovery of a two-way tone contrast is to be credited to J. Harris and J. Gainey.

Samtau tone appears to be distinctive only in final syllables. The first member of disyllabic compounds seems to have a neutralised level tone. This is why certain entries in the Etymological Lexicon have no tone marks: they only occured in the recordings as first member of a compound.

9) except one: hke2 "they" (p.66), but this pronoun is also written scores of times as: hke5, and sometimes both ways in the same sentence (P.62).

10) No direct diffusion is implied by this remark: the change did not occur in Shan where most Thai influence on Waic presumably came from.

11) There are, in Luce's Wa, a few initial voiced stops which are probably not explainable in this fashion, eg. bɛ̀ʔ^{3} "goat", dɛ̀ʔ^{3} "earth". The data is not sufficient to detect a pattern, but since they condition tone 3 with final stops, they do not affect the status of tone in this Wa dialect.

12) I am thankful to A. Manaster-Ramer for suggesting this appropriate term.

13) One way would be to use morphophonemic alternations, but the débris of morphology found in Lawa is often suspect of analogical levelling, and the amount of data is too small at the moment.

14) The evidence for these initial clusters is given in Sec. 4 "Complex initials". By preaspirated, I refer to sonorants with a voiceless beginning. If aspiration is defined as a "delay in the onset of voicing", these sounds could justly be called aspirates; but the term preaspiration is useful since it points out that the delay occurs at the beginning of these inherently voiced sonorants, whereas in aspirated stops it occurs after the release of the inherently voiceless sounds.

15) There are a few rare instances of proto voiceless initial stops noted by Drage as voiced (e.g. "you, Sg" bè, be <PW*pE?(?48)). Since the true proto voiced stops have become aspirated in Drage's Wa. this was perhaps an English speaker's way of emphasising the lack of aspiration in these other stops.

16) the -a- of Drage's notation (without any diacritic) represents unstressed /ə/ which seems to be entirely predictable. See Drage p. 7.

17) This is by no means a phonetic necessity, but a language specific rule of phonology; in Khmer, syllable boundaries within the word are generally permeable to register.

18) Comparison shows that final *-h and *-ʔ are not noted in Bible Wa: words with final -eh are no exception: they may represent /-ɛʔ/ (nyeh "house, ?23), or /-ɛ/ (simeh "seed" L17), or even /-ɛh/ (keh "give", H 7).

19) In several, but not all dialects of Wa proper, *rC- → sC-, but this change has no effect on registers and diphthonguisation and seems to be fairly recent. See Sec. 4.

20) The patterns of aspiration or lack thereof, are sufficient, even without dātā outside Lawa, to establish the proto-voiced nature of the initials in these clusters, and confirm the history of the vowels.

21) Apparently a word of Mon-Khmer origin, borrowed into Thai: cf: Shorto (1971), p.275.; see also Sarawit (1973), p.35.

22) Good examples of single initial Nasals and liquids preceding *-a- are not easy to find, but more will be given with vowels other than *a, where the same pattern is found.

23) Bo Luang would be expected to have ?a-, the initial /l-/ is probably a contamination from Thai ลัวะ "Lawa".

24) We should be able to predict that when reflexes of *hɲa- and *hya- are found in Lawa they will be diphthonguised; for example. PW *hɲap "difficult"(P 12) should be /hɲiap/ if the word has been kept.

25) It is also necessary to assume that voiced sonorants, except w-, y- and ɲ-, either did not produce breathiness at all in the following vowel, or lost it; while breathiness due to stops was preserved. The latter, more likely, hypothesis would suggest that breathiness due to originally voiced stops became phonetically more noisy than breathiness due to sonorants; noise in the first kind of breathiness increased to the point of being classed together with the kind of friction due to w-, y-, and ɲ-, and then turning into aspiration, while the second, weaker kind of breathiness eventually disappeared.

26) I owe this term to the poetic awareness of Jung Hai-Rhin.

27) The Bo Luang dialect of Lawa has seen some drastic changes in its finals due to vowel off-gliding, more drastic in fact than any other Waic dialect; after an -ɨ off-glide, all obstruents turn to velars, after -i off-glides, all obstruents turn to palatals, and after -u off-glides, to labials. This is independent of other, much earlier changes occurring in Proto-Lawa whereby *-it, *-in, and *-ik, *-iŋ all palatalised to *-ic, *-iɲ.

28) The Samtau reflex of this vowel is /ɯ/, regardless of tone; and this high quality is inherited from pre-Waic times: this vowel represents a merger of Proto-Palaungic *uu and *u, and probably kept this value [u] quite late. The shift Pre-Waic *u → PWaic *ɨ is taken here as one of the defining features of the Waic branch. See Sec. C. 1.

29) This evolution could indicate that the PWaic value of *ɒ was in fact a short *a contrasting with a long *aa (PWaic *a in this study); if support is found for such a notion, Proto-Waic would have maintained the original Proto-Mon-Khmer vowel length contrast only for the value [a] , very much like Viet-Namese did.

30) There still remain problems to be solved in the history of PW *ɒ ; for example, the proposed diphthong does not explain the /o/ reflexes of PW *ɒ in the clear registers of Drage's Wa and Wa proper which present a similar, but lesser difficulty.

31) Drage did note an occasional h'r- or h'l- initial, but the vowel qualities show that he failed to note preaspiration in some other words, especially with nasals.

32) and to the non-buzzy series of Lawa. In case of h + Approximant, the Lawa vowels belong to the buzzy series, as noted earlier.

33) Riang normally has a simple sonorant with high tone as a reflex of the usual h + Sonorant initials: ŋo?$^{-}$ "rice", mɒn^{-} "ask", vɒ?$^{-}$ "monkey", rɒŋ$^{-}$ "tooth", la?$^{-}$ "leaf", lut^{-} "deaf". For "nail", see Shorto (1971) p.374: Old Mon: sinlem "nail", and perhaps also Semai: rnsɛᵖm "tip of leaves". The Samtau cognate: Sam.: ʔəŋhĺm also shows that this word does not have a simple *hn- initial.

34) If both types of clusters existed in Proto-Waic, then it would be tempting to reconstruct PWaic *nham "blood" and not *hnam as I have done here. The Mon-Khmer etymologies for PW *khoʔ "tree, PW *phɤm "to fart", *phiʔ "otter", show that PWaic, and therefore PPalaungic, did preserve medial *-h-'s. The statement by Diffloth (in press) about their loss should be restricted to Khmuic alone. In that case, the history of "blood" would simply be: PMK *jnhaam, →PW *nham, →Wa: hnám.

35) The normal pattern in South East Asian languages is for preglottalised (or implosive) voiced stops to condition the following tones and vowels as if they were voiceless. This is the case at least in Khmer and Thai. This bizarre fact has never been explained phonetically. In the case of Khmer, the present b- and d-, implosive for many speakers, derive historically from voiceless stops, so the problem may reduce itself to a simple matter of chronological ordering; but this is not the case in Thai. Given the permeability patterns of Thai approximants and liquids, it is difficult to see how an initial Proto-Thai *ʔb- or *ʔd- cluster could produce tone of the same class as voiceless initials do: stops are typically impermeable to the voiceless feature of preceding segments. On

the other hand, a *?w- and *?r- reconstruction would predict the correct tones, and the evolution *?w- → ?b- and *?r- → ?d- is shown by Bo Luang Lawa to be quite plausible phonetically and areally. *?m- and *?l-, or even *?n- would also be worth trying.

36) This process can be observed today with speakers of Tai languages borrowing Khmer or Sanskrit disyllabic words, or words with complex initials.

37) Compare with Proto-Semai *sʁʁc "to sting", and *s-m-ʁʁc "stinging insect"(Diffloth, 19-7, p.487). See also Shorto,1976 p.1065.

38) Evidence for such a prefix is found in words like: KW: pʃh "to sweep", and : Umphai Lawa: rapas "broom" (in: hla? -).Cf (S 14).

39) The Proto-Mon-Kmher word for water: *ʃaak (or, I would propose, *?naak), has undergone a semantic shift in Waic: PW *dak means "jungle, hill country" (= "up-river"?), while the original word for "forest" (cf. Khmu: bri? "forest, nature") acquired the meaning:"weather, conditions outside" (PW *bre?), not to be confused with PMK *brVy "drizzle, light rain" (cf. Khmu:brʌy) and PMK*prial (PW *prɛl)"hail" (cf. Khmu: pliar). Contra: cf. Shorto, 1971.p.276.

40) The original k- should not be confused with the final consonant of the compound found in BW: hakteh "earth,territory" which goes back to *hak "skin" + *ktɛ? "land", i.e. the surface of the land, as opposed to BW: teh "land,soil". Kawa also has both: hákté? and té? , but neither has: kɛ?. The syntactic contexts where these words are found, in both BW and KW, argue against an interpretation ha- (preposition) + ktɛ?. Contra: cf. Shorto, 1971, p.149.

41) This etymon seems to mean more than just "stomach". The Semai cognate; pdəl does mean "stomach" or "gizzard" (in:pdəl puk), but also "calf of leg" (in: pdəl kmuuŋ , where kmuuŋ means:"lower leg"), or "biceps" (in: pdəl kŋriit , where kŋriit means:"arm"); it is also used in compounds where it appears in the syntactic position of a modifier:?ɛc pdəl "stomach",(where ?ɛc means "stomach,feces")

or even as the root of an Expressive: plpdal, describing a bulging part of the body. This latter meaning, as well as the compound pdal kmuuŋ,can easily explain the apparently aberrant meaning "leg" of the Riang cognate.

42) But the Samtau word only appears in the construction: vak-kmɔ́l, and from the tape it is difficult to be sure that there are two consecutive k's and not just one, though the tone is clear.

43) The semantic connection between "eight" and "hand" is confirmed in the rest of Palaungic: Pal: tā, Riang: tɔ́?, Lamet (Lef.-Pont.):ta. Amok (Scott)(Angkuic branch): n'ta. These are not cognate with PWaic *snte?, but appear to be connected to a Karen word meaning "hand(palm)". Only Danau, the oldest branch-off from Proto-Palaungic has preserved the Mon-Khmer etymon for "eight": tsɒn^{4}(Luce), sam(Scott As for the pragmatic reason for an "eight"-"hand" semantic connection. one should look for it in Palaungic methods of counting; my guess is that the thumb tip is used to touch the eight inner joints of the knuckles of one hand.

44) The phonology of the Viet-Muong forms does not really support Coedès' often quoted speculation (Coedès,1935) that the names of the animal cycle would have been borrowed by Khmer from a Muong language.

45) Milne's notations are often sub-phonemic: most of the vowels she noted "short" occur before final stops, including ?, the reflex of *-k most of the"long"vowels occur elsewhere. There are a few apparent contrasts in the dictionary, but Shorto(1960) recognizes only one set of vowels.

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