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A phonological reconstruction of Proto-East-Katuic

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A PHONOLOGICAL OF RECONSTRUCTION PROTO-EAST-KATUIC

by

Dorothy Thomas

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A PHONOLOGICAL RECONSTRUCTION OF
PROTO-EAST-KATUIC

by

Dorothy M. Thomas
"

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ABSTRACT

The principal problem in the historical reconstruction of Proto Mon-Khmer is the great diversity between the modern descendants. This paper proposes to simplify that problem by reconstructing the East-Katuic branch of the Mon-Khmer family.

Three languages are compared: Brôu, Pacôh, and Katu. Because of gaps in the cognate lists, both Brôu and Pacôh had to be used as witnesses for the sub-family of Brôu-Pacôh.

The consonants reconstructed for Proto-East-Katuic are */p,t,c,k,p^h,t^h,c^h,k^h,b,d,y,b̄,d̄,j,q,m,n,ñ,ng,r,l,w,s,h/. The vowels reconstructed are */i,ê,e,ii,êê,ee,ie,ia,ae,êa,ea,êi,u,σ,â,uu,σσ,ââ,aa,ua,ou,oâ,u,ô,o,ó,uu,ôô,oo,óó,ua,ou,ôu,ôa,oô/. Only some of the pre-syllables have been reconstructed.

The main outline of the phonemic system of Proto-East-Katuic is clear. The remaining problems, involving further work on the vowels, pre-syllables, and final stops, can no doubt be handled when more data are available. However, it will take considerable effort to find enough cognate sets to provide a minimum of attestation in some cases because of the rarity of the phenomena involved. The present paper should be of immediate help in reconstructing a still earlier stage of the language.

CHAPTER I

INTRODUCTION

Location and Broader Affinities of the Katuic Languages

The Katuic languages are a branch of Mon-Khmer spoken across an area from the mountain range of northern South Vietnam, through southern Laos, eastern Thailand, and down into northern Cambodia. The languages¹ used for this paper are found mostly in Vietnam: Katu in Quảng Nam province; Pacôh, in Thừa Thiên province, and Brôu, in Quảng Trị province of South Vietnam and neighboring areas in Laos and North Vietnam.

Previous historical work on Mon-Khmer has been done by Pinnow, Haudricourt, H.Blood, Thomas and Smith, Piat, Reynaud, Shorto, Jacob, and others.

A rough family tree can be reconstructed as follows:

¹Material for this paper was gathered from manuscript dictionaries prepared by Judith Wallace and Nancy Costello (Katu), Mr. and Mrs. Richard Watson (Pacôh), and Mr. and Mrs. John Miller (Brôu), all of the Summer Institute of Linguistics. The items used have been rechecked on the field by Miss Costello and the Millers, and from his personal knowledge of the language by Mr. Watson. The materials were phonemicized by the same authors (Wallace, unpublished manuscript; R.Watson, 1964; R.Phillips and the Millers, to be published).

Nuclear Family

Within East-Katuic a family tree can best be constructed on the basis of the consonants, particularly the stop series. On the basis of the correspondences between Brôu, Pacôh, and Katu, four labial stops can be reconstructed:

Brôu - Pacôh - Katu

*p > p - p - p

*p^h > p - p - b

*b > b - b - b

*b > b - b - b

Brôu and Pacôh have merged *p and *p^h, giving p, and *b with *b, giving b. (*b was probably both pre-glottalized and voiced, *b only voiced. In the daughter languages, b is voiced and pre-glottalized, the two features not contrasting.) Katu, on the other hand, has merged *p^h and *b, retaining the contrast between glottalized voiced, non-glottalized voiced, and voiceless unaspirated stops.

Pair-wise the daughter languages have the following numbers of correspondence sets: Brôu/Pacôh 2, Brôu/Katu 4, Pacôh/Katu 4. On the basis of the labial stops alone,

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Fig. 1

then, we would find Brôu and Pacôh to be the same language. The alveolar stops present the same picture of mergers from four original contrasts.

Brôu Pacôh Katu

*t > t	t	t
*t ^h > t	t	d
*d > d	d	d
*d̥ > d	d	d̥

But on the basis of the alveopalatal stops the tree takes better shape:

Brôu Pacôh Katu

*c > ch	ch	ch ²
*c ^h > ch	ch	j
*y > y	y	y
*j > y	y	j, and
	y	j

Here again Brôu and Pacôh can be separated from Katu on the basis of a shared merger. However, Pacôh has a split not shared by Brôu: *j > P y, j. In Brôu, all *j merged with *y, whereas in Pacôh only part of *j merged with *y. Therefore on the basis of a shared merger and independent innovations Brôu and Pacôh are established as sister languages within the sub-family of Brôu-Pacôh.

²ch is used in all three languages to represent the unaspirated voiceless alveopalatal stop. *y is considered a stop for the purposes of this paper because it takes part in the stop mergers.

This same tree was found as the result of lexico-statistical techniques (Thomas, 1966).

Contribution of This Paper

This paper will be concerned primarily with the main syllable (final syllable of polysyllabic words) of the words examined. This is because the very strong areal tendency to reduction of the first syllables has obscured the remaining pre-syllables (Lee, 1966, p.103). In all three of the languages there is a high percentage of monosyllables. The canonical shape of the main syllable in these languages is $C_1V(C_2)$, with C_1 having the possibility of representing consonant clusters but C_2 having the possibility of representing only single consonants.

Consonants

C_1 have proven to be relatively stable, with the exception of the shift in the stop systems. It is remarkable that in the stop series four phonemes must be set up at each of three points of articulation. Apparently at a still earlier stage than Proto-East-

Katuic there were only three-way contrasts, as Haudricourt speaks of a "German shift" in some Mon-Khmer languages (1965), and in the reflexes only Katu shows a four-way contrast, and that only in the alveopalatal point. The cognate sets, with possibly one or two exceptions, do not involve aspirated stops.³ However, all three of the languages do have aspiration⁴ (though not in cognate words), arguing for aspiration as a feature of the fourth series.

The stop reflexes of the main syllable initial position may be summarized as follows:

B P K	B P K	B P K	B P K
*p > p-p-p	*t > t-t-t	*c > ch-ch-ch	*k > k-k-k
*p ^h > p-p-b	*t ^h > t-t-d	*c ^h > ch-ch-j	*k ^h > k-k-g
*b > b-b-b	*d > d-d-d	*y > y - y-y	
*b > b-b-b	*d > d-d-d	*j > y - y-j,	*q > q-q-q
		y - j-j	

For the stops in final position there are no well attested examples showing similar patterning. However,

³'enough' B, P khám, K kham. 'blow' B phát, P phết. 'sunny' B phỏak, P puaq. The vowels of 'blow' are not regular. For 'sunny' P lacks aspiration, so 'enough,' the only 'regular' example of aspiration, has no parallels.

⁴Watson (1964) interprets aspiration in Pacóh as a sequence of stop plus h because infixes can come between the two. Henderson (1952, p. 165) interprets aspiration in Cambodian in the same way for the same reason. This does not mean, however, that the aspirated series of Proto-East-Katuic could not have unit reflexes.

one would not expect to find the full stop pattern reproduced in the final position in a South East Asian language. Usually only voiceless unaspirated stops and the continuants can occur there.

The surprising result of the C_2 stop reconstruction was two extra stops, $*k^h$ and $*j$.

The reflexes of $*k^h$ are B q, P q, K k (q represents glottal stop). All three languages can have q or k in final position, but they do not have a third stop similar to the proto stop. It is very possible that the proto sound was a glottalized velar stop. However, since in the initial position this particular spot is unfilled, we are assigning this sound to the $*k^h$ phoneme. For further speculation on the implications for another series of stops in the final position, see chapter V.

Final $*j$ is another matter as all three languages do have final j. The phonetic realization of j is $[i^1q]$, but it is simpler phonotactically to handle it as a phonetically complex single phoneme parallel to the other alveopalatal consonants, all of which have an $[i]$ on-glide in final position.

Other shifts in C_2 involve a simple merger in Brôu of $*\tilde{n}$ with $*n$ and a split and merger in Brôu and Katu involving $*s$ and $*h$. On the whole the shifts in C_2 support the tree found from the C_1 changes, except that Pacôh and Katu occasionally pattern together.

Vowels

Large vowel inventories in Mon-Khmer languages are not at all unusual, especially in Katuic languages.⁵

Thirty-six different syllable nuclei are reconstructed here for Proto-East-Katuic, which is less than Brôu has (forty-one) and more than Katu (twenty-five).

⁵Kuy, a Katuic language in Laos, has forty-eight different syllable nuclei (Haudricourt, 1965, p.167).

CHAPTER II

CONSONANTS

Synchronic and Diachronic Inventories

Of the three consonant positions in the Katuic languages: pre-syllable, main syllable initial, and main syllable final, the main syllable initial position has the widest inventory of phonemes. Even though the final position is more limited, the Katuic languages have much larger inventories there than Thai, Chinese, Meo, and other language families in the area, with the exception of the Malayo-Polynesian languages.

The consonants of Katu are:

	Bilabial	Alveolar	Alv.pal.	Velar
Stops: vl.unasp.	p	t	ch	k
vl.asp.	p ^h	t ^h	s	k ^h
vd.	b	d	j	g
glottal	ʔ	ɖ	ɟ	q(-)
Liquids	v(u)	l/r	y	h
Nasals	m	n	ɲ	ŋ

The orthography used is slightly regularized from that of Wallace (unpublished manuscript). The bilabial

liquid is written v initially, u finally. Glottal stop is written with a hyphen immediately following a pre-syllable, otherwise with q.

/b,d,j,g,p^h,t^h,k^h,d/ do not occur in the final position. Final allophones of b and j are [uq] and [iq] respectively. Alveopalatals have an [i] on-glide.

Pacôh and Brôu consonants are identical with Katu except that they do not have the contrast between voiced glottalized and voiced non-glottalized stops, nor do they have a voiced velar stop. Brôu has an additional phoneme /tr/.

The reconstructed consonant system for Proto-East-Katuic is:

*/p t c k
 p^h t^h c^h k^h
 b d y
 b̥ d̥ j q
 w r/l s h
 m n ñ ng/

*/b,d,b̥,d̥,p^h,t^h,c^h/ are restricted to the initial position (but see chapter V for a different interpretation).

Consonant Reflexes

*p > B p, P p, K p

*b > B b, P p, K b in cluster with *l; B b, P b, K b else-

where

*b̥ > B b, P b, K b̥

- *p^h > B p, P p, K b
- *t > B t, P q, K q after front glided vowels; B t, P t,
K t elsewhere
- *d > B d, P d, K d
- *ɖ > B d, P d, K ɖ
- *t^h > B t, P t, K d
- *c > B ch, P ch, K ch main syllable initially; B t, P t,
K ch finally; B s, P t, K ch/j/d in the pre-syllable
- *j > B y, P j, K ɟ before front vowels; B y, P y, K ɟ
elsewhere
- *y > B y, P y, K y main syllable initially; B i, P i,
K (e)∅ after *ɖ; B i, P i, K i finally, not after ɖ
- *c^h > B ch, P ch, K j
- *k > B k, P k, K k initially and after high non-glided
vowels; B k, P q, K k finally, not after high non-
glided vowels
- *k^h > B q, P q, K q finally, B k, P k, K g elsewhere
- *q > B q, P ∅, K ∅ after high front glided vowels; B q,
P q, K q elsewhere (written after pre-syllable)
- *m > B m, P m, K m
- *n > B n, P n, K n
- *ñ > B n, P ñ, K ng after i in K; B n, P ñ, K ñ after
vowels other than i in K; B ñ, P ñ, K ñ initially
- *ng > B ng, P ng, K ng
- *r > B r, P r, K r
- *l > B l, P l, K l

*s > B h, P s, K h after front vowels; B s, P s, K s
elsewhere

*h > B h, P h, K h

*w > B u, P (o)∅, K (ó)∅ after *â; B u, P u, K u after
other vowels; B w, P w, K w initially

Consonant Correspondences

Because the cognate sets illustrating the proto consonants are so numerous, only representative examples are given here. For further sets see the lists in chapter IV.

Main Syllable Initial

*p->B p-, P p-, K p-

<u>English</u>	<u>Brôn</u>	<u>Pacõh</u>	<u>Katu</u>	<u>PEK</u>
'three'	pái	pe	pe	*pe ⁶
'extinguish'	(pat) (burn skin)	pát	pat (of candle)	*pat
'grey haired'	pluak	pluaq	pluuk	*pluuk
'hole'	prúng	prúng	pruṅg	*pruṅg
'dream'	mpáu	mpo ^{HP 7}	mpó	*mpaw
'middle'	mpúng	mpúng	-pong	*mpoṅg
'mortar'	tapál	tupál	tapal	*tupal

There are two apparent exceptions to the regular

⁶For phonetic qualities see vowel charts in chapter III. An underlined space in PEK indicates an unreconstructable phoneme. Hyphens indicate bound forms.

⁷HP and HK refer to the high dialects of Pacõh and Katu respectively. Unmarked forms in Pacõh and Katu are from the low dialects.

correspondences. 1. 'rainbow' B prēng, P pireng, K mariang^{HK}. It may be that the original form had a *ma pre-syllable which became p in B and P. B does not allow p in the pre-syllable, so a consonant cluster would have resulted. 2. 'perch' B pók, P bôq, bôt. There is no explanation for the p-b deviation. However, the unparalleled vowel relationship, as well as the slight indication that the original P form may have had a final t makes it probable that these words are not normal cognates.

*b->B b-, P p-, K b- before *l,
B b-, P b-, K b- elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'lie, sleep'	bêq	bíq	böch	*bɔ_
'jawbone'	tabang	tabang	tabaang	*tabaang
'have, get'	boun	bôn	báan	*boun
'ask'	blón	plón	---	*bl_h
'blink'	kubéh	kaplêh	gableh	*k ^h _blêh

A pl cluster is not permitted in Pacôh.

*b->B b-, P b-, K b-

'large bamboo'	abông	abŭng	abung	*qab_ng
'bamboo sprouts'	abáng	abáng	abang	*qabang
'brain'	abók	abôk/abuaq	bôq	*qabok
'two'	bar	bar	boor	*b__r

The cognates--or apparent cognates--reflecting *b- have unusual vowels, with the exception of 'bamboo

sprouts,' which has the usual correspondences for *a. The above examples are the only ones for *b. If the list could be lengthened, no doubt a pattern for the vowel changes could be seen.

*p^h->B p-, P p-, K b-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'greens'	sapâi	api	habâi	*hap ^h i
'full'	pôan	pân/bân	bing	*p ^h ân
'crop, craw'	pliem	peam	biam	*p ^h l _m
'banana blossom'	mpong	apong	bóong (a flower)	*p ^h oong
'carry from shoulder'	poak	---	bak	*p ^h oak
'stomach'	púng	pallúng	bung ^{HK} (pregnant)	*p ^h ung

*t->B t-, P t-, K t-

'deaf'	túng	túng	tung	*tung
'to root (of pig)'	tuk	tuk	tuuk	*tuuk
'weave'	tan	tañ	taan	*taan
'mushroom'	triaq	tria	tri	*trieq
'louse'	ntrên	ntrên	tarañ	*tanrên

It is very likely that the proto form for 'louse' had *t in the pre-syllable, as in Katu, not in the main syllable. Otherwise there is no way to account for the n in the Brôu and Pacôh forms.

*d->B d-, P d-, K d-

*take, bring'	doung	dông	dăang	*doung
'knife'	dau	dau	daau	*daaw

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'house'	đông	đúng	dong	*d_ng
'heel'	kandaul	kandôl	---	*kandââl

this is all of the *d- examples. There is one unusual set of cognates meaning 'hollowed out': B tók, P tống, K drong. Ignoring the fact that the k in B is unexplained, we can take these words as reflecting an initial *dr. As dr is a non-permitted sequence in both B and P, *dr became t.

*d->B d-, P d-, K d-

'little finger or toe'	ndoi (index finger)	ndoi	áoóí	*ndooý
'squeeze out'	dâj	điq	điq	*đuý
'water'	dauq	daq	đook	*d_k ^h
'carry on shoulder'	doul	doal	đual	*đoul

There are two sets of cognates where Katu has d- but B and P have t-. However, they come from different sources. 1. 'taboo' B tân, P tán, K diang: the vowel change triggered a consonant change. This caused another vowel change which then affected the other consonant. The same explanation may hold for the unusual initial consonants for 'give': B youn, P jôn, K óng. In both cases K preserves the *d- and *-ng. So the proto forms would have been 'give' *đong and 'taboo' *điang.

2. The forms for 'man,' B tatoam (bachelor),

K taduam show a loss of voicing in B from the distant conditioning of the pre-syllable stop, *t. This distant conditioning is no longer an active process as the forms tadáh 'split wood', tadêi 'half', and tadêh 'to come up to, bump' have productive affixes.

*t^h -> B t-, P t-, K d-

<u>English</u>	<u>Brôu</u>	<u>Paeôh</u>	<u>Katu</u>	<u>PEK</u>
'duck'	tia	ta	da	*qat ^h _
'noon'	toáng	---	dong	*t ^h _ng
'beat chest'	tatia	---	tadua	*tat ^h _
'drum'	---	tung	đung	*t ^h _ung
'pestle'	ntri	ntray	ndre	*nt ^h _r_

The forms for 'pestle' may be metathesized as the Chrau form is ranay. If so, this would have happened before the Proto-East-Katuic stage as all three languages have the interpolated stop to avoid the non-permitted *nr sequence.

There is one set of cognates with the correspondences d-d-t: 'explode' B padôh, P padóh, K patch. Very possibly the explanation is to be found in the Proto-South-Bahnario form, *bortôh (Blood, 1966). In B and P the loss of the *r is reflected in the voicing of the stop.

*c- > B ch-, P ch-, K ch-

'eat'	cha	cha	cha	*ca
-------	-----	-----	-----	-----

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'dog'	acho	acho	acho	*qaco
'elephant'	achêang	achiang	achiang	*qaciang
'charcoal'	kuchóh	kuchôh	kachoh	*kucan

Problem sets are 'teach' B ataung, P achung,
K pachung and 'dig' B chôaj, K uach.

*c^h->B ch-, P ch-, K j-

'ten'	chít	chít	jêť	*c ^h it
'waterfall'	sarúh	achúh	ajuh	*qac ^h uh
'bed'	kachong	kachong	juang	*kic ^h ong

The B form for 'waterfall' has an r infix as the pre-syllable vowel in B from *c also gives s when there is an infix: 'eat' B cha, 'food' B sana.

*y->B y-, P y-, K y-

'husband'	kayak	kayâq	kayik	*kay_k
'far'	yong	yông	payóng	*_y_ng

These are the only examples for *y- and the vowels are not yet reconstructable, but there is no obvious conditioning from the vowels that would have affected the initial consonants.

*j->B y-, P j-, K j- after front vowels and
B y-, P y-, K j- elsewhere

'stand'	tayúng	tayúng	juang	*taj_ng
'spirit'	yang	yang	jaang	*jaang
'dip out'	---	jít	jít/jet	*jit

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'wet'	---	jip/jup	jep	*jip
'suck'	youj	jěb	kajep/juuq*jEp jUq ⁸	
'hold'	ayôq	kajip	kajaaq/ kajôôq	*kaj_q

There are several difficult sets involving y, j, and ĵ. 'deer' B yaut, P jot; 'sour' P ajóq, K kajuaq; 'foot' B ayoung, P ajung, K yung; and 'wrap' B kayóm, P jôm/tôm, K tôôm/duum. 'wrap' forms reflect a doublet similar to the forms for 'suck' (above).

There is an interesting alternation in the P form for 'heal over': yiah/jiah. In this case the K has initial y: yuah.

*k- > B k-, P k-, K k-

'bite'	káp	káp	kap	*kap
'bracelet'	kǒng	kóng	kóng	*kóng
'frog'	kuat	akuat	kuut	*qakuut
'eight'	takual	tikol	takóól	*tikóól
'sharpen'	kit	kit	kit	*kiit
'river'	kruang	k(a)ruang	karuung	*kruung

There are two cases where K has p and the other two languages have k. These may reflect replacement of *k- by a pa- prefix which has become frozen. (Note that pl- clusters are permitted in B and P.)

⁸Capitals represent doubtful reconstructions.

'trail' B kluang, P klong, K plong, *klóóng. 'braid, plait' B klan, P klañ, K palañ, *kloañ.

There is one example where B has k and P has kh:
'pipes' B kên, P khên. At present there is no explanation for this variation.

*k^h->B k-, P k-, K g-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'thunder'	krúm	krúm	grom	*k ^h rom
'gong'	kuang	kong	góóng	*k ^h óóng
'cave'	kúp	kúp ^{HP}	gôop	*k ^h _p
'drum'	sakor	akur	chagor	*cak ^h Or
'magic power'	---	kun	gun	*k ^h uun
'fangs, tusk'	kloui	klôs	kluai	*klou_

*q->B Ø-, P Ø-, K Ø- (glottal stop is unwritten except after a pre-syllable) B -, P -, K -

'flame, light'	ang	ang	aang	*qaang
'to boil'	óp	áp	ap	*q_p
'fire'	ôus	us	os	*q_s
'play stringed instrument'	ot	ot	óót	*qoot
'yawn'	sa-ap	ng-ap	a-aap	*hangqaap
'winnow'	u-ôum	ôm	óm	*_qoom
'crow, raven'	ka-ak	a-aq	a-aak	*kaqaak

*m->B m-, P m-, K m-

'year'	kumo	kumo ^{HP}	kamó	*kumo
'termite'	kumôar/ kumour	kamour	kamuar	*kumôar

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'one'	muoi	mõi	mui ^{HK}	*muy
'eye'	moat	mát	mat	*moát
'dream'	mpáu	mpo ^{HP}	mpó	*mpaw

There are two cases where P has mm, probably from the -n- infix (S. Watson, 1966): 'new' B tamái, P tamme, K tame, *tame; and 'guest' B tamoi, P tammoi, K tamóói, *tam_y

*n->B n-. P n-. K n-

'fat'	nên	nín (fat pig)	---	*non
'classifier for people'	---	náq	nak	*nak ^h
'finished'	num	num	---	*num
'rotten'	nsóq	nsǒq	nsoq	*nsoq
'fat'	nseing	nseng	nsiang	*nseang
'pestle'	ntri	ntray	ndre	*nt ^h r_
'tooth'	kaneing	kineng	kaniang	*kineang
'pus'	panúng	pinúng	panung	*pinung

In only a few of the above cases is there neither consonant cluster or pre-syllable. There are three other words which may reflect *n, but they are not regular: 'odor' B noaq, P nnáq, K nnaq; 'still' B noáng, P nniáng (no more); and 'punji stick' B nǎk, K dak^{HK}.

The nn in P and K may come from -n- affix (see discussion above under *m and also similar examples under *ñ and *ng). The K d of 'punji stick' is unexplained.

*ñ->B ñ-, P ñ-, K ñ-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'cry'	ñiam	ñiam	ñiim	*ñiem
'uncle'	añi	añi	---	*qañi
'small round object'	pañê	piñe	---	*piñê
'dirty'	ñop	nñôp (bad)	ñoɔp/ñuq	*ñ_p

Cognate sets with ñ- are extremely rare (the words for 'dirty' may be loan words from Vietnamese 'nhớp'). However, as the South Bahnaric languages also attest the form for 'cry', and as there is certainly an *-ñ in final position, *ñ is reconstructed in the initial position.

*ng->B ng-, P ng-, K ng-

'drink'	nguoj	ngoj	---	*ngóój
'noisy'	ngói	ngái	---	*ng_y
'sweet'	ngiam	nngam	---	*_ng_m
'breathe'	tangúh	tangúh	---	*tangoh
'cold'	sangeit	nngeat	---	*_ngeat

*r->B r-, P r-, K r-

'root'	rêh	reas	riah	*reas
'needle'	sarúm	tarum	jarum	*jar_m
'reed pipes'	taréal	tirəl	tareel	*tar_l
'mushroom'	triaq	tria	tri	*trieq
'louse'	ntrên	ntrên	tarañ	*tanrên
'hole'	prúng	prúng	prung	*prung

There is a seeming pair of cognate sets which might set up a phoneme similar to *r-, but on closer inspection they are not reliable: 'receive' B roap, K doop; 'umbrella' B ru, P ru, K du. The Katu word for 'umbrella' is probably a loanword from Vietnamese 'dù'. The vowels for 'receive' are irregular. So unless other cognate sets with r-r-d turn up, we must conclude that the above likenesses are only accidental.

Two other unusual sets are 'mildew' B pahôq, P paroq; and 'frog' B aroôq, P aróq, K agók. In both cases everything is perfectly regular except the main syllable initial consonants. Conceivably there was originally an *hr cluster in 'mildew', but a gr cluster for 'frog' is impossible as we have no other initial *g.

*l->B l-, P l-, K l-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'run'	lúh	lúh	luh ^{HK} (go out)	*luh
'pass by'	luat	luat	luut/lóót	*luat
'split'	ploah	láh (s. bamboo)	blah ^{HK}	*_loáh
'leech'	plaum	plôm	pláám	*pláám
'tusk'	paluak	paloq	(balua)	*pal_k

In 'blink', B kubén, P kaplêh, K gableh, because of the non-permitted sequence of bl in Brôu and Pacôh, in B the *l was lost, whereas in P the voicing of the stop was lost. In 'crop, craw', B pliem, P peam, K biam, only B retained the *l. The difference in the two sets

is because only one set has a pre-syllable.

There are two sets of cognates where P has ll:
 'hand of bananas' B taláh, P talláh; 'palm, sole'
 B talang, P tallang, K palaang. P probably has the
 -n- infix, which is l before l.

In two cases it looks like correspondences of B l,
 K d, but a variant in one of the Katu forms gives a clue:
 'sore, tired' B aleh, K deh/gleh; 'pig' B alik, P alik,
 K adaák. In all three languages dl is a non-permitted
 sequence. However, in K gl is permitted, so *dl gives
 either d or gl. So in both cases we reconstruct *dl.

*sɔB s-, P s-, K s-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'tail'	soi	soi	sóoi	*sooy
'five'	saung	sông	sáang	*sáang
'peel'	sêil	sěl	sial	*sêel
'fat'	nseing	nseng	nsiang	*nseang
'rotten'	nsóq	nsôq	nsoq	*nsoq
'ginger'	asai	asai	asás	*qas_S
'moon'	kasái	kisai	kase	*kisây

There is a set where K has ɟ and B and P have s:
 'sap' B siet, P sêt, K ɟet. There may have been an
 initial *sy cluster which became ɟ in Katu with the
 loss of the *s.

'rich' B haur, K sóór has only the r which is
 regular, so presumably the words are not cognate.

*h->B h-, P h-, K h-

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'kiss, sniff'	hônun	huñ/hônñ	huñ (smell)	*h_nñ
'flow'	hoi	hoi	(tam) hóoi (waterfall)	*hooy
'to warm'	hang (very hot)	heng	haang	*heeng
'blood'	aham	aham	ahaam	*qahaam
'bone'	nghang	nghang	nghaang	*nghaang
'light weight'	ngheil	nghial	hangil	*nghiel
'whistle'	kahouj	kakhoaj	kahuach/ hooch	*kahouj

From the evidence of South Bahnaric, *ngkhoc, it is likely that the forms for 'light weight' show metathesis in B and P, not K.

Chrau, a descendant of Proto-South-Bahnaric, has tahwäch for 'whistle', making it more likely that P has reduplicated the k from the pre-syllable than that B and K have lost a k from the main syllable.

*w->B v-, P v-, K v-

'wring'	viat	viaq	viaq	*wiat
'soul'	raviai	rvai	ravaai	*rawaay
'rice'	avâj (a kind of rice)	---	aviq	*qawuj
'create'	---	vas	vas	*waas

In two cases there seems to be a K b for B and P v:
'tinder' B lavut, P lavit, K kabit; 'grandfather'
B avôoq, P avôq, K abuap. 'tinder' was probably *kablut.
The B and P 'grandfather' cognates may be only accidentally similar: the final consonants are also irregular.

Main Syllable Final

The consonants which can occur in final position in Proto-East-Katuic are */p,t,c,j,k,k^h,q,h,s,w,y,r,l,m,n,ñ,ng/. The relation between the final allophones and initial allophones is fairly obvious. As mentioned previously, there is no well-attested systematic patterning of stops in the final position to match that of the initial position, although there are isolated cases which may later prove to be regular.

*-p > B -p, P -p, K -p

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'bite'	káp	káp	kap	*kap
'catch'	koup	kop	kóóp	*kóóp
'bury'	túp	tup	táp	*tÚp
'yawn'	sa-ap	ng-ap	ha-aap	*hangqaap

The only variants from the regular correspondents for *-p all involve glottal stop or b (which is phonetically [uq]): 'glutinous rice' B dēip, P dēp, K diab; 'mouth' B bouq P boap, K boop; 'grandfather' B avooq, P avôq, K abuap. As mentioned under the discussion of *w-, the 'grandfather' word for K may not be related to the B and P words. There is as yet no explanation for the other two sets.

*-t > B -t, P -q, K -q after high front glided vowels,
B -t, P -t, K -t elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'banana'	priat	---	priiq	*priet
'wring'	viat	viaq	viaq	*wiat
'sharpen'	kit	kit	kit	*kiit
'play stringed instrument'	ot	ot	óót	*qoot
'honey, gall bladder'	mút	mít (bile)	mit	*mut
'extinguish'	(pat) (make hot)	pát	pat	*pat

*-c > B -t, P -t, K -ch

'smell, drink'	hêit	ahét	hoch	*h_c
'stab'	choat	chât	châäch	*c_c
'rust'	---	atet	tech ^{HK} / teet	*teec

As only High Katu has ch for 'rust' presumably after front vowels in Low Katu *-c>-t. The shift from an older ch to t is not unusual in the area: southern Vietnamese regularly has -t where northern Vietnamese has -ch.

*-j > B, P, K -q after front vowels in the daughter languages, B -j, P -j, K -ch elsewhere

'lie, sleep'	bêq	bíq	boch	*boj
'squeeze out'	dâj	díq	diq	*duj
'rice (cooked)'	avâj	---	aviq	*qawuj
'thin'	oj	oj	óóch	*qooj
'whistle'	kahouj	kakhoaj/ khôch	kahuach/ hooch	*kahouj
'sting'	sôuj	sôj (point)	soch	*sôŏj

*-k > B -k, P -q, K -k after high non-glided vowels,
B -k, P -q, K -k elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'pipe'	bok	bók	bok	*b_k
'to root (of pigs)'	tuk	tuk	tuuk	*tuuk
'hair'	sók	sók	sok	*sok
'pig'	alik	alik	adaák	*qadliik
'crow, raven'	ka-ak	a-aq	a-aak	*kaqaak
'eat with hands'	moók	móq	mók	*moók
'husband'	kayak	kayáq	kayiik	*kay_k
'greyhaired'	pluak	pluaq	pluuk	*pluuk
'choke on food'	hok	hoq	kahók	*_hCOK
'mouth'	beik	rbeq	---	*_b/beak
'civet'	sapiak	tupiaq	---	*_upiek
'river mouth'	piak	piaq	---	*piek
'iron'	tak	taq	---	*taak
'white'	klok	kloq	---	*klook

*-k^h > B -q, P -q, K -k

'to name'	dôq	doq	dóók	*dook ^h
'tear'	háq	heq	heek	*heek ^h
'hiccough'	sa-ôq	a-âq	ha-ók	*haq_k ^h
'water'	dauq	daq	doók	*d_k ^h
'classifier for people'	náq/nooq	náq	nak	*nak ^h
'earth'	kuteiq	kuteq/ kutiak/kuteak	katiak	*kuteak ^h

The *-k/*-k^h/*-q contrasts are difficult to establish in that there are so many different proto vowels

represented in the cognate sets, yet there is some evidence of contrasting environments: *-k and *-q occur after *ie, *-k^h and *-q occur after *a, and *-k and *-k^h occur after *ea.

*-q > B -q, P -Ø, K -Ø after high front glided vowels,
B -q, P -q, K -q elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'mushroom'	triaq	tria	tri	*trieq
'late'	saliaq	tulia	---	*Culieq
'saliva'	viâq	avia	havi	*_vieq
'stink'	noaq	nnâq	nnâq	*nnoâq
'ride'	deiq	diq	diq	*diiq
'rotten'	nsôq	nsôq	nsoq	*nsoq
'carry piggy-back'	(peq)	bâq	baq	*Baq
'divide'	tapeiq/ tampei	pêq	---	*_p_q
'hold'	ayêq	kajiq	kajôôq/ kajaaq	*kaj_q

There is one set of cognates where K has j after u: 'little, few' B bêiq, P beaq, K mbuj. In this case the vowel has conditioned the final consonant.

*-h > B -h, P -h, K -h

'horse'	aséh	aséh	aseh	*qaseh
'lungs'	sôh	sôh	sôh	*sôh
'slap'	tapáh	páh	-pah	*pah
'open'	póh	pôh	pôoh	*pôoh
'launder'	pooh	piah	puah	*p_h
'pound over again'	---	truah	chruah	*cruah

There is one example where *-h is lost in B: 'naked' B lou, P lōh, K lōh. B ou and P ō are regular correspondences, but not with ō in K, so the vowel shift has affected the consonant in B.

There is one example with ch in K and with h in B and P: 'diarrhea' B sarōah, P taruah, K daruach. (cf. discussion of final stops in chapter V).

*-s > B -h, P -s, K -h after front vowels,
B -s, P -s, K -s elsewhere

<u>English</u>	<u>Brōu</u>	<u>Pacōh</u>	<u>Katu</u>	<u>PEK</u>
'root'	rēh	reas	riah	*reas
'nine'	takēh	tikeas	takiah	*tikeas
'finger, toe nail'	krēh	karreas	kariah	*kreas
'extinguish'	---	chōs	chēh	*c_s
'choose'	ruoh	rōs/rēh	---	*r_s
'jackfruit'	panás	panēh/ panas	paneh	*panas
'sneeze'	chás	chās	chuas	*c_s
'fire'	ōus	us	os	*q_s
'spear'	kos	kos	kos	*koos
'grandfather'	achuas	achuas	achuas	*acuas
'rhinocerus'	ramias	rmas	---	*ramaas

In the cases of 'extinguish', 'choose', and 'jackfruit', when the vowels shifted the final consonant depended on whether there was a front or non-front vowel: -h with front vowels, -s with non-front vowels.

There are some unusual cognates involving j, c, y.

and s. However, they do not pattern alike: 'pull out of fire' B yiaj, P yoj, K jas; 'float' B dous, P doaj; 'pull out, pluck' B pøj, P pös, K poch; 'ginger' B asai, P asai, K asás; 'tusk' B kloui, P klös, K kluai. In all these reflexes the final consonants are alveopalatals, but there is no evidence of regular conditioning. The vowels for 'pull out' are very different but the Chrau form phwäs attests both back roundedness and centralness for the vowel.

*-w > B -u, P -(o)Ø, K -(o)Ø after *a,
B -u, P -u, K -u elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacõh</u>	<u>Katu</u>	<u>PEK</u>
'dream'	mpáu	mpo	mpo	*mpaw
'red'	kusáu	kuso	---	*kusaw
'bell'	ariu	rëu	riu	*_r_w
'wash'	ariau	rau	araau	*qaraaw
'knife'	dau	dau	daau	*daaw
'sugar cane'	kutau	atau	ataau	*_taaw

*-y > B -i, P -i, K -(e)Ø after *á,
B -i, P -i, K -i elsewhere

'moon'	kasái	kisái	kase	*kisáy
'correct'	krái	krái	---	*kráy
'full'	pasái	sái	---	*sáy
'pestle'	ntri	ntrái	ndre	*nt ^h páy

In 'day' B tangái, P ingái, K tangai, the initial *ng resulted in the retention of a in B and K.

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'a fly'	ruai	riroi	raróói	*róóy
'soul'	raviai	rvai	ravaai	*rawaay
'little finger, toe'	ndoi	ndoi	áoói	*ndooy
'tail'	soi	soi	sóói	*sooy
'flow'	hoi	hoi	hóói	*hooy
'guest'	tamoi	tammoi	tamóói	*tamooy
'one'	muoi	môí	mui ^{HK}	*muy

*-r>B -r, P -r, K -r

'ear'	kutôur	katôr	katór	*kutoôr
'termite'	kumôar/ kumour	kamoar	kamuár	*kumôar
'drum'	sakôr	akur	chagôr	*Cak ^h _r
'eyelash, lid'	akôr	nkôr	akôr	*_k_r
'two'	bar	bar	bôor	*b_r
'to fly'	pâr	pár	par	*pâr
'swerve'	vêr	vear	viar	*wear
'lime'	kupôr	kapôr	---	*k_p_r

There are a few cases where r alternates with q or is replaced by q: 'hot taste' B hór, P aháq/ahár^{HP}, K haaq; 'push, shove' P kidiar, K kasiaq. There are too few cases to show any regularity.

*-l>B -l, P -l, K -l

'clear land'	tal	tal	katol ^{HK}	*taal
'peel'	séil	sél	sial	*séel
'round'	vúl	víl	vil	*wul

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'steam'	hōul	hoal	ahual	*_hōul
'seven'	tapul	tupōl	tapóól	*tupól

There is metathesis of *l and *r in the words for 'anus': P lear, K rial. From the witness of the vowels it is K where the metathesis occurred.

There is an interesting triplet of cognate sets involving final *l and final *r and the idea of 'turning' or 'round.' In all three sets the initial consonant is *w. 'round' B vúl, P vil, K vil/vir; 'to circle' B viel, P vir, K vial; 'swerve' B vêr (turn, avoid), P vear (avoid).

An explanation for these slightly variant forms is to be found in the common practise of reduplication (Watson, 1966) in these languages, often with different formulae. It may be that there were two original pairs, one with glided vowels, one without, and both involving *l and *r. So the original pairs would have been something like *wear wial, *wil wir.

*-m > B -m, P -m, K -m

'cry'	ñiam	ñiam	ñiim	*ñiem
'blood'	aham	aham	ahaam	*qahaam
'leech'	plaum	plôm	plââm	*plââm
'liver'	luam	lom	lóóm	*lóóm
'thunder'	krúm	krúm	grom	*k ^h rom

*-n>B -n, P -n, K -n

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'woman'	kán	kán	-kan	*kan
'wait'	apoan	poan	pán	*_p_n
'four'	poun	poan	puan	*poun
'follow'	tapun	tapun	tapun	*tapuun
'bowl'	tangan	tingan	pangaan ^{HK}	*tingaan
'have, get'	boun	abôn	báân	*boun

*-ñ>B -ñ, P -ñ, K -ng after i in K,
B -n, P -ñ, K -ñ elsewhere

'kiss, sniff'	hôn	huñ/hõñ	huñ(smell)	*h_ñ
'strong'	bán	bẽñ/báñ	---	*bañ
'braid, plait'	klañ	klañ	palañ	*kloañ
'father'	kôun	kõñ	akoñ	*qak_ñ
'shoot'	pán	pẽñ	pañ	*pãñ
'weave'	tan/dán	tañ	taan	*taan
'body louse'	ntrên	ntrẽn	tarañ	*tanrẽn
'snake'	kusán	kusẽn	kasañ	*kusãñ
'full'	poán	pãñ/bãñ	bing	*p ^h ãñ
'hoe'	---	aviñ	aving	*qawũñ

*-ng>B -ng, P -ng, K -ng

'grave'	ping	ping	ping(2nd burial)	*piing
'tooth'	kaneing	kineng	kaniang	*kineang
'middle'	mpúng	mpúng	-pong	*mpong
'bamboo sprouts'	abáng	abáng	abang	*qabang
'deaf'	túng	túng	tung	*tung

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'elephant'	achêang	achiang	achiang	*qaciang
'calf of leg'	nluang	taluang/ kluang	chaluung	*_luung

There are three cases where Katu has ng but Brôu and Pacôh have n: 'taboo' B tân, P tán, K ðiang; 'beat drum' B toân(hit), P toan, K tong; 'give' B youn, P jôn, K óng. As discussed under *â-, there have been far-reaching changes in these words, affecting even the final -ng. On the whole, vowels are least likely to have changed before *-ng, but in these cases even the ng was affected by the changes.

*-ng has the highest frequency of any of the consonants. In a sample count of about two hundred full cognate sets, there were forty-three with final *-ng. Within that forty-three there were very few cognates where P and K had glided vowels (only four for P). Of the six glided vowels in P, the only ones represented in the count were ia and ua. B, of course, had a much larger representation of glides.

The shifts of *n, *ñ, and *ng in Brôu and Katu have been quite different. Using the method developed by Hoenigswald (1960), the following illustration presents the different sources of the final consonants in the daughter languages. (B is above the middle, PEK is in the middle, left, K is below the middle. The left hand side gives the diachronic picture, the right hand side

gives the synchronic picture.

*n>n	*n>n		n
		*ng>ng	ng
			B
*n	*ñ	*ng PEK	
			K
*n>n			n
	*Eñ>añ/*Oñ>Oñ		añ, Oñ
	*Iñ>ing	*ng>ng	ing, ng

I = high front vowel

E = non-high front vowel

O = non-front vowel

Fig. 2.--Chart of the sources of n, ñ, and ng

Pre-syllable

The pre-syllable is generally unstable in South East Asian languages. Lee found for Proto Chamic, "As might well be expected, the history of the unstressed Chamic presyllable shows much less stability than the main syllable." (1966, p. 103) In Vietnamese and in Mnong Rlām (a South Bahnaric language) the pre-syllable has been completely lost.

In the East-Katuic languages there is some regular retention of the pre-syllable, some unexplained loss of the pre-syllable in one or two of the languages, and generally an obscuring of the vowel quality.

In Pacôh, the pre-syllable may have the form $C_1V C_2$. Normally only p, t, k, q, r, or l can fill the C_1 position, but as reduplications of the main syllable initial, other consonants may also fill C_1 . The C_2 position can be filled only by nasals and liquids. V can be filled by a, i, or u, but before C_2 there is no contrast in vowel quality.

Katu has only the pattern CV in the pre-syllable, C being filled by any consonant, but V only by a.

Brôu can have p, t, k, q, l, r, s, y, or m in the C_1 position and a or u in the V position after k, r, or p, but otherwise only a as V. (One word each was found for h and ñ in the pre-syllable)

Rigorous reconstruction of the pre-syllables of Proto-East-Katuic must await the availability of more data, and a more careful screening of possible affixes. In one case where the B and P vowel of the pre-syllable do not agree there is evidence that the main syllable can also occur as a free form with a slightly different meaning: B kutáu 'warm, hot', táu 'hot, boiled'.

But in the meantime it is useful to note what regularities there are between the presyllables. Roughly half the words have pre-syllables, and a little over half of those are regular.

For more examples of pre-syllables than are given in the following list of reflexes, see chapter IV.

*pa->B pa-, P pa-, K pa-. Nine examples. 'hail-stones' B pareil, P pareal, K parial.

*pi->B pa-, P pi-, K pa-. Five examples. 'pus' B panúng, P pinúng (a boil), K panung.

*ta->B ta-, P ta-, K ta-. Nineteen examples, two of which can also freely vary to ti- in P. 'follow' B tapun, P tapun, K tapun.

*ti->B ta-, K ta-, P ti-. Nine examples, two of which can freely vary to ta- in P. 'water buffalo' B tariak, P tiriaq, K tariiq.

*tu->B ta-, P tu-, K ta-. Seven examples. 'mortar' B tapál, P tupál, K tapal.

*ka->B ka-, P ka-, K ka-. Twelve examples. 'under' B karôum, P karrum, K karum.

*k->B k, P ka-, K ka-. Four examples. 'finger, toe nail' B krêh, P karreas, K kariah.

*ki->B ka-, P ki-, K ka-. Only occurs before *n, *d, *c, or *s. Seven examples. 'tooth' B kaneing, P kineng, K kaniang. B ku-, P ka-, K ka-. Never before *n, *d, *c, or *s. Four examples. 'ear' B kutôur, P katör, K katór.

*ku->B ku-, P ku-, K ka-. Ten examples, five ambiguous with *k. 'charcoal' B kucháh, P kucháh, K kachah.

*qa->B a-, P a-, K a-. About thirty-five examples (some may include affixes meaning 'body part', 'animal', and 'kin'). 'ginger' B asai, P asai, K asâs.

*k^h→B ka-, P ka-, K ga-. Three examples (vowels are irregular). 'blink' B kubéh, P kapléh, K gableh.

*ra→B ra-, P r-, K ra-. Four examples. 'soul' B raviái, P rvái, K ravaái.

*ha→B sa-, P qa-, K ha-. Six examples. 'hiccough' B sa-ôq, P a-âq, K ha-ok.

*ca→B sa-, P ta-, K c/j/da-. Twelve examples in B and P, but only three in K. K examples have one each of c, j, and d. 'diarrhea' B sarôah, P taruah, K daruach. 'needle' B sarúm, P tarúm, K jarum/janum. 'arrow' B saráh, P taráh, K charah.

*tar→B ra-, P tar-, K c/ta-. Eight examples in B and P, one each for c and t in K. 'knee' B rakól, P tarkól, K takól. 'stalk' B rakong, P tarkong, K chakoong.

*la→B la-, P la-. Three examples in B and P, none in K. 'betel leaf' B labaq, P labaq.

Confirmation of the regularity of the *ca-reflexes comes from morphophonemics. When the -n- infix is added to 'eat', B,P,K cha, the presyllables are then B sa-, P ta-, K cha-.

CHAPTER III

VOWELS

On the basis of the consonant evidence Pacôh and Brôu have been established as a sub-family within East-Katuic. The evidence from the vowels is not so clear-cut in that there are several cases of shared mergers in Pacôh and Katu. However, as Pacôh and Katu border each other geographically and both have had more contact with Vietnamese than Brôu, it is not too surprising that they should have some shared innovations.

Synchronic and Diachronic Inventories

The inventories of syllable nuclei are large in all of these East-Katuic languages. Katu, with the smallest inventory, has a basic eleven vowels, plus eleven long vowels and three glided⁹ vowels, making a total of twenty-five vowels. Pacôh is next with twelve basic vowels, twelve long vowels, and six glided vowels, making a total of thirty. Brôu¹⁰ has ten basic vowels, ten

⁹'Glided' will be used to refer to vowel nuclei with two or more qualities, defined by Miller as two or more 'steady states'. None of these languages has phonemic tone.

¹⁰For a detailed discussion of the Brôu vowel qualities, with accompanying spectrograms, see J. Miller (to be published in Phonetica).

long vowels, nine down-gliding vowels (two steady states), six up-gliding vowels (two steady states), and five vowels with three steady states. There is one additional deviant vowel, giving a total of forty-one. The vowel systems can be illustrated thus:

Katu:

Basic			Long			Glided		
i	u	u	ii	uu	uu	ia	ua	ua
ê	ơ	ô	êê	ơơ	ôô			
e	â	o	ee	ââ	oo			
a	ó		aa	óó				

Pacôh:

Basic			Long			Glided		
í	ú	ú	i	u	u	ia	ua	ua
ê	ơ	ô	ê	ơ	ô	ea	ơa	oa
ê	â	ô	ê	ơ	ô			
é	á	ó	e	a	o			

Brôu:

Basic			Long			Down-Glided		
í	ú	ú	i	u	u	ie	uo	uo
ê	â	ô	ê	ơ	ô	ia	oă	ua
é		ó	e		o	oa	oô	oo
á	ô		a	ô				
Up-Glided			Three Steady States			Deviant Vowel		
êi	ơu	ôu	iă	uă	uă			
ei	au	ou	êa		ôa			ó

In all three of the orthographies, *u*, *o*, and *â* are used to represent central unrounded vowels. In Pacôh, the breve and circumflex marks are used to represent vowels of the same height but differing tenseness: breve is used for tenseness, circumflex for laxness. High and low vowels in Pacôh do not have the tense/lax distinctions.

The vowels of Proto-East-Katuic pattern somewhat similarly to those of Brôu, although there are fewer vowels in the proto language.

Proto-East-Katuic:

Basic			Long			Glided		
i	u	u	ii	uu	uu	ie,ia	ua	ua,ôu
ê	o	ô	êê	oo	ôô	ae,êa	ou	ou,ôa
e	â	o	ee	ââ	oo	êi,ea	oâ	oô
a	ó		aa	óó				

At present it is impossible to reconstruct the nature of the glided vowels. It is probable that register (Henderson, 1952), which has been analyzed as a prosodic component of the vowels in Cambodian, Kuy (a Katuic language), and several of the North Bahnaric languages, was also present in Proto-East-Katuic. Register, according to Smith (to be published in Linguistics), is the contrast between tenseness and laxness. In some languages register is realized as breathiness vs. non-breathiness, in others as laryngealization vs.

non-laryngealization, laryngealization corresponding to non-breathiness.

Correspondences

The vowel reflexes show a great deal of allophonic variation in the proto language. The conditioning factors will be presented here with the summary of the reflexes. Parentheses indicate that only one example was found, hyphens that no example was found. Following is a summary of the vowel reflexes in closed syllables:

Front vowels

- *i>B í, P í, K e (and one each in K of ê and êe)
- *ê>B (é), P ě, K e before *-h; (B ê, P ě, K a before *-ñ); B ie, P ê, K (e) elsewhere
- *e>B é, P é, K e
- *ii>B -, P i, K ii after *s-, *c-; B i, P i, K i elsewhere
- *êê>B êi, P ě, K e before *-t, *-h, *-k; B ê, P ê, K (e, êe) elsewhere
- *ee>B ei, P e, K aa before *-ng; B e, P é, K (ee) before *-h; B (á), P e, K ee elsewhere
- *ie>B ia, P (ia), K ua after *l-, *y-; B ei, P ia, K ii before *-l, *-w; B ia, P ia, K ii elsewhere
- *ia>B âa, P ia, K ia
- *ae>B ea, P ea, K - after *s-; B ia, P ea, K - elsewhere
- *âa>B âa, P ea, K (ua)

*ea>B ê, P ea, K ia before *-s, *-r; B ei, P ea, K ia

before *-l, *-t; B ei, P e, K ia elsewhere

*êi>B êi, P ê, K ia before *-r, *-l, or after *d-; B êi,

P ê, K i elsewhere

Central vowels

*u>B á, P í, K i before *-j; B ú, P á, K - before *-m;

B ú, P í, K i elsewhere

*o>B ê, P í, K o before *-l, *-n, *-j; B ú, P ú, K o

elsewhere

*á>B á, P ê, K a before *-ñ; B á, P á, K (e) before

*-y; B á, P á, K a elsewhere

*a>B á, P ê, K (e) before *-ñ, *-s; B á, P o, K (o)

before *-w; B á, P á, K a elsewhere

*uu>B u, P u, K uu after *t-, *t^h-, *r-; B ou (au), P u,

K u elsewhere

*oo>B o, P o, K o before *-ng and alveopalatals; B ó,

P ô, K oo elsewhere

*ââ>B au, P ô, K ââ

*aa>B ia, P a, K aa after *w-, *r-, *l-, *m-, *j-; B a,

P a, K aa elsewhere

*ua>B oa, P á, K ua

*ou>B ou, P ô, K ââ

*oá>B oa, P á, K a before stops or *-h; B a, P a, K a

elsewhere

Back vowels

*u>B ú, P ú, K u before velars, *-h, *-q; B uo, P ô,

K u elsewhere

- *ô>B ô, P ô, K o after *b-,*dr-; B oo, P ô, K ô elsewhere
- *o>B ó, P ó, K o before *-q,*-ng; B ó, P ô, K o before *-h,*-k
- *ó>B ô, P ó, K ó before *-ng,*-h; B u, P ô, K ó elsewhere
- *uu>B ua, P ua, K uu before *-k,*-ng,*-t; B u, P u, K u elsewhere
- *ôô>B ô, P ô, K ôô
- *oo>B o, P o, K óó
- *óó>B ua, P o, K óó
- *ua>B ôa, P ua, K ua before *-h,*-c; B ua, P ua, K ua before *-s,*-j; B uo, P ua, K ua elsewhere
- *ou>B ou, P ô, K ua before *-s,*-y,*-q; B ou, P oa, K ua elsewhere
- *ôu>B ôu, P oa, K ua before *-l,*-n; B ôa, P á, K (a) elsewhere
- *ôa>B ôa, P oa, K ua
- *oô>B oô, P ó, K ó before *-h,*-q,*-ng; B ôu, P ô, K ó elsewhere

There is an unusual combination of changes between *oô and *ó. In Brôu, both phonemes split, giving four. In Katu, both phonemes merged completely. But in Pacôh, both phonemes split and merged with half of the other phoneme, giving two. Fig. 3 illustrates the *ó and *oô changes.

Fig. 3.--*oɔ and *ô

After the split between Katu and Proto-Brôu-Pacôh, Brôu retained the four-way contrast of Proto-Brôu-Pacôh illustrated above.

Fig. 4 shows the various shifts of the front vowels in closed syllables. In B, *ee has made the most dramatic shifts, giving short and glided front vowels and a short central vowel. In K *ê and *êê have made dramatic shifts. *êê has short, long, and glided reflexes ranging from a high vowel to a low vowel. *ê has front and central reflexes.

Open syllables are much less common in East-Katuic than closed syllables and there are only ten vowels in this position. Notably there are no glides and no short/long contrasts in open syllables. The inventory in open syllables matches that of the basic vowels in

Fig. 4.--Chart of the front vowel reflexes in closed syllables.

Brôu. This is one less vowel (**σ*) than was reconstructed for the basic vowels in closed syllables. So for the open syllable there are:

*/i	u	u
ê	á	ô
e		o
a	ó/	

There is not much allophonic variation in open syllables.

Vowel Correspondences

The lists of cognates for the vowels are shorter than the lists for the consonants so the full lists will be presented here, except for *a and *aa, which are very long.

Closed Syllables

Front vowels

*i>B í, P í, K e(ê,êê)

<u>English</u>	<u>Brôu</u>	<u>Paoñh</u>	<u>Katu</u>	<u>PEK</u>
'cook(rice)'	---	chín	chen	*cin
'dip out'	---	jít	jet/jit/ chiik	*jit
'wet'	---	jíp/jup	jep	*jip
'kick'	kachíh	kichíh	---	*kicih
'dig a hole'	píq	píq	---	*piq
'ten'	chít	chít	jêť	*c ^h it
'there(far)'	tíh	ntíh	têeh	*tih

Katu has ê after *c^h. There is only one example of K êê here, but this may be the normal reflex after non-alveopalatals.

*ê>B (é), P ê, K e before *-h
(B ê, P ê, K a before ñ)
B ie, P ê, K (e) elsewhere

'louse'	ntrén	ntrêñ	tarañ	*tanrêñ
' '	kubéh	kaplêh	gableh	*k ^h _blêh
'swollen'	---	êh	eh	*qêh
'stringed instrument'	---	tamprêh	tambreh	*tambrêh

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'stomach worm'	---	mrêh	mmreh	*_mrêh
'sap'	siet	sêt	jet	*s/jêt
'mango'	priel	prêl	---	*prêl
'smooth'	siel	sêl	---	*sêl

*e>B é, P é, K e

'tickle'	---	kalék	balek	*_lek
'cut brush'	(treh-slit lg. animal)	tréh	treh	*treh
'fireplace'	tapéh	tupéh	tapeh (iron stand)	*tupéh
'horse'	aséh	aséh	aseh	*qaseh
'sharp'	héng(cut oneself)	héng	---	*heng
'pound,hammer'	téh	téh(forge)	---	*peh
'pot'	adéh	adéh	---	*qadeh
'short'	kakéh/ ngkéh	kéh	---	*_keh

*ii>B -, P i, K ii after *s-, *q-
B êi, P i, K (i) after *d-, *q-
B i, P i, K i elsewhere

'a trap'	---	sing	siing	*siing
'bad odor'	---	ching	chiing	*ciing
'ride'	dêiq	diq	diq (place in, on)	*diiq
'poor'	kadêit	kidit	---	*kidiit
'similar'	êin	in	---	*qiin
'grave'	ping	ping	ping(2nd burial)	*piing
'sharpen'	kit	kit	kit	*kiit
'comb,scratch'	nchik	kaohik	jarik (s. from bush)	*_ciik
'close mouth'	---	kabip	kabip	*kabiip

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'pig'	alík	alík	(adaák)	*qadliik
'custom'	rit (rite)	rit	---	*riit
'arrow poison'	pih	pih	---	*piih
'a month'	ring(8th)	ring(5th)	---	*riing
'fan'	ratíq	tartíq	---	*tartiiq

The loss of *l in K 'pig' disturbed the vowel reflex.

*êê>B êi, P ê(é), K e before *-t, *-h, *-k
B ê, P ê, K (êê) elsewhere

'die'	kuchêit	chêt	chet	*_cêêt
'pluck'	palêih	(lêh, péh)	leh	*_lêêh
'scabies'	mpêih	mpêh	mpeh	*mpêêh
'to lead'	---	têk	tek ^{HK}	*têek
'pipes'	(kên	khên	---	*_êên)
'to lean'	pachêng	chachêng	---	*_cêêng
'short'	---	ng-êp	êép	*_qêêp

For 'pipes' the initial stops are irregular so the words may not be true cognates. It is unusual for *-n and *-ng to pattern together as a conditioning factor for vowels as would be the case if we consider the words to be cognate.

*ee>B ei, P e, K aa before *-ng,
B e, P é, K (ee) before *-h,
B (â), P e, K ee elsewhere

'to warm'	ngheing	heng (very hot)	haang	*_heeng
'branch'	abeing	abeng	-baang	*_beeng

<u>English.</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'cut, slash'	reh	réh	---	*reeh
'hatch'	ch eh (slit animal)	chéh	cheeh	*ceeh
'to tear'	háq	heq	hek	*heek ^h
'to rust'	---	atet	teet/tech ^{HK}	*_teec
'jar'	---	cheq (lg. j.)	cheeq (sm. j.)	*cee q

*ie>B ia, P (ia), K ua after **l-,*y-, not before *-w
B ei, P ia, K ii before *-l,*-w
B ia, P ia, K ii elsewhere

'heal over'	---	yiah	yuah	*yieh
'moonlight'	rliang	---	baruang	*_lieng
'unwrap'	paliang	---	luang	*_lieng
'lightweight'	ngheil	nghial	hangii	*nghiel
'carry on hip'	kleiu	kliau	---	*kliew
'cry'	ñiam	ñiam	ñiim	*ñiem
'buffalo'	tariak	tiriaq	tarii q	*tirieK
'adultery'	---	tapiang	tapiing	*tapieng
'old'	tiaq	tiaq	ti	*tieq
'mushroom'	triaq	tria	tri	*trieq
'banana'	priat	---	priit	*priet
'civet'	sapiak	tupiaq	---	*_upiek
'dry'	tiang	tiang	---	*tieng
'flower'	piar	piar	---	*pier
'outside'	tiah	-tiah	---	*_tieh
'river mouth'	piak	piaq	---	*piek
'chief, official'	arias	arias	---	*qaries

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'rainy season'	priah (rain hard)	priah	---	*prieh
'brother(woman speaking)'	amiang	---	mamiing	*mamieng

*ia > B êa, P ia, K ia

'elephant'	achêang	achiang	achiang	*qaciang
'spider'	apêang	apiang	---	*qapiang
'crossbow'	tamêang	tumiang	---	*tumiang
'push, shove'	---	kisiar	kasiaq	*kisia_
'bee'	khêal	kiyial	---	*kiyial
'wring'	viat	viaq	viaq	*wiat
'taboo'	(tân)	(tán)	diang	*DIANG

*DIANG probably had *ia as B and P have had changes in both consonants, obscuring the original vowel, whereas neither consonant changed in K.

*ae > B ea, P ea, K - after *s-,
B ia, P ea, K - elsewhere

'fish'	seaq	seaq	---	*saeq
'wind'	seang (to blow)	seang	---	*saeng
'flint'	prial	preal	---	*prael
'transport'	patiang	pateang	---	*pataeng
'cut throat'	kiak	keak	---	*kaek
'candle'	tian	tean	---	*taen
'chop up'	rial (chop in pieces)	treal(c. firewood)		*trael

*êa > B êa, P ea K (ua)

'roll up'	pêal	peal	pual	*pêal
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<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'bare field'	têah	teah	---	*têah
'bat'	asêap	aseap	---	*qasêap
'guard'	kêaq	keaq	---	*kêaq
'twist'	tavêat	tuveat	---	*tuwêat

*ea>B ê, P ea, K ia before *-s,*-r,
B ei, P ea, K ia before *-l,*-t,
B ei, P e, K ia elsewhere

'nine'	takêh	tikeas	takiah	*tikeas
'root'	rêh	reas	riah	*reah
'fingernail'	krêh	karreas	kariah	*kreas
'swerve'	vêr	vear	aviar	*wear
'smooth'	---	kutear	katiar	*kutear
'anus'	---	lear	rial	*lear
'hailstone'	pareil	pareal	parial	*pareal
'cold'	sangeit	nngeat	chariat	*cangeat
'egg'	tareil	tireal	karial	*_real
'fish scales'	nseil	---	sial	*_seal
'kidney'	karcheil	---	chachial	*_ceal
'tooth'	kaneing	kineng	kaniang	*kineang
'fat'	nseing	nseng	nsiang	*nseang
'elbow'	lakeing/ kutkeing	talkeng	takiang	*talkeang
'follow'	---	veng	aviang	*veang
'lime(fruit)'	cheing	cheng	---	*ceang
'piece'	meing	meng	---	*meang
'mouth'	beik	rbeq	---	*_b/beak
'younger sibling'	eim	a-em	---	*qaqeam

<u>English</u>	<u>Brôu</u>	<u>Paoŏh</u>	<u>Katu</u>	<u>PEK</u>
'ask'	seiq	seq	---	*seaq
'earth'	kuteiq	kuteq	katiak	*kuteak ^h

*ŕi>B êi, P ẽ, K ia before *ŕ, *-l, or after *d-,
B êi, P ẽ, K i elsewhere

'glutinous rice'	dêip	děp	diab	*dêi_
'peel'	sêil	sěl	sial	*sêil
'quiet'	êir	ěr	---	*qêir
'grasshopper'	abrêit	arět	arit	*qabrêit
'pass gas'	têih	těh	---	têih
'sew'	yêih	ěh	ih	*_êih
'centipede'	kalhêip	kahěp	kahip	*kalhêip

Central vowels

*u>B â, P (i), K i before *-j,
B ũ, P â, K - before *-m,
B ũ, P i, K i elsewhere

'squeeze out'	dâj	điq	điq (press)	*duj
'cooked rice'	avâj	---	aviq	*qawuj
'footprint'	lúm	lám	---	*lum
'set eggs'	panúm	panám	---	*panum
'honey, bile'	mút(gall bladder)	mit	mit	*mut
'tinder'	lavút (strike lighter)	lavít	kabit	*kablut
'round'	vúl	víl	vil	*wul
'stump'	rangúl	tarngil	---	*tarngul
'hoe'	---	aviñ	aving	*qawuñ

*σ > B ɛ̃, P i, K ɔ before *-l, *-n, *-j,
B ɛ̃, P ɛ̃, K ɔ elsewhere

'lie, sleep'	bêq	bîq	böch	*bøj
'fat'	nên	nín/nún (fat pig)	---	*non
'buy'	---	kíl	kol	*kol
'middle'	mpúng	mpúng	-pong	*pong
'thunder'	krúm	krúm	grom	*k ^h rom
'squash'	kadúk	kadúk	kadok	*kadok
'breathe'	tangúh	tangúh	---	*tangoh
'repair'	atúk	atúk	---	*qatok
'many'	klúng	klúng	---	*klong
'fat'	plúm	plúm	---	*plom
'bedbug'	nsúng	nsúng	---	*nsong
'sacrifice'	tutúk	túk	---	*t ^h /tok
'thumb'	ngkúm	ngkúm	---	*ngkom
'woods'	sarúng	trúng	---	*_rong
'wrestle'	sarúm	tarrúm	---	*c/j/darom
'fan'	apúk	púk	---	*p ^h /pok

*σ > B ɛ̃, P ɛ̃, K a before ñ,
B ɛ̃, P ɛ̃, K (e) before *-y,
B ɛ̃, P ɛ̃, K a elsewhere

'snake'	kusán	kusɛ̃ñ	kasañ	*kusɛ̃ñ
'shoot'	pán	pɛ̃ñ	pañ	*pañ
'moon'	kasái	kisái	kase	*kisáy
'correct'	krái	krái	---	*kráy
'full (of food)'	pasái	sái	---	*_sáy
'muddy'	takál	tikál	takal	*tikál

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'to fly'	pâr	pâr	par	*pâr
'skin'	ngkâr	ngkâr	ngkar	*ngkâr
'medicine'	rahâu	tarhâu	---	*tarhâu
'hot'	kutâu	kitâu	---	*kitâu
'ax'	achât	achât	---	*qacât
'fishnet'	panâng	pinâng	---	*pinâng
'heavy'	ntâng	ntâng	---	*ntâng
'meat'	sâj	sách/sêch	---	*sâj
'sticky'	tabât	tabât	---	*taoât

Because of the shifts in the initial and final stops, the vowel reflexes for 'full' have also shifted, but 'full' probably belongs here: B poân, P pân, K bing.

There are two words with B â and P â which may belong here, but the conditioning is not clear: 'only' B sâng, P sâng; 'strong, fast (wind or water)' B hâp, P hâp.

*a>B á, P ê, K (e) before *-ñ, *-s,
B â, P o, K (o) before *-w,
B â, P â, K á elsewhere

'strong'	bán	běñ/báñ	---	*b/bañ
'jackfruit'	panás	panêh/panás	paneh	*panas
'red'	kusáu	kuso	---	*kusaw
'dream'	mpáw	mpo	mpó	*mpaw
'day'	tangái	ingái	tangai	*_ngay
'bamboo sprouts'	abáng	abáng	abang	*qabang
'woman, female'	kán	kán	-kan	*kan

<u>English</u>	<u>Brôu</u>	<u>Paoôh</u>	<u>Katu</u>	<u>PEK</u>
'bite'	káp	káp	kap	*kap
'mortar'	tapál	tupál	tapal	*tupal
'borrow'	váq	váq	vaq	*vaq
'classifier for people'	náq/noaq	náq	nak	*nak ^h
'slap'	tapáh	páh	-pah	*pah

There are eighteen more regular examples of *a reflexes.

*u>B u, P u, K u before *t-, *t^h-, *r-,
B u, P u, K u elsewhere

'to root'	tuk	tuk	tuuk	*tuuk
'beat drums'	---	tung	duung/ dung ^{HK}	*t ^h uung
'woods'	arus	arus	---	*qarus
'tobacco'	hout	hut	---	*huut
'shallow'	ndoul	pidul	---	*_d/duul
'finished'	num	num	---	*num
'foot'	ayung	ajung	yung	*qa_uung
'teach'	(ataung)	achung	pachung	*_uung

*g>B g, P g, K (g) before *-ng and alveopalatals,
B g, P g, K (g) elsewhere

'bed'	kachong	kichong	---	*kichong
'touch'	---	kapoj	kapoj	*kapoo_
'epidemic, contagious'	mpros	mpros	---	*mproos
'know'	koi	koi	---	*kooy
'lose'	lóp	lôp	---	*loop
'open'	póh	pôh	pooch	*pooch

*ăă>B au, P ô, K ăă

<u>English</u>	<u>Brôu</u>	<u>Paoôh</u>	<u>Katu</u>	<u>PEK</u>
'five'	saung	sông	săâng	*săâng
'leech'	plam	plôm	plăam	*plăam
'heel'	kandaul	kandôl	---	*kandăal
'swallow'	(lun)	lôn	lăan	*laun/loun
'begin'	---	ntôp	taáp	*_taáp/ _toup

*aa>B ia, P a, K aa after *w-,*r-,*l-,*m-,*j-(see below)
B a, P a, K aa elsewhere

'soul'	raviai	rvai	ravaai	*rawaay
'wash'	ariau	rau	araau	*qaraaw
'able'	riap	rap	---	*raap
'yarn, thread'	pariai	parai	---	*paraay
'unroll	liai	lai	---	*laay
	(unwind)			
'rhinoceros'	ramias	rmas	---	*ramaas
'spirit'	yang	yang	jaang	*jaang
'palm, sole'	talang	tallang	palaang	*lapaang
'roof beam'	prang	prang	praang	*praang
			(to surround)	
'widowed'	kumai	kammai	kamaai	*kumaay
'bone'	nghang	nghang	nghaang	*nghaang
'blood'	aham	aham	ahaam	*qahaam
'weave'	tan/dán	tañ	taan	*taan
'bowl'	tangan	tingan	pangaan ^{HK}	*p/tingean
'yawn'	sa-ap	ng-ap	ha-aap	*hangqaap
'knife'	dau	dau	daau	*daaw
'cymbals'	sar	sar	---	*saar

There are twenty-seven more examples of B a, P a, K aa.

The cognates with B ia, P a, K aa are difficult to assign. There is no clear contrast, but conditioning, if present, is complicated. If B ia follows *w, *r-, *l-, *m-, *j- only when there is no consonant cluster, then we must reconstruct *mm for 'widowed' (P was previously assumed to have the -n- infix). An alternative solution would be to reconstruct *y for the words with B ia. Then we would have 'soul' *rawyaay, 'wash' *qaryaaw, 'spirit' *jyaang, 'unroll' *lyay, 'yarn' *paryaay, 'rhinocerus' *ramyaas, 'able' *ryaap.'

*ua > B oa, P á, K ua

'right (direction)'	atoam	atám	atuam	*qatuam
'smoke'	---	kuyáq	gayuak/ gayak ^{HK}	*k ^h uyuak
'bachelor'	tatoam	---	taduam (man)	*taduam
'chop'	---	kál	kual	*kual
'straight'	tanoang	tanáng	---	*tanuáng
'whip'	proas	prás	---	*pruas
'break'	takoas	takás/ tikas	---	*takuas

*ou > B ou, P ô, K ôô

'take, bring'	doung	dông	dâang	*doung
'have, get'	boun	bôn	bâân	*boun

*oá, B oa, P á, K a before stops or *-h,
B a, P a, K a elsewhere

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'eye'	moat	mát	mat	*moát
'stink'	noaq	nnáq	(nnáq)	*nnoáq
'carry from shoulder'	poak	---	bak	*p ^h oák
'classifier for sheets'	ploah	pláh	---	*ploáh
'row'	voah	váh	---	*woáh
'silver'	proaq	práq	---	*proáq
'split'	ploah	láh (s. bamboo)	blah ^{HK}	*_loáh
'betel quid material'	panang	---	pannang	*panoáng
'thread'	---	kapas	kapas ^{HK}	*kapoás
'roast'	---	trang	-trang	*troáng
'braid, plait'	klan	klañ	palañ	*kloañ

Back vowels

*u>B ú, P ú, K u before velars, *-h, *-q,
B uo, P ô, K u elsewhere

'pus'	panúng	pinúng	panung	*pinung
'run, go away'	lúh	lúh	luh ^{HK}	*luh
'deaf'	túng	túng	tung	*tung
'hole, trap'	prúng	prúng	prung	*prung
'stomach'	púng	pallúng	palung	*p ^h ung
'waterfall'	sarúh	achúh	ajuh	*qac ^h uh
'mud'	lúq	alúq	---	*_luq
'calamity'	rúng	rúng	---	*rung
'crazy'	yúh	yúh	---	*yuh

<u>English</u>	<u>Brôu</u>	<u>Paëôh</u>	<u>Katu</u>	<u>PEK</u>
'fog'	talúk	talúk	---	*tuluk.
'pot'	púng	púng	---	*pung
'one'	muoi	mõi	mui ^{HK}	*muy
'gourd'	aluoi	---	alui	*qaluy
'shrimp'	asuom	asôm	---	*qasum
'stand'	yuor	yôr	---	*yur
'steal'	tuoj	těj	---	*tuj
'anteater'	payuol	yöl	---	*_yul

*ô>B ô, P ô, K o after *dr-, *b-,
B oo, P ô, K ô elsewhere

'hollowed out'	tôk	tông	drong	*drô_
'roast'	bôh(burn off hair)	bôh	boh	*bôh
'alive'	tamoong	tumông	mamông	*tumông
'mosquito'	rayoong	rayông	rayông	*rayông
'clap'	tamprooh	tamprôh	---	*tamprôh
'pour'	rooh	trôh	---	*rôh
'bark(dog)'	krooh	krôh	---	*krôh
'grandfather'	avooq	avôq	(abuap)	*qavôq

*ô>B ô, P ô, K o before *-h, *-k,
B ô, P ô, K ô before *-q, *-ng

'breast'	tón	tôh	toh	*toh
'to plant'	chóh	chôh	choh	*coh
'hair'	sók	sôk	sok	*sok
'brain'	abók	abôk	---	*qabok
'rinse mouth'	kulók	---	kalok	*kulok

<u>English</u>	<u>Brôu</u>	<u>Paôh</u>	<u>Katu</u>	<u>PEK</u>
'rotten'	nsóq	nsóq	nsoq	*nsoq
'blow(wind)'	plóng	plóng	plong	*plong
'crowd'	---	chóng	trong	*crong
'man'	-kóng	-kóng	---	*kong

*ô>B ô, P ó, K ó(o) before *-ng,*-h,
B u, P ô, K ó elsewhere

'bracelet'	kống	kóng	kóng	*kóng
'explode'	padôh	padóh	(patoh)	*padóh
'lungs'	sôh	sóh	sóh	*sóh
'beak'	rabôh	tarbóh	---	*tarbóh
'break'	ta-ôh	ta-óh	---	*ta-óh
'hold in mouth'	kubum	kubôm	kabóm	*kubóm
'enter'	mut	môt	mót	*mót
'seven'	tupul	tapôl	tapól	*tupól
'swollen stomach'	pus	pôs	---	*pós

*uu>B ua, P ua, K uu before *-ng,*-k,*-t,
B u, P u, K u elsewhere

'calf of leg'	nluang	kluang/ taluang	chaluung	*_luung
'grey haired'	pluak	pluaq	pluuk	*pluuk
'river'	kruang (area)	karuang	karuung	*kruung
'pass by'	luat	luat	luut	*luut
'follow'	tapun	tapun	tapun	*tapuun
'behind'	ntun	tatun	ntun	*tantuun
'under'	(karðum)	karrum	karum	*karuum
'magic power'	---	kun	gun	*k ^h uun

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'betel quid materials'	taruj	turuj	---	*turuuj
'hide, cover'	pul	pul	---	*puul
'a poisonous snake'	tur	tur	---	*tuur
'storm'	rapuq	rpuq	---	*rapuuq

In the reflexes for 'wipe' P has an unusual consonant and B has an unusual vowel.

*ôô>B ô, P ô, K ôô

'rocky'	trông	trông	trông	*trông
'rooster'	tông	kông	gông	*_ông
'breast'	---	chôm (of animal)	chôm (b. bone)	*côm

*oo>B o, P o, K óó

'wasp'	hong	hong	hông/ hông	*hoong
'banana blossom'	mpong	apong	bông (a flower)	*_p ^h oong
'pole'	tong	tong	tông	*toong
'stalk'	rakong	tarkong	chakông	*carkoong
'to name'	(dôq)	doq	dók	*dook ^h
'play stringed instrument'	ot	ot	ót	*qoot
'bee'	krot	karrot	karót	*kroot
'harvest rice'	sot	sot	sót	*soot
'termite'	kumot	---	kamót ^{HK}	*kumoot
'hoof'	kachop	kanchop	sakóp	*_k_ooop
'little finger'	ndoi	ndoi	dói	*ndooy
'tail'	soi	soi	sói	*sooy
'flow'	hoi	hoi	-hói	*hooy

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'salt'	boi	boi	(boh ^{HK})	*booy
'betel'	troi	troi	---	*trooy
'plant rice'	---	choi	chóói	*cooy
'guest'	tamoi	tammoi	tamóói	*tamooy
'edge'	tor (shore)	tor	-tóór	*toor
'turtle'	---	akop	kóóp	*koop
'thin'	oj	oj	óóch	*qooj
'spear'	kos	kos	kóós ^{HK} / kos	*koos

*óó>B ua, P o, K óó

'gong'	kuang	kong	góóng	*k ^h óóng
'tree'	aluang	along	nlóóng	*_lóóng
'liver'	luam	lom	lóóm	*lóóm
'eight'	takual	tikol	takóór	*tikóól
'drink'	nguaaj	ngoaj	---	*ngóój
'fly'	ruai	riroi	raróói	*róój
'intestines'	ruaj	roj	---	*róój
'sing (at funeral)'	aruai	aroi	---	*qaróój
'animal trail'	kluang	klong	---	*klóóng

*ua>B ôa, P ua, K ua before *-h, *-j,
B ua, P (ua), K ua before *-s, _,
B uo, P ua, K -- elsewhere

'pound over again'---	truah	chruah	*cruah
'diarrhea'	sarôah	taruah	daruach
'dig'	chôaj	---	uach
'grandfather'	achuas	achuas (grt.grd.fa.)	*qacuas

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'a kind of rice'	arua _j	---	arua _j	*qarua ₋
'hat'	muok	muak	---	*muak
'chicken'	ntruoi	ntruai	---	*ntruay
'worm'	saduong	tarduang/ tiduang	---	*_duang
'boat'	tuok	tuak	---	*tuak

*ou > B ou, P ô, K ua before *-q, *-_,
B ou, P oa, K ua elsewhere

'tusk, fang'	kloui	klôs	kluai	*klou ₋
'sour'	---	ajôq	kajuaq	*_ajouq
'cook rice'	doui	dô _i	---	*dou ₋
'four'	poun	poan	puan	*poun
'carry over shoulder'	doul	doal	dual	*doul
'choke'	oul	oal	---	*qoul
'bundle'	mpoul	mpoal	---	*mpoul
'pillow'	rakoul	tarkoal	---	*tarkoul
'fist'	kapout	kapoat	kapuat	*kapout
'shell'	(ndôh)	ndoah	(hold in f.) (squeeze) taduah	*tandouh
'lizard'	koui	koai	ngkuai	*ngkouy
'whistle'	kakhouj	kakhoaj	kahuach	*kahouj
'wash face'	---	boaj	buach	*bouj
'float'	dous	doaj	---	*dou ₋

*ou never occurs before *-ng, *-m, whereas *ôô only occurs in those environments. However, as the reflexes have nothing in common they have not been united.

*ôu > B ôu, P oa, K (ua) before *-l, *-n,
B ôa, P á, K (a) elsewhere (tentatively assigned
here)

<u>English</u>	<u>Brôu</u>	<u>Paoôh</u>	<u>Katu</u>	<u>PEK</u>
'steam'	hôul	hoal	ahual	*_hôul
'pile'	bôun	boan	---	*bôun
'still'	nôang	nnáng	---	*nôung
'six'	tapôat	tapát	sapat	*_pôut

Either the *ôô reflexes or the B ôa, P á, K a reflexes could fit here. The reflexes matching B ôa were chosen because at least B reflects a glided vowel, whereas the *ôô reflexes have no glided vowels (B ô, P ô, K ôô).

*ôa > P oa, K ua

'sand'	chôah	choah	suah	*_ôah
'hat'	dôan	doan	duan	*dôan
'termite'	kumôar	kamoar	kamuar	*kumôar
'legend'	nsôar	nsoar	---	*nsôar
'a scratch'	rlôat/ ralôt	tarloat	---	*tarlôat
'bull elephant'	kôang	koang	---	*kôang

*oô > B oô, P ó, K ó before *-h, *-q, *-ng,
B ôu, P ô, K ô elsewhere

'eat with hands'	moôk	mók	mók	*moôk
'sky'	paloông	plóng	---	*piloông
'frog'	aroôq	arók	agók	*qa_oôk ^h
'burn'	roôh	róh	róh	*roôh
'cow'	(dry field) ntroôq	(house burns) karrók	---	*kanroôq

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'ear'	kutôur	katôr	katór	*kutoôr
'winnow'	u-ôum	ôm	óm	*_qoôm
'drunk'	bôul	bôl	ból	*boôl
'house post'	tanôul	tinôl	tanól/ tanâl	*tinoôl
'cook in bamboo'	hôur	hôr	hór	*hoôr
'ripe'	---	dôm	dóm	*doôm
'sunset'	---	plôt	blót	*p ^h loôt
'bathe'	---	hôm	hóm	*hoôm
'injury'	chôul	chôl	---	*coôl
'back of knife'	kôur	kôr	---	*koôr
'pick lice'	bôuj	bôj	---	*boôj
'sleep sitting'	pôup	apôp	---	*_poôp
'black'	kôum	kôm	---	*koôm
'sting'	sôuj	sôj	(soch)	*s0ôj

There is a list of cognates with regular correspondences in B and P, but because the K vowels are different in each case, they have not been treated as regular reflexes of a proto vowel:

'house'	dông	dúng	dong	*d_ng
'in'	klông	kallúng	kalóong	*kal_ng
'large bamboo'	abông	abúng	abung	*qab_ng
'rotten wood'	abôk	abúk	---	*qab_k
'stub toe'	kudôh	kidúh	ndâs	*_d__
'rich'	sôk	súk	---	*s_k
'hold'	ayông/yông	yúng	---	*y_ng

There are fourteen words for which the proto vowel is indeterminate because the K cognates are missing. They have B o, P o, and have been tentatively assigned to *oo.

Open Syllables

There are very few proto vowels in open syllables in comparison with those in closed syllables. However, open syllables are very rare so the reflexes are difficult to establish.

*i>B ái, (ái), P i, K (i), ái

'greens'	sapái	api	habái	*hap ^h i
'hand'	atái	ati	tái	*ti
'half'	tadái	tadi	tadi	*tadi

The vowel in B sapái shifted following the consonant shift. There is no explanation for the i in K tadi.

*ê>B ê, P e, K (e) after *n-, *c-, B ê, P ê, K e elsewhere

'great grand-child'	achê	ache	ache	*qacê
'round object'	pañê	piñe	---	*piñê
'lose'	pê	pê	---	*pê
'shake grain'	---	tê	nte	*ntê

*e>B ái, P e, K e

'rattan'	krái	kire	---	
'three'	pái	pe	pe	*pe
'rice field'	sarái	---	hare	*hare
'new'	tamáí	tamme	tame	*tame

*u>B ou P u K (u)

'a time'	chou	chu	chu	*cu
'remember'	sañou/ sayou	ayu	---	*hayu
'knife basket'	adou	adu	---	*qadu

*â>B au, P ô, K -

'head'	plau	plô	---	*plâ
'tomorrow'	parnau	parnô	---	*parnâ

*a>B a, P a, K a

'eat'	cha	cha	cha	*ca
'food'	sana	tanna	chana	*cana
'thin'	kada	kida	(kadaq)	*kida
'blade'	pla	pla	pla	*pla
'vomit'	kuta	---	kata	*kuta
'road'	rana	karna	---	*karna

*u>B u, P u, K u

'owe'	tu	tu	tu	*tu
'sit'	taku	-ku	(prison)(VN tù) ---	*ku
'umbrella'	ru	ru	(du) (VN dù)	*ru

*ô>B (u), P ô, K ô

'return'	achu	chô	chô	*cô
'roll down'	---	lulô	palô	*lô

*o>B o. P o. K o

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
'dog'	acho	acho	acho ^{HK}	*qaco
'roof'	sarpo	po (roofing)	mpo	*po
'good'	o	o	---	*qo
'set trap'	to	to	---	*to
'snail'	klo	klo	---	*klo
'pine tree'	sango	ango	---	*hango

*ó>B o. P o. K ó

'year'	kumo	kumo ^{HP}	kamó	*kumó
'unhusked rice'	saro	tro	haró ^{HK}	*haró

The words under *o with no cognates in K could be either *o or *ó. They have tentatively been assigned to *o.

CHAPTER IV

COGNATE LISTS AND RECONSTRUCTIONS

This chapter is a listing of all the probable cognates based on regularity of the initial and final consonants of the main syllable. There are over 650 sets.

Of these sets, 300 have cognates in all three languages. When there are only two cognates they are most frequently from Brôu and Pacôh. This is to be expected as they are more closely related to each other than either is to Katu.

Only 450 sets were found for which there was reasonable assurance concerning the proto vowel. This is approximately three-fourths of the total number of cognates.

In the listing which follows, unreconstructed items (consonants, vowels, or pre-syllables) are noted with an underlined blank space. Probable, but still problematical, reconstructions are indicated by capital letters.

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
1. 'able'	riap	rap	---	*raap
2. 'able'	choam	châm	chóom	*c_m
3. 'adultery'	---	tapiang	tapiing ^{HK}	*tapieng
4. 'alive'	tamoong	tumông	mamông	*tumông
5. 'anteater'	paguol	yôl	---	*_yul
5. 'anus'	---	lear	rial/arial	*lear
7. 'armspan'	achoang	---	chuang	*c_ng
8. 'arrow'	sarab	taráh	charah	*carah
9. 'arrowhead'	sarkap	tarkap	---	*c/j/darkaap
10. 'ashes'	bôh	abôh	---	*b/b_h
11. 'ask'	seiq	seq	---	*seaq
12. 'ask'	blóh	plôh	---	*bl_h
13. 'ax'	achát	achát	---	*qacát
14. 'bachelor'	tatoam	---	taávam (man)	*taávam
15. 'back'	kloong	króng	---	*k_ng
16. 'backwards'	palót	plôt	---	*plót
17. 'a kind of bamboo'	abông	abŭng	abung	*qab_ng
18. 'bamboo sprouts'	abáng	abáng	abang	*qabang
19. 'banana'	priat	---	priiq	*priet
20. 'banana blossom'	mpong	apong	bóong (flower)	*_p ^h oong
21. 'bark(dog)'	krooh	krôh	---	*krôh
22. 'bark(tree)'	ndôh	ndoh ^{HP}	ndoh	*nd_h
23. 'basket(for knife)'	adou	adu	---	*adu
24. 'basket(back)'	achoj	achui/ achôj	achui/ chui	*qac_j
25. 'bat'	aséap	aseap	---	*qaséap

<u>English</u>	<u>Brâu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
26. 'bathe'	---	hôm	hóm	*hôm
27. 'beak'	rabôh	tarbóh	---	*t/carbóh
28. 'bean'	satong	atong	atuang	*_at_ng
29. 'beat (drum)'	---	tung	duang	*t ^h ung
30. 'beat (drum)'	toân (hit)	toan	tong	*t_ng
31. 'bed'	kachong	kichong	---	*kic ^h ong
32. 'bedbug'	nsúng	nsúng (tick)	---	*nsong
33. 'bee'	khêal	kiyial	---	*kiyial
34. 'bee'	krot	karrot	karóót	*kroot
35. 'begin'	---	ntôp	tááp	*_tááp
36. 'behind'	ntun	tatun	ntun (next)	*tantuun
37. 'bell'	ariu	rêu	riu	*_r_w
38. 'bell'	rlông	karlông	---	*karl_ng
39. 'bend'	déh	dás	---	*d/a_s
40. 'bend'	kut	kôt	kot	*kôt
41. 'betel chew material'	troi	troi	---	*trooy
42. 'betel leaf'	labaq	labaq	abaaq	*labaaq
43. 'betel nut'	panang	---	pannang	*panoang
44. 'betel leaf'	taruj	turuj	---	*turuuj
45. 'big'	put	put	---	*p_t
46. 'bird'	chóm	---	achim	*c_m
47. 'a bird'	---	a-ut	ka-uut ^{HK}	*kaqUUt
48. 'bite'	káp	káp	kap	*kap
49. 'bitter'	ntáng	atáng	atang	*qatang
50. 'black'	kôum	kôm	---	*koôm

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
51. 'blade'	pla	pla	pla	*pla
52. 'blink'	kubéh	kaplêh	gableh	*k ^h _blêh
53. 'blood'	aham	aham	ahaam	*qahaam
54. 'blow'	phát	phết	---	*__t
55. 'blow (instrument)'	plóng	plóng	plong	*plong
56. 'boat'	tuok	tuak	---	*tuak
57. 'body'	---	cháq	-chak	*cak
58. 'to boil'	óp	áp	ap	*q_p
59. 'bone'	nghang	nghang	nghaang	*nghaang
60. 'borrow'	váq	váq	vaq	*vaq
61. 'bow head'	---	kôp	kóop	*kôOp
62. 'bowl'	tangan	tingan	pangaan ^{HK}	*p/tingaan
63. 'bracelet'	kông	kóng	kóng	*kóng
64. 'braid'	klañ	klañ	palañ	*kloañ
65. 'brain'	abók	abôk/abuaq	bôq (crown)	*qabok/ qab_q
66. 'branch'	abeing	abeng	-baang	*_beeng
67. 'break' (string)	ta-ôh	ta-ôh/ti-ôh---		*taqôh
68. 'break'	takoas	takás/tikás---		*takuas
69. 'breast'	---	chôm (of animal)	chôm (b.bone)	*côm
70. 'breast'	tóh	tôh	toh	*toh
71. 'breathe'	tangúh	tangúh	---	*tangoh
72. 'bridge'	kambóng (edge of house)	-pong	póong	*POong
73. 'brother (wo.spkg.)'	amiáng	---	mamiang	*mamieng
74. 'buffalo'	tariak	tiriaq	tariiq	*tiriek
75. 'bundle'	mpoul	mpoal	---	*mpoul

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
76. 'burn'	kát	kat	---	*kat
77. 'burn'	roôh (dry by fire)	róh (b. house)	-róh	*roôh
78. 'bury'	túp	túp	táp	*tUp
79. 'buy'	---	kil (barter)	kol	*kol
80. 'calamity'	rúng	rúng	---	*rung
81. 'calf of leg'	nluang	taluang/ kluang	chaluung	*_luung
82. 'candle'	tian	tean	---	*taen
83. 'carry over shoulder'	doul	doal	dual	*doul
84. 'carry piggyback'	peq	báq	baq	*BAq
85. 'carry at waist'	kleiu	kliau	---	*kliew
86. 'carry from shoulder'	poak	---	bak	*p ^h oak
87. 'carry (two people)'	krang	krang	---	*kraang
88. 'castrate'	lát	lát	bluat	*blat
89. 'catch'	koup	kop	kóóp	*kÓOp
90. 'cave'	kup	kup	gơơp	*k ^h OCp
91. 'centipede'	kalhēip	kahēp	kahip	*kalhēep
92. 'chaff'	sakam	akam	---	*hakaam
93. 'charcoal'	kucháh	kucháh	kachah	*kucah
94. 'cheeks'	tabók	---	tabók	*tab_k
95. 'chest'	tatia	---	tadua	*tat ^h _
96. 'chest'	apoum	apôm	---	*qap_m
97. 'chew'	bum	buam	---	*b_m
98. 'chicken'	ntruoi	ntruai	---	*ntruay
99. 'chief'	arias	arias	---	*qaries
100. 'child'	akái	akái	---	*qakay

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
101. 'choke on food'	hok	hoq	kahók	*_h00k
102. 'choke'	oul	oal	---	*qoul
103. 'choose'	ruoh	rôs/rêh	---	*r_s
104. 'chop'	---	kâl	kual	*kual
105. 'chop up'	rial	treal	---	*trael
106. 'chop'	peáj	páj	---	*p_j
107. 'to circle'	viel	vir	vial	*v_l viir
108. 'civet'	sapiak	tupiaq	---	*j/c/dupiek
109. 'clap'	tamprooh	tamprôh	---	*tamprôh
110. 'classifier for sheets'	ploah	pláh	---	*ploáh
111. 'class. for things'	lám	lám	---	*lam
112. 'class. for people'	náq/noaq	náq	nak	*nak
113. 'to clear land'	tal	tal ^{HP}	katol	*_taal
114. 'close mouth'	---	kabip	kabip ^{HK}	*kabiip
115. 'coffin'	---	tarang	taraang	*taraang
116. 'cold'	sangeit	ngeat	---	*cangeat
117. 'comb'	nehik	kachik	jarik	*_c ^h iik
118. 'cook in bamboo'	hêur	hôr	hór	*hoôr
119. 'cook rice'	doui	dôi	---	*douY
120. 'cook rice'	---	chín	chen	*cin
121. 'cooked, soft'	la-ouh	---	pa-ôh	*_q_h
122. 'correct'	krái	krái	---	*kráy
123. 'count'	ngih	ngeas	---	*ng_s
124. 'cover'	lup	---	dalwap	*dal_p
125. 'cow'	ntroăq	karróq	---	*kanroôq

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
126. 'crazy'	yúh	yúh	---	*y/juh
127. 'crab'	---	atam/akam	ataam	*qataam
128. 'crack'	chár	---	char	*car
129. 'crop, crawl'	pliem	peam	biam	*p ^h l_m
130. 'create'	---	vas	vas	*waas
131. 'crossbow'	tamêang	tumiang	---	*tumiang
132. 'crow, raven'	ka-ak	a-aq	a-aak	*ka-aak
133. 'crowd'	---	chóng	trong	*crong
134. 'cry'	ñiam	ñiam	ñim	*ñiem
135. 'custom'	rit (religious rite)	rit	---	*riit
136. 'cut'	kakut (c. meat)	kút	---	*_k_t
137. 'cut'	sát	sát ^{HP}	srat	*srat
138. 'cut, slash'	reh	réh	---	*reeh
139. 'cut brush'	treh (slit animal)	tréh	treh	*treh
140. 'cut throat'	kiak	keak	---	*kaek
141. 'cymbals'	sar	sar	---	*saar
142. 'daughter-in-law'	---	-mai	mamaai	*maay
143. 'day'	tangái	ingái ^{HP}	tangai	*_ngay
144. 'dead, die'	kuchêit	chết/ kuchết	chet	*_cêêt
145. 'deaf'	túng	túng	tung	*tung
146. 'deer (barking)'	pôs	poas	---	*p_s
147. 'dense'	lêng(hard)	leng(hard)	haleng (heavy)	*_l_ng
148. 'diarrhea'	sarôah	taruah	daruach	*darua_
149. 'dig'	chôaj	---	uach	*_uaj
150. 'dig up body'	---	lôq	rók	*L_k

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
151. 'dig hole'	píq	píq	---	*píq
152. 'dip into'	tôq	táuq	---	*t_q
153. 'dip out'	---	jít	jít/jet	*jít
154. 'dirty, bad'	ñôp	nñôp	ñôop	*ñôp
155. 'divide'	tapeiq/ tampei q	pêq.	---	*_p_q
156. 'dog'	acho	acho	acho ^{HK}	*qaco
157. 'door'	---	llông	-lóng	*_l_ng
158. 'dream'	mpáu	mpo ^{HP}	mpó	*mpaw
159. 'drink'	ngua j	ngo j	---	*ngóó j
160. 'drink, smell'	hêit	ahét	hoch	*_h_c
161. 'drum'	sakor	akur	chagor	*Cak ^h Or
162. 'drunk'	bôul	bôl	ból	*boôl
163. 'dry'	tiang	tiang	---	*tieng
164. 'duck'	atia	ata	ada	*qat ^h _
165. 'dull'	pial	pol	---	*p_l
166. 'ear'	kutôur	katôr	katór	*kutoôr
167. 'earth'	kuteiq	kutiak/ kuteak/kuteq	katiak	*kuteak ^h
168. 'easy'	len	lan	---	*l_n
169. 'eat'	cha	cha	cha	*ca
170. 'eat'	poam (stuff mouth)	poam (eat bóm(termites) (everything)		*p ^h _m
171. 'eat in hands'	moók	mók	mók	*moók
172. 'edge'	tor	tor	-tóór	*toor
173. 'egg'	tareil	tireal	karial	*_real
174. 'eight'	takual	tikol	takóól	*tikóól
175. 'elbow'	kutkeing/ lakeing	talkeng	takiang	*talkeang

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
176. 'elephant'	achéang	achiang	achiang	*qaciang
177. 'elephant (bull)'	kôang	koang	---	*kôang
178. 'enough'	khám	khám	kham	*_am
179. 'enter'	mut	môt	mót	*mót
180. 'epidemic'	mprõs	mprõs	---	*mprõs
181. 'escape'	rakláh	kláh	---	*_klah
182. 'evil'	bap (unfortunate)	bap	---	*baap
183. 'explode'	padôh	padôh/ pidôh	patoh	*padôh
184. 'extinguish'	(pat- make hot)	pát	pat	*pat
185. 'extinguish'	---	chỗs	cheh	*c_s
186. 'eye'	moat	mát	mat	*moát
187. 'eyebrow'	akôh	---	akôh	*qakôh
188. 'eyelash/lid'	akor	nkôr	akor	*_k_r
189. 'fall'	dóm	dum	---	*d/â_m
190. 'fall, drop'	satrooh	troah/tráh/ troh	---	*_tr_h
191. 'fan'	ratiq	tartiq	---	*t/cartiq
192. 'fan'	apúk	púk	---	*_p ^h /pok
193. 'far'	yong	yông	payóng	*_y_ng
194. 'fast, strong'	háp	háp	---	*háp
195. 'fasten'	kál	nkál	---	*_kal
196. 'fat'	nseing	nseng	nsiang	*nseang
197. 'fat'	plúm	plúm	---	*plom
198. 'fat'	nên	nín(f. pig)	---	*non
199. 'father'	kôun(male)	kôñ	akoñ	*qak_ñ
200. 'field(open)'	têah	teah	---	*têah

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
201. 'field(rice)'	sarái	(padái)	hare	*hare
202. 'finger (little)'	ndoi(index finger)	ndoi	áoóí	*ndooy
203. 'fingerprint'	atôq	---	katóq	*_at_q
204. 'finished'	num	num	---	*num
205. 'fire'	ôus	us	os	*q_s
206. 'fireplace'	tapéh	tupéh	tapeh (iron stand)	*tupeh
207. 'fish'	seaq	seaq	---	*saeq
208. 'fist'	kupout	kapoat (hold in f.)	kapuat (squeeze)	*kapout
209. 'five'	saung	sông	sáng	*sáng
210. 'flame'	ang	ang	aang	*qaang
211. 'flint'	prial	preal	---	*prael
212. 'float'	dous	doaj	---	*d/dou_
213. 'flow'	hoi	hoi	-hóóí	*hooy
214. 'flower'	piar	piar	---	*pier
215. 'to fly'	pár	pár	par	*pár
216. 'a fly'	ruai	riroi	raróóí	*róóy
217. 'fog'	talúk	tulúk	---	*tuluk
218. 'fold'	péh	péh	---	*peh
219. 'follow'	tapun	tapun	tapuun	*tapuun
220. 'follow'	---	veng	aviang	*weang
221. 'food'	sana	tanna	chana	*cana
222. 'foot'	ayung	ajung	yung	*qa_yung
223. 'footprint'	lúm	lám	---	*lum
224. 'forgive'	akláh	taláh	---	*_lah
225. 'four'	poun	poan	puan	*poun

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
226. 'friend'	you	yâu	---	*y/j_
227. 'frog'	aroðq	aróq	agók	*qa_oðk ^h
228. 'frog'	kuat	akuat	kuut	*qakuut
229. 'front (of body)'	---	adúp	patóp	*_a_p
230. 'full'	poân	pân/bân	bing	*p ^h ân
231. 'full'	pasái	sái	---	*_sáy
232. 'gas'	téih	têh	---	*têêh
233. 'ginger'	asai	asai	asás	*gas_S
234. 'give'	youn	jôn	dóng	*__ng
235. 'go out'	loðh	---	luh ^{HK} / gluh ^{LK}	*l_h
236. 'goiter'	padok	padoq	paduuk/ gook ^{HK}	*pad_k
237. 'gong'	kuang	kong	góong	*k ^h óong
238. 'good'	o	o	---	*qo
239. 'gourd'	aluoi	---	alui	*qaluy
240. 'grandfather'	achuas	achuas	achuas	*qacuas
241. 'grandfather'	avooq	avôq	(abuap)	*qavôq
242. 'grass'	sôk	sák	---	*s_k
243. 'grasshopper'	abreit	arêt	arit	*qaBrêêt
244. 'grave'	ping	ping	ping	*piing
245. 'grt. grd. child'	chê	ache	ache	*cê
246. 'greens'	sapái	api	habái	*hap ^h i
247. 'grey haired'	pluak	pluaq	pluuk	*pluuk
248. 'grow'	hon	hon	---	*hoon
249. 'growl'	kri	kring	---	*kriNG
250. 'guard'	kaloam	---	galom	*k ^h al_m

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
251. 'guard'	kêaq	keaq	---	*kêaq
252. 'guest'	tamoi	tammoi	tamóoi	*tamooy
253. 'hailstone'	pareil	pareal	parial	*pareal
254. 'hair'	sók	sók	sok	*sok
255. 'half'	tadêi	tadi	tadi	*tadi
256. 'hand'	atêi	ati	tâi	*ti
257. 'hand of bananas'	taláh	talláh	---	*tal_ah
258. 'hang up'	abák	---	kabak	*_abak
259. 'hard'	koang	káng	káng (thick)	*kuang
260. 'harvest rice'	sot	sot	sóot	*soot
261. 'hat'	muok	muak	---	*muak
262. 'hat'	dôan	doan	duan	*dôan
263. 'hatch'	chêh (slit open)	chéh	cheeh	*ceeh
264. 'have'	boun	abôn	báan	*boun
265. 'head'	plau	plô	---	*plá
266. 'heal over'	---	yiah/jiah	yuah	*yieh
267. 'heavy'	ntáng	ntáng	---	*ntáng
268. 'heel'	kandaul	kandól	---	*kandâal
269. 'hiccough'	sa-ôq	a-âq	ha-ok	*haq_k ^h
270. 'hide'	pul	pul	---	*puul
271. 'hoe'	---	aviñ	aving	*qawuñ
272. 'hold'	ayêq	kajiq	kajaaq/ kajooq	*kaj_q
273. 'hold'	yông	yúng	---	*y_ng
274. 'hold (in mouth)'	kubum	kubôm	kabóm	*kubóm
275. 'hole'	prúng	prúng	prung	*prung

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
276. 'hollowed out'	tôk	tông	drong	*drô_
277. 'honey'	mút (gall bladder)	mit(bile)	mit	*mut
278. 'hoof'	kachop	kanchop	sakóóp	*kancoop
279. 'hop'	ngchool	kanchôl	kachôl ^{HK}	*_c_l
280. 'horn, antler'	takoi	tankoi	tagái	*ta_k ^h _y
281. 'horse'	aséh	aséh	aseh	*qaseh
282. 'hot' (tasting)	hór	aháq/abár	haaq	*hAr/hAq
283. 'hot'	kutáu	kitau	---	*kitaw
284. 'house'	dông	dúng	dong	*d_ng
285. 'hug	rakéau	tarkéu	ka-o	*tark_w
286. 'hundred'	kulám	kulám	---	*kulam
287. 'husband'	kayak	kayáq	kayik	*kay_k
288. 'in'	klông	kallúng	kalóóng	*kl_ng
289. 'in-law'	lê	alêh	---	*lêêh
290. 'injury'	chôul	chôl	---	*coôl
291. 'wind instrument'	taréal	tirêl	tareel	*tir_l
292. 'intestines'	ruaj	roj	---	*róój
293. 'iron'	tak	taq	---	*taak
294. 'itch'	nsoj	asoj	---	*_sooj
295. 'jackfruit'	panás	panêh/ panás	paneh	*panas
296. 'jar'	---	cheq	cheeq	*ceeq
297. 'jaw'	tabang	tabang	tabaang	*tabaang
298. 'kick'	kachih	kichih	---	*kichih
299. 'kidney'	karcheil	---	chachial/ chachian	*_ceal
300. 'kiss, sniff'	houn	huñ/hôn	huñ	*h_ñ

<u>English</u>	<u>Brôu</u>	<u>Paõh</u>	<u>Katu</u>	<u>PEK</u>
301. 'knee'	rakól	tarköl	takól	*tark_l
302. 'knife'	achôu	achiu	---	*qac_
303. 'knife'	dau	dau	daau	*daaw
304. 'knife back'	kôur	kör	---	*koör
305. 'know'	koi	koi	---	*kooy
306. 'late'	saliaq	tulia	---	*Gulieq
307. 'laugh'	kacháng	kacháng	kachang	*kacang
308. 'to lead'	---	tök	tek ^{HK}	*tšek
309. 'lean'	pachêng	chachêng	---	*_cêêng
310. 'leech'	plaum	plôm	plâam	*plâam
311. 'legend'	nsôar	nsoar	---	*nsôar
312. 'lie, sleep'	bêq	bîq	böch	*boj
313. 'lie on back'	laliang	laliang	lalaang	*lalaAng
314. 'light, blaze'	ang	ang	aang	*qaang
315. 'light, bright'	klaq	tarklaq	---	*_klaaq
316. 'light weight'	ngheil	nghial	hangil	*nghiel
317. 'lime (fruit)'	cheing	cheng	---	*ceang
318. 'lime'	kupör	kapör	---	*k_p_r
319. 'lip'	tambör	tambir	buur	*tamb_r
320. 'little, few'	bêiq	beaq	mbuj	*b_q
321. 'liver'	luam	lom	lóom	*lóom
322. 'lizard'	rakot	tarkot	---	*t/carkot
323. 'lizard'	koui	koai	ngkuai	*ngkouy
324. 'loft'	sarung	tarrung	---	*Carung
325. 'long time'	doun	duñ	duañ/dañ	*d_ñ

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
326. 'lose'	lóp	lôp	---	*lôop
327. 'lose'	pê	pê	---	*pê
328. 'louse'	nchêi	nchê	nchai	*nc_
329. 'louse'	ntrên	ntrên	tarañ	*tanrên
330. 'louse'	kupet	kapeat(tick)	---	*kip_t
331. 'love'	---	láng	chláng	*_l_ng
332. 'lungs'	sóh	sóh	sóh	*sóh
333. 'maggots'	mpang	mpang	mpaang	*mpaang
334. 'magic power'---		kun	gun	*k ^h uun
335. 'male animal' tangkáh		tankáh	---	*tangkah
336. 'man'	takóng (single)	tankóng (married)	---	*_kong
337. 'mango'	priel	prêl	---	*prêl
338. 'many'	klúng	klúng	---	*klong
339. 'many'	bong	bong	---	*b/bong
340. 'meat'	sáj	sách/sêch	---	*sâJ
341. 'medicine'	raháu	tarhau	---	*Carháu
342. 'meet'	tamóh (find)	tamúh	---	*tam_h
343. 'middle'	mpúng	mpúng	-pong	*mpong
344. 'mildew'	pahoq	paroq	---	*pahrooq
345. 'mix'	talók	tarlúk	-luk	*tarl_k
346. 'a month'	ring(8th)	ring(5th)	---	*ring
347. 'month-7th'	roǒng	rong	---	*r_ng
348. 'moon'	kasái	kisái	kase	*kisáy
349. 'moonlight'	rliang	---	baruang	*__ieng
350. 'mortar'	tapál	tupál	tapal	*tupal

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
351. 'mosquito'	rayoong	rayông	rayông	*rayông
352. 'mother'	---	a-i	a-ai	*qaq_
353. 'mouth'	beik	rbeq	---	*_b/ʔeak
354. 'mountain'	kôh	kôh	---	*k_h
355. 'mouth'	bouq	boap	boop	*b_P
356. 'mud'	lúq	alúq	---	*_luq
357. 'muddy'	takál	tikál	takal	*tikál
358. 'mushroom'	triaq	tria	tri	*trieq
359. 'nail- finger, toe'	krêh	karreas	kariah	*kreas
360. 'naked'	lou	-lôh	lôh	*l_h
361. 'name'	dôq	doq	dóók	*d00k ^h
362. 'navel'	---	pôn	puun	*p_n
363. 'neck'	takong	tikong	---	*tik_ng
364. 'necklace'	suong	suang	---	*s_ng
365. 'needle'	sarúm	tarúm	jarum	*jar_m
366. 'nephew'	ramon	amon	---	*_moon
367. 'nest'	souh	---	saruh	*sr_h
368. 'net'	panáng	pináng	---	*pináng
369. 'net'	aliaj	---	-laj	*laJ
370. 'new'	tamáí	tamme ^{HP}	tame	*tame
371. 'next'	ntên	tatun ^{HP}	ntun	tant_n
372. 'nine'	takêh	tikeas	takiah	*tikeas
373. 'noisy'	ngói	ngái	---	*ng_y
374. 'noon'	toáng	---	dong	*t ^h _ng
375. 'nose'	múh	môh	moh	*mOh

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
376. 'odor-bad'	---	ching	chiing	*ciing
377. 'odor of urine'	song	song	---	*soong
378. 'old'	tiaq	tiaq	ti	*tieq
379. 'one'	muoi	môi	mui ^{HK}	*muy
380. 'only'	sâng	sâng	---	*sâng
381. 'open'	pôh	pôh	pôoh	*pôoh
382. 'open' (mouth)	kaha	kahôq	-huaq	*kah_q
383. 'otter'	phei	pihây	---	*pih_
384. 'outside'	tiah	taltiah	---	*_tieh
385. 'owe'	tu	tu	---	*t/t ^h u
386. 'palm, sole'	talang	tallang	palaang	*lapaang
387. 'papaya	ahông	pahông	---	*_h_ng
388. 'pass by'	luat	luat	luut/lóót	*luat
389. 'patch'	---	kupêl	bual	*_p ^h _l
390. 'peel'	sêil	sêl	sial	*sêêl
391. 'peel'	loát	loat	---	*l_t
392. 'person'	kôai	likuai/ tikuai	---	*kuay
393. 'pestle'	ntri	ntrái	ndre	*nt ^h _r_
394. 'pick'	---	pách	taboch	*p ^h _C
395. 'pick lice'	bôuj	bôj	---	*boôj
396. 'piece'	meing	meng	---	*meang
397. 'pig'	alík	alík	adâak	*qadlIik
398. 'pile'	bôun	boan	---	*bôun
399. 'pillow'	rakoul	tarkoal	---	*Carkoul
400. 'pine tree'	sango	ango	---	*hango

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
401. 'pineapple'	chuaq	chuaq/ chiaj	chuaq	*c_q
402. 'pipe'	bok (reach in hole)	bôk	bok	*bOk
403. 'pipes'	kên	khên	---	*_êên
404. 'reed pipes'	tarêal	tirêl	tareel	*tir_l
405. 'to plant'	chôh	chôh	choh	*coh
406. 'plant rice'	---	choi	chóoi	*cooy
407. 'play strgd. instrument'	ot	ot	óót	*qoot
408. 'pluck'	palêih	lêh	leh	*_lêêh
409. 'poison'	pih	pih	---	*piih
410. 'pole'	tong	tong	tóong	*toong
411. 'poor'	kadêit	kidit	---	*kidiit
412. 'posts(of house)'	tanôul	tinôl	tanâl/ tanól	*tinoôl
413. 'pot'	adêh	adêh	---	*qadeh
414. 'pot'	púng	púng	---	*pung
415. 'pound' (hammer)	têh	têh(forge)	---	*teh
416. 'pound rice over again'	---	truah	chruah	*cruah
417. 'pour'	rooh(to water)	trôh	---	*rôh
418. 'pour out'	sarúng	tong	trong/ sarong ^{HK}	*_r_ng
419. 'pull out'	pôj	pôs	poch/ pách ^{HK}	*pwâS
420. 'pull up'	rôq	ruq	rôôq	*r_q
421. 'pus'	panúng	pinúng	panung	*pinung
422. 'push'	---	kislar	kasiaq	*kisia_
423. 'quiet, still'	êir	êr	---	*qêêr
424. 'rainbow'	prêng	pi ^{HP} reng	mariang	*p_rEang
425. 'rainy season'	priah	priah	---	*prieh

<u>English</u>	<u>Brôu</u>	<u>Pagôh</u>	<u>Katu</u>	<u>PEK</u>
426. 'rash'	alaq	alaq	---	*qalaaq
427. 'rat, game'	kunâi	kune	---	*kun_
428. 'rattan'	krâi	kire	---	*kre
429. 'red'	kusáu	kuso	---	*kusaw
430. 'remember'	sañou/ sayou	ayu	---	*hayu
431. 'repair'	atúk	atúk	---	*qatók
432. 'respiratory trouble'	hein	hân	---	*h_n
433. 'return'	-chu	chô	chô	*cô
434. 'rhinocerus'	ramias	rmas	---	*ramaas
435. 'ribs'	taniar	nniar	naar/ nôor ^{HK} haró ^{HK}	*_n_r
436. 'rice-unhusked'	saro	trô	haró ^{HK}	*haró
437. 'rice-cooked'	avâj	---	aviq	*qawuj
438. 'rice-glutenous'	dêip	dêp	diab	*dêê_
439. 'rice-a variety of'	aruaj	---	-ruaj	*qaruaJ
440. 'rice-a variety of'	ahoum	aham	---	*qah_m
441. 'rice-a variety of'	kupuaq	kupôaq	---	*kup_q
442. 'rich'	sôk	súk	---	*s_k
443. 'ride'	dei q	diq	diq	*diiq
444. 'right (direction)'	atoam	atâm	atuam	*qatuam
445. 'ring'	sambeit	tarmeit	---	*Camb_t
446. 'rinse mouth'	kulók	---	kalok	*kulok
447. 'ripe'	---	dôm	dôm	*doôm
448. 'river'	kruang	kruang	karuung	*kruung
449. 'river mouth'	piak	piaq	---	*piek
450. 'road'	rana	karna	---	*karna

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
451. 'roast'	áng	âng	---	*q _{ng}
452. 'roast'	bôh	bôh	boh	*bôh
453. 'rocky'	trông	trông	trông	*trông
454. 'roll down'	---	lulô	palô	*lô
455. 'roll up'	pêal	peal	pual/puar	*pêal
456. 'roll up'	pom	pom	---	*poom
457. 'roof'	tapuang (pig trough)	tapuang	pabung	*p ^h uung
458. 'roof'	sarpo	po roofing)	mpo	*po
459. 'roof beam'	prang	prang	praang (surround)	*praang
460. 'roost'	---	trang	-trang	*troang
461. 'rooster'	tông	kông	gông	*_ông
462. 'root'	rêh	reas	riah	*reas
463. 'to root (of pig)	tuk	túk	tuuk	*tuuk
464. 'rotten'	abók	abúk	---	*qab/b _k
465. 'rotten'	nsóq	nsôq	nsoq	*nsoq
466. 'round'	vúl	víl	vil	*wul
467. 'round obj. (small)'	pañê	piñe	---	*piñê
468. 'row'	voah	váh	---	*woáh
469. 'rub eyes'	kutêil	---	katal	*kut _l
470. 'rub between hands'	kutor	kutar	---	*kut _r
471. 'run'	lúh	lúh	luh ^{HK}	*luh
472. 'rust'	---	atet	teet/ ^{HK} tech	*_teec
473. 'sacrifice'	-túk	túk	---	*t/t ^h ok
474. 'sad'	---	râu ri	parôu	*r _w
475. 'saliva'	viãq	avia	havi	*_avieq

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
476. 'salt'	boi	boi	boh ^{HK}	*booy
477. 'sand'	chôah	choah	suah	*_ôah
478. 'sap'	siet	sêt	jet	*SYêt
479. 'save'	saroung (s. crop)	---	trông (from drowning)	*_r_ng
480. 'scales (fish)'	nseil	---	sial	*_seal
481. 'scissors'	sarkeaq	tarkâb	---	*Cark__
482. 'scrape'	raklâh	klâh	---	*_klah
483. 'scratch'	bók	bâk	kabók	*_b_k
484. 'scratch with fingers'	---	pikrêh/ pikrás	kajaruas/ kakruak	*k_r_s
485. 'a scratch'	ralót/ rlôat	tarloat	---	*Carlôat
486. 'see'	salêiq	tilêq (look back)	---	*Cil_q
487. 'separate'	pôh (take apart)	pas (separate fibers)	---	*p_s
488. 'servant'	sôul	sôl	sâl	*s_l
489. 'set eggs'	panúm	panám	---	*panum
490. 'set trap'	to	to	---	*to
491. 'set trap'	sêu	sui	---	*s_w
492. 'seven'	tapul	tupôl	tapóol	*tupól
493. 'sew'	yêih	êh	ih	*_êeh
494. 'shake grain'	---	tê	nte ^{HK}	*ntê
495. 'shallow'	ndoul	pidul	---	*_duul
496. 'sharp'	hêng	hêng	---	*heng
497. 'sharpen'	bók	(bua j)	-baak	*b_k
498. 'sharpen'	kit	kit	kit	*kiit
499. 'sharpen'	koj	koj	---	*kooj
500. 'shelf'	tran	ntrôn	---	*ntr_n

<u>English</u>	<u>Brôu</u>	<u>Paoŋh</u>	<u>Katu</u>	<u>PEK</u>
501. 'shell'	ndôh	ndoah	taduah	*tandouh
502. 'shoot'	pân	pěñ	pañ	*pañ
503. 'short'	---	ng-êp	êep	*_qêêp
504. 'short'	kakéh/ ngkéh	kéh	---	*_keh
505. 'shoulder'	---	tarlang	chalaang	*carlaang
506. 'shoulder'	apal	apal	---	*qapaal
507. 'shrimp'	asuom	asôm	---	*qasum
508. 'sibling'	achai	achai	---	*qacaay
509. 'ygr. sibling'	eim	a-em	---	*qaqeam
510. 'silver'	proaq	práq	---	*proáq
511. 'similar'	êin	in	---	*qiin
512. 'sing at funeral'	aruai	aroi	---	*qaróóy
513. 'sit'	taku	-ku	---	*ku
514. 'six'	tapoát	tupát	sapat	*_pôut
515. 'skin'	ngkár	nkár	ngkar	*ngkár
516. 'sky'	paloŋg	pilóng léng pleng		*piloŋg pleng
517. 'slap'	tapáh	páh	-pah	*_pah
518. 'sleep' (sitting)	pôup	apôp	---	*_poôp
519. 'small'	kót	két	---	*k_t
520. 'smoke'	---	kuyáq	gayuak/ gayak ^{HK}	*k ^h uyuak
521. 'smooth'	---	kutear	katiar	*kutear
522. 'smooth'	siel	sêl	---	*sêl
523. 'snail'	klo	klo	---	*klo
524. 'snake'	kusân	kusěñ	kasañ	*kusăñ
525. 'snake'	tur	tur	---	*tuur

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
526. 'sneeze'	chás	chás	chuas	*c_s
527. 'soot'	samáng	kamáng	ramang	*_mang
528. 'a sore'	aleh	---	deh	*_dl_h
529. 'sores'	mpêih	mpêh	mpeh	*mpêeh
530. 'soul'	raviai	rvai	ravaai	*ravaay
531. 'spear'	kos	kos	kos	*koos
532. 'spider'	apêang	apiang	---	*qapiang
533. 'spirit'	yang	yang	jaang	*jaang
534. 'spit'	kuchóh	kuchôh	kachoh	*kucOh
535. 'split wood'	tadáh	tadóh	---	*tad/_a_h
536. 'split'	ploah	lah	blah	*_loáh
537. 'spouse's ygr.sibling'	rleip	alép	---	*_l_p
538. 'sputum'	karhak	karhuak	---	*karh_k
539. 'squash'	kadúk	kadúk	kadok	*kadok
540. 'squeeze out'	dáj	díq	díq	*dúj
541. 'stab'	choat	chát/ achít	chásach	*c_c
542. 'stalk'	rakong	tarkong	chakoong	*carkoong
543. 'stand'	yuor	yör	---	*yur
544. 'stand'	tayúng	tayúng	juang	*taj_ng
545. 'steal'	tuoj	tôj	---	*tuj
546. 'steam'	hóul	hoal	ahual	*_hóul
547. 'stick on'	apát	---	apuat (of mud, etc.)	*qap_t
548. 'sticky'	tabát	tabát	---	*tabát/c
549. 'still'	noáng	nnáng	---	*_nôung
550. 'sting'	sôuj	sôj (point)	soch	*s0ôj

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
551. 'stink'	noaq	nnáq	nnaq	*nnoáq
552. 'stomach'	púng	pallúng	palung	*pung
553. 'storm'	rapuq	rpuq	---	*rapuuq
554. 'straight'	tanoang	tanăng	---	*tanuang
555. 'stretch'	---	yuan	uan	*yUAN
556. 'stringed instrument'	---	tamprêh	tambreh	*tambrêh
557. 'strong'	bán	běñ/báñ	---	*b/bañ
558. 'strong'	ntáng	atáng (bitter)	tiang	*nt_ng
559. 'stub toe'	kudôh	kidúh	(ndás)	*k_d_n
560. 'stuffy nose'	dót	dut	---	*d_t
561. 'stump'	rangúl	tarngil	---	*Carngul
562. 'suck'	youj	děb	kajep/ đuuq	*jEp jUq
563. 'sugar'	dêng dang	dang	---	*d/đang
564. 'sugar cane'	kutau	atau	ataau	*_taaw
565. 'sunny'	phôak	puaq	---	*p_uak
566. 'sunset'	---	plôt	blôt	*p ^h loôt
567. 'surround'	kuvang	kavang	savaang	*_waang
568. 'swallow'	lun	lôn	lân	*lOUN
569. 'sweep'	p(ar)neih	prêh	piih/ priih ^{HK}	*p__h
570. 'sweet'	ngiam	nngam	---	*_ng_m
571. 'swerve'	vêr	vear	-viar	*wear
572. 'swollen stomach'	pus	pôs	---	*pós
573. 'swollen'	ás	ás	---	*qas
574. 'swollen'	---	êh	eh	*qêh
575. 'taboo'	tân	tán	điang	*đIang

<u>English</u>	<u>Brôu</u>	<u>Paoôh</u>	<u>Katu</u>	<u>PEK</u>
576. 'tail'	soi	soi	sóói	*sooy
577. 'take'	doung	dông	dǎang	*doung
578. 'teach'	(ataung)	achung	pachung	*_churang
579. 'tear' (V)	háq	heq	heek	*heek ^h
580. 'ten'	chít	chít	jét	*c ^h it
581. 'termite'	kumɕar/ kumour	kamoar	kamuar	*kumɕar
582. 'termite'	kumot	---	kamóót ^{HK}	*kumoot
583. 'there(far)'	tih	ntih	tēh	*tih
584. 'thigh'	nlu	pilau/ pulai	malau	*p_laaw
585. 'thin'	kada	kida	kadaq	*kida
586. 'thin'	oj	oj	óóch	*qooj
587. 'thirsty'	---	hál	rahaal	*rah_l
588. 'thread'	---	kapas	kapas ^{HK}	*kapoas
589. 'three'	pái	pe	pe	*pe
590. 'throat'	arooq	arôq	---	*qar_q
591. 'thumb'	ngkúm	nkúm	---	*ngkom
592. 'thunder'	krúm	krúm	grom	*k ^h rom
593. 'tickle'	---	kalék	balek/ balôk	*_lek
594. 'tight'	tán	táng	---	*t/t ^h ang
595. 'a time'	chou	chu	chu	*cu
596. 'tinder'	lavut	lavít	kabit	*kaBlut
597. 'tired'	aleh(sore)	aleq	gleh	*qadl_H
598. 'tobacco'	houx	hut	---	*huut
599. 'tomorrow'	parnau	parnô	---	*parná
600. 'tongue'	---	ntaq	ntaak	*ntaak

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
601. 'tooth'	kaneing	kineng	kaniang	*kineang
602. 'top'	---	tua	tu	*t_
603. 'touch'	---	kapɔj	kapɔq	*kapɔɔ_
604. 'trail'	kluang	klong	plong	*klóóng
605. 'transport'	patiang	pateang	---	*pataeng
606. 'trap'	---	sing	siing	*siing
607. 'trap'	akáp	kiap	---	*_k_p
608. 'trap(fish)'	aruong	aruang	aruung	*qarUUng
609. 'trap(fish)'	(arám dry bamboo)	aram	araam	*qaraam
610. 'tray'	padien	adian	---	*pad_n
611. 'tree'	aluang	along	nlóóng	*_lóóng
612. 'turn'	palôh	pilôh	palah	*pil_h
613. 'turtle'	---	akop	kóóp	*koop
614. 'tusk'	paluak	paloq	(balua)	*pal_k
615. 'tusk'	kloui (fangs)	klôs	kluai	*klou_
616. 'twist'	puan	pon	puan (roll up)	*pUÁn
617. 'twist'	tavêat	tuveat	---	*tuwêat
618. 'two'	bar	bar	bɔɔr	*b_r
619. 'umbrella'	ru	ru	(du)	*ru
620. 'uncle'	añi	añi	---	*qañi
621. 'under'	karôum	karrum	karum	*karuum
622. 'unroll'	liai (unwind)	lai	---	*laay
623. 'unwrap'	paliang	---	luang	*_lieng
624. 'urinate'	kuklôum	klôm/ kaklom	klóm	*kl_m
625. 'a vegetable'	bát	bát	---	*b/bat

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
626. 'Vietnamese'	yuan	y oan	---	*y_n
627. 'vomit'	kuta	---	kata	*kuta
628. 'wait'	apoan	pân	pân	*pUAn
629. 'wait'	akoan	kôn	---	*k_n
630. 'wall'	ratâng	rtâng	---	*ratâng
631. 'wallow'	roam	roam	---	*r_m
632. 'warm by fire'	ngheing	heng	haang	*_heeng
633. 'wash'	ariau	rau	araau ^{HK}	*qaraaw
634. 'wash face'	---	boaj	buach	*bouj
635. 'wash clothes'	pooh	phiah	puah	*p_h
636. 'wasp'	hong	hong	hóong/ hoong	*hoong
637. 'water'	dauq	daq	đoók	*a_k ^h
638. 'waterfall'	sarúh	achúh	ajuh	*qac ^h uh
639. 'wear'	sóp	nsop	sóp	*_s_p
640. 'weave'	tan	tañ	taanñ	*taanñ
641. 'wet'	---	jíp/juq	jep/jip	*jip
642. 'whip'	proas	rás	---	*pruas
643. 'whistle'	kahouj	kakhoaj	kahuach	*kahouj
644. 'white'	klok	kloq	---	*klook
645. 'widowed'	kumai	kammai	kamaai	*kumaay
646. 'wind'(N)	seang	seang	---	*saeng
647. 'wind'(V)	poar	poar	puar/puar	*p_r
648. 'window'	---	alúh	aluh	*qaluh
649. 'wine'	siu	siau	---	*sIAw
650. 'winnow'	u-ôum	ôm	óm	*_qoôm

<u>English</u>	<u>Brôu</u>	<u>Pacôh</u>	<u>Katu</u>	<u>PEK</u>
651. 'wipe'	chut	juat	juut	*_uut
652. 'woman'	kán	kán	-kan	*kan
653. 'woods'	arus	arus	---	*qarutus
654. 'woods'	sarúng	trúng	ṭ--	*_róng
655. 'work'	---	proaq	bruaq	*br_q
656. 'work'	táq	táq	taq ^{HK}	*taq
657. 'worm'	saduong	tarduang/ tiduang	---	*C_duang
658. 'worm'	prui	pirui	barui	*p ^h irUÚy
659. 'worm (stomach)'	---	mrêh	mmreh	*_mrêh
660. 'worm(earth)'	lôui	tuloi	---	*tul_y
661. 'wrap'	kayóm	jôm/tôm	tôôm/duum	*j_m t_m
662. 'wrestle'	sarúm	tarrúm	---	*Caróm
663. 'wring'	viat	viaq	viaq	*wiat
664. 'writing'	sraq	uraq	---	*_uraaq
665. 'yarn'	pariai	parai	---	*paraay
666. 'yawn'	sa-ap	ng-ap	a-aap ^{HK} / ha-aap	*hangqaap
667. 'year'	kumo	kumo	kamó	*kumó

CHAPTER V

CONCLUSION

Summary

In the East Katuic languages there has been a great deal of shifting, especially in the vowels. But the consonants have also had some shifts, particularly within the stops. When the consonants in both the main syllable initial position and main syllable final position have shifted, it is practically impossible to reconstruct the vowels because almost every case is unique.

The most common consonants in Proto-East-Katuic are *k and *p initially and *ng finally. The most common vowels are *a and *aa.

There is considerable evidence of allophonic variation in Proto-East-Katuic. The reflexes tend to split up on the basis of the final consonant, generally dividing between reflexes before velars (*ng, *k, *h, *q) and reflexes before non-velars. *m frequently patterns with the velars.

In these languages with large numbers of both consonants and vowels it takes a much larger list of cognates to establish all the proto phonemes. However, for Proto-East-Katuic, with a little under seven hun-

dred probable cognates, the broad outlines and many of the details have been reconstructed.

Areas needing more work when more cognates are available are the pre-syllables, final stops, and vowels where the cognate sets have been short or incomplete. Very likely further work on the vowels, particularly on the glides, will reveal a prosody of register.

Alternate Solutions to the Final Stop Problem

Proto-East-Katuic has two final stops--*k^h and *j-- which do not fit into a regular series of stops. The initial stops have four complete series. It may be that *k^h and *j are the only remaining attested stops from a full series which once occurred in the final position. In both cases the reflexes involve a glottal stop in one or two languages and a non-glottal stop in the rest: *k>B q, P q, K k and *j>B j, P j, K ch (j is phonetically [ⁱq]). One of the allophones of final *t has glottal stop: *t>B t, P q, K q after front glided vowels. It may be that the paucity of cognates accidentally limits the environments for the reflexes and that there was originally another kind of t. There are also several words involving p and glottal stop reflexes. There is no regularity between these so it is hard to tell if one or all may reflect a stop different from *-p.

If there was another full series of stops in final

position, presumably the proto stops were glottalized, as all these exceptions to the regular reflexes have glottal stop.

It is regrettable that we do not have more examples, but it is noteworthy that Dampwolff had great difficulty establishing the final voiced stops for Proto Malayo-Polynesian because the Tagalog and Javanese forms, which were the witnesses for the voicing, were scarce (1934, pp.42, 43).

Another possibility to explain these reflexes with glottal stop is that the loss of register distinctions in the vowels could have left its trace in the consonant reflexes. Smith (to be published) has found that in one dialect of Sedang, many of the final consonants have been replaced by glottal stop from the laryngealization of the vowel.

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