The Kalamian Microgroup of Philippine Languages[*]

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The Kalamian (Klm) microgroup of Philippines languages, spoken in the northern parts of Palawan province, consists of Agutaynen and several dialects of Kalamian Tagbanwa. It is set apart from other microgroups by a body of uniquely shared lexical innovations and by the configuration of phonological rules that derive the modern languages from Proto-Philippines. An examination of the Klm lexicon indicates that the Klm languages are not particularly closer to one other microgroup than they are to the others. Application of the phonological rules allows the identification of items borrowed into Klm languages, and it provides some indication of the source of the borrowed item. These rules also permit the reconstruction of Proto-Philippine lexemes that can be added to those already established.

The abbreviations used in this paper are:

Agu	Agutaynen
Btk	Batak of Palawan
Klm	Kalamian
Krm	Karamiananen
PAn	Proto-Austronesian
PKlm	Proto-Kalamian
PMP	Proto-Malayo-Polynesian
PPh	Proto-Philippines
TbwA	Aborlan Tagbanwa
TbwC	Central Tagbanwa
TbwK	Kalamian Tagbanwa

1. Introduction

The northern reaches of Palawan province are home to the pair of languages, Agutaynen (Agu) and Kalamian Tagbanwa (TbwK), that constitute the Kalamian microgroup of Philippine languages. Agutaynen is native to Agutaya and five smaller islands in Cuyo island group, and it is spoken in Roxas, San Vicente and Brooke's Point municipalities on the Palawan mainland. There are also Agutaynen-speaking groups in Puerto Princesa, Manila, and elsewhere. Kalamian Tagbanwa is spoken in the northern islands of Palawan, primarily near Coron and Busuanga on Busuanga Island. Ethnologue (2004) notes a distinct dialect of TbwK in Baras on the Palawan mainland opposite Dumaron Island. The data provided in Reid (1977) are from the dialect spoken at Coron. On and near the island of Busuanga a slightly different dialect of Tagbanwa is spoken. Those who speak this dialect and who have adopted a lowland lifestyle refer to their language as Karamiananen, while the speakers of virtually the same dialect (95% cognate on a 100-item lexicostatistical list) on nearby Dipalengged Island call their language Tagbanwa. For our purposes here I will refer to this latter speech form as Karamiananen (Krm), a coordinate dialect with Tagbanwa of Coron (TbwK), both of them equidistant from and equally related to their sister language, Agutaynen. The percentages of shared cognates are as follows:

	Agu		
Krm	.88	Krm	
TbwK	.88	.91	

2. Phonology

The phonemic inventory of Proto-Philippines (PPh) included the following consonants according to Blust (1991:88): *p, *t, *k, *q, *b, *d, *z, *j, *g, *s, *h, *m, *n, *ñ, *N, *l, *r, *R, *w and *y. The four PPh vowels are *i, *e (schwa), *u and *a. Stress was also phonemic in PPh. Proto-Kalamian (PKlm) seems to have lost stress as a phonemic feature.

2.1   Vowels

The Klm languages have inherited the four vowel system of PPh. All four vowels are regularly reflected as the earlier forms, although the non-low central vowel is raised and represented as /ɪ/.

Only /i/ and /u/ seem not to have undergone any changes. In some environments the other two vowels have succumbed to assimilation.

2.1.1 *a

When, because of consonant loss, vowel clusters are formed, *a as the first vowel assimilates to a following /i/ or /ɪ/.

*`lalaki`[2]	'man'	*`lalai`	`lalii`	(TbwK)
*`sakit`	'pain'	*`sait`	`siit` (TbwK)	
*`ta{ }eb`	'sea'	*`taIb`	`tIIb` (TbwK)	

Although the data are severely limited, it appears that clusters of the low vowel persist as such unless followed by a final voiceless stop.

*`bahaR`	'G-string'	*`baaR`	`baal` (Agu, Krm, TbwK)	
*`na{ }a`	'this'		`naa` (Agu, Krm, TbwK)	
*`bahaq`	'flood'	*`baak`	`bIIk` (Krm)	

2.1.2 *e

The non-low central vowel has undergone a number of shifts due to the influence of a nearby vowel. Within a morpheme, at least, *e assimilates to a high vowel in the following syllable.

*`esi`	'flesh'	*`?Isi`	`?isi?`	(Agu), `?ic&i?`	(Krm)
*`ebu`	'to smell'	*`?Ibu`	`?uBu?`	(Krm, TbwK)	

The high central vowel is backed to /u/ if preceded by /u/ and followed by a final voiced consonant, and it is lowered to /a/ if followed by a final voiceless consonant.

*`bituqen`	'star'	*`bitukIn`	`bitukun`	(Agu, Krm, TbwK)	
*`qulej`	'worm'	*`kulId`	`kulud`		(Agu, Krm)
*`buhek`	'hair'	*`buI?`	`bua?`	(Agu, Krm, TbwK)	
*`buReh`	'to spit'	*`bulIh`	`bula?`		(TbwK)

Thiessen (1981:29) notes that Batak (Btk) and Aborlan Tagbanwa (TbwA) also share the rule by which *e is reflected as /u/ in a syllable contiguous to another /u/. These two languages also reflect PAn *`Sesi` 'flesh' as `?isi`, rather than the expected *`?Isi` 'meat, flesh.'

2.1   Consonants

PKlm inherited the voiced stops (b d g), the nasals (m n N), the liquids (l r) and the glides (w y) intact from PPh. *p, *t and *s also entered PKlm without change, although subsequent rules have affected them in some environments. The remaining consonants—*k, *q, *h, *z, *j, *ñ, *R, and *?— have undergone notable changes.

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[2] Ancestral forms with a single asterisk (such as *`lalaki`) can be attributed to Proto-Philippines (or higher). Those with a double asterisk (such as **`pIlIk`) are attributed to Pre-Kalamian.

2.1.1   *z, *j

*j and *z merged with *d, and in all three languages /d/ is manifested as /r/ intervocallically.

*zalan	'path'		dalan	(Agu, Krm, TbwK)
*tazem	'sharp'	*ma-tadem	matarIm	(Agu, TbwK)
*hujuN	'nose'	*?uduN	?uruN	(Agu, Krm, TbwK)
*qujiN	'charcoal'	*kudiN	kuriN	(Agu, Krm, TbwK)
*qulej	'worm'	*kulId	kulud	(Agu, Krm)
*qedeN	'to stand'	*kIdIN	kIrIN	(Agu, Krm, TbwK)

2.1.2   *ñ

The palatal nasal merged with *n.

*n$amuk	'mosquito'	namu?	(Agu, Krm, TbwK)
*paNan$uj	'cloud'	paNanud	(Krm, TbwK)

2.1.3   *R

*R is merged with /l/ in all environments.

*Ramut	'root'	lamut	(Agu, Krm, TbwK)
*bahaR	'G-string'	baal	(Agu, Krm, TbwK)
*duRih	'bone'	duli?	(Agu, Krm, TbwK)
*beRsay	'paddle'	bIltay	(Agu, Krm)

2.1.4   *h, *?

Both *h and *? have been lost in all positions, although glottal stop occurs as an initial consonant on otherwise vowel-initial words, and a non-phonemic glottal stop occurs on all otherwise vowel-final words.

*heyep	'blow'	?IyIp	(Agu, Krm, TbwK)
*qaluh	'pestle'	kalu?	(Agu, Krm, TbwK)
*tuhud	'knee'	tuud	(Agu, Krm, TbwK)
*qadu?	'ladle'	karu?	(Krm, TbwK)
*ha-di?put	'short'	diput	(Agu, Krm, TbwK)
*du?{eu}n	'there'[3]	duun	(Agu, Krm, TbwK)

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[3] Reconstructed forms containing either of two possible phonemes have those phonemes in square brackets; e.g., *du?{eu}n has reflexes of both du?un and du?en. Those with a

2.2.5 Voiceless Consonants Before a Consonant

In Agutaynen, the voiceless obstruents /p t k q s/ are all reflected as /ʔ/ when immediately preceding another consonant.[4]

*pia	'good'	*mu-pia	*mupya	mu?ya
**pIlIq	'discard'	*?i-pIlIk	*?iplIk	?i?lIk
*beteN	'to pull'	*bItIN-In	*bItNIn	bI?NIn
*lakbaN	'wide'	*ma-lakbaN		mala?baN
*daqtaR	'floor'	*daktal		da?tal
*qaslem	'sour'	*kaslIm		ka?lIm

The non-labial voiceless obstruents are manifested as /k/ in TbwK.

*pia	'good'	*mu-pia		mupya
*tudul	'to dig'	*pa-tudul	*patdul	pakdul
*lakbaN	'wide'	*ma-lakbaN		malakbaN
*daqtaR	'floor'	*daqtal		daktal
*qaslem	'sour'	*kaslIm		kaklIm

Krm also maintains /p/, and it merges /t/ and /s/ with /k/, which then shifts to /ʔ/ in this environment. *q is manifested as /k/.

**pIlIq	'to lose'	*na-pIlIk		naplIk
*tudul	'to dig'	*pa-tudul	*patdul	pa?dul
*lakbaN	'wide'	*ma-lakbaN		mala?baN
*qaslem	'sour'	*kaslIm	*kaklIm	ka?lIm
*daqtaR	'floor'	*daqtal		daktal
*tuqlid	'straight'	*ma-tuqlid		matuklid

There is one item in Agu and Krm which appears not to conform to these rules. This is the reduplicated monosyllable *tuktuk 'forehead,' which is manifested as *tutu* (Agu) and *tutuan* (Krm). Likewise, the precursor to Agutaynen *kalipapa?* wing was probably **qali-pakpak, from PPh *pakpak 'wing.'

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segment which may or may not have been present have that segment in parentheses; e.g., the form ancestral to *lubay*, *lumbay* and *luNbay* is represented as *lu[N]bay*.

[4] The data for this rule are tenuous for TbwK. Ruch (1974), for example, cites *wislik* 'shake off' instead of *wiklik*.

2.2.6　*k, *q

In all other environments, *k is lost (and replaced with glottal stop if initial or final).

*katel	'itch'	*atIl	?atIl	(Agu, Krm, TbwK)
*sakit	'pain'	*sait	siit	(Agu, TbwK)
			c&iit	(Krm)
*manuk	'chicken'	*manu	manu?	(Agu, Krm, TbwK)

*q is reflected as /k/ in all three languages.

*qenay	'sand'	*qInay	kInay	(Agu, Krm, TbwK)
*heyaq	'shame'	*Iyaq	?Iyak	(Agu, Krm, TbwK)
*taqun	'year'		takun	(Agu, Krm, TbwK)

2.2.7 *t, *s

Both *t and *s are reflected as such in TbwK. In Agu and Krm, *s is reflected as /t/ in all environments except immediately preceding /i/. Likewise, *t is reflected as /t/ in the same environments. Immediately before /i/, Agu reflects both *t and *s as /s/, and Krm as [c&].

		Agu	Krm	TbwK	
*taqun	'year'	takun	takun	takun	
*batu	'stone'	batu	batu	batu	
*tiyan	'belly'	siyan	c&iyan	tian	
*punti	'banana'	punsi?	punc&i?	punti?	
*qasiN	'salt'	kasin	kac&in	kasin	
*nipis	'thin'	manipit	manipit	manipis	
*qasawa	'spouse'	katawa?	katawa?	kasawa?	

2.2.8 Voiced Stops

It was noted above that /d/ is manifested as /r/ intervocalically in all three speech forms. The Tbw dialects demonstrate a weakening of the other two voiced stops between vowels. Both dialects have a voiced bilabial fricative as an allophone of /b/, this being weakened even further to /w/ in Krm when between a high vowel and /a/.

		Agu	Krm	TbwK	
*babuy	'pig'	babuy	baBuy	baBuy	
*lubug	'lie down'	lubug	luBug	luBug	
*bibiR	'lip'	bibil	biBil	biBil	
*lu[N]bay	'weak'	malubay	maluway	maluBay	
*Re?bat	'heavy'	---	malIwat	lIBat	

(There are no instances in the data of the sequence /iba/.)

The intervocalic voiced velar stop is manifested phonetically as [h] in Krm and as [v] in TbwK.

		Agu	Krm	TbwK
*****lagIm*	'black'	*lagIm*	*lahIm*	*laVIm*
**lagi?*	'old'	*lagi?*	*lahilahi?*	*laVilaVi?*
*tageb	'scabbard'	*tagIb*	---	*taVIBan*
**-agad*	'child-in-law'	*ninagad*	*minahad*	*minaVad*

2.2.9 Final Diphthongs

Most diphthongs in word-final position that are inherited from PPh (some of them ultimately from PAn) are interpreted as such, with *-ey reinterpreted as *-ay.

		Agu	Krm	TbwK
*qaljaw	'sun, day'	*kaldaw*	*kaldaw*	*kaldaw*
*quhaw	'thirst'	*kuaw*	*kuaw*	*kuaw*
*Sapuy	'fire'	*?apuy*	*?apuy*	*?apuy*
*pajey	'rice plant'	*paray*	*paray*	*paray*
*qaqay	'foot'	*kakay*	*kakay*	*kakay*

Some final diphthongs, on the other hand, are treated as vowel clusters and they follow rules for vowel assimilation, while others are treated as diphthongs.

		Agu	Krm	TbwK
**bala°i*	'co-parent-in-law'	---	*balii?*	*balii?*
*la-laki	'man'	*lalii?*	*lalii?*	*lalii?*
*ba-baHi	'woman'	*babay*	*baBay*	*baBay*

And one item is treated differently in the Tbw dialects than in Agu. The reconstructed item **wa?i[k?]* 'water' appears to be an innovative form from PAn **wa[h0]iR*. While Agu allows for the vowel assimilation to occur, Krm and TbwK interpreted the term as having a final diphthong.

***wa?i[k?]*	'water'	*wii?*	*way*	*wai?*

2.2.10   Summary of Sound Changes

Some of the sound change rules posited here are necessarily ordered relative to each other. They are listed in Table 1 in the order in which they are likely to have occurred.

Table 1. Phonological rules for the derivation of Kalamian languages from PPh

1)   *h, *?   >   0
        *j, *z   >   d

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     *ñ              >        n
     *R              >        l
     *e              >        i, u/ ___ C i, u
                     >        u         / u C ___
                     >        a         / ___ [C –voice] #
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2)   *d   >   r   / V ___ V

3)   In Agu, *[obstruent – voice]   >   /ʔ/   / ___ C
     In Krm, *t, *k, *s   >   /ʔ/   / ___ C
            *q   >   /k/   / ___ C
     In TbwK, *t, *k, *q, *s   >   /k/   / ___ C

4)   *k   >   0   / ___ V, ___ #

5)   *q   >   k

6)   *a   >   i, ɪ   / ___ i, ɪ

7)   In Agu, Krm   *t   >   s   / ___ i
                         *s   >   t   / ___ [V – front], #

8)   In Krm,   *s   >   c&   / ___ i

9)   In Krm, TbwK   *b   >   B   / V ___ V

10) In Krm,   *B   >   w   / [V + high] ___ a

11) In Krm   *g   >   h   / V ___ V
     In TbwK   *g   >   V   / V ___ V

12) 0   >   ?   / # ___, V ___ #

3. Pronouns

The Kalamian pronouns form a set distinct from all others, although individually they are derived from PPh etyma.

3.1 Nominative Pronouns

The full form nominatives are as follows:

	Agu	Krm, TbwK		Agu	Krm, TbwK
1s	*yuu?*[5]	*yuu?*	1p	*yami?*	*yami?*
			1+2p	*?ita?*	*?ita?*
2s	*yawa?*	*yawa?*	2p	*yamu?*	*yamu?*
yamu?					

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[5] Phonetically [*yo*].

3s		*tanandiya?*	*tanya?*	3p		*tanira?*

tanira?

There is no form in the Klm languages for the 1+2s 'we (dual).' Instead, as in Tagalog, the 1+2p form is used.

On the basis of these forms we can reconstruct for PKlm the following set:

1s		*******?i-ku?u*	1p		***?i-kami*
			1+2p		***?i-kita*
2s		***?i-kawa*	2p		***?i-kamu*
3s		***tan[an]-[di]ya*	3p		**tan-ida

Although there is no direct evidence for the prefix in the 1+2p form, symmetry suggests that PKlm had a prefix ***?i-* for the non-third person pronominals and a prefix ***tan[an]-* for those in the third person. The 1s and 2s items, prior to the affixation, may have been formed by adding an echo vowel to form a two-syllable pronoun comparable to those in the plural forms. Compare the PPh long nominative set.

1s		**?aku*	1p		*kami
			1+2p		*kita
2s		*kaw	2p		*kamu
3s		**ia[h]*	3p		*ida

The subject marking prefix **?i-* is not limited to Klm, but it appears also in Bashiic, Cordilleran, Umirey Dumagat and Sangiric.

3.2 Genitive Pronouns

All three of the Klm speech forms have the same set of genitive pronouns, with the exception of the 1p item which appears in Agu as *-amIn* and in Krm and TbwK as *-yamIn.*

1s		*-u*	1p		*-[y]amIn*
			1+2p		*-ta*
2s		*-mu*	2p		*-mi*
3s		*-na*	3p		*-nira*

The set of genitives that we can reconstruct for PKlm, with the exception of the 2p form, are clearly derived from PPh or higher.

	PPh	PKlm
1s	*ku	**-*ku*
2s	*mu	**-*mu*
3s	*na	**-*na*
1p	*amen	**-*[y]amIn*

1+2p	*`ta`	**-`ta`
2p	*`mi`	**-`mi`
3p	*`ni[n]da`	**-`nida`

The evidence for the 2p genitive form is tenuous. The northern Palawan languages Batak, TbwA and TbwC have `mi`, and Inati of Panay has `kimi` and `mim`. Given their geographical proximity to the Klm languages, diffusion in some direction could have occurred.

4. Uniquely Shared Innovations

There are a number of innovations that appear to be shared exclusively by the Kalamian languages. For an item to be attributed to PKlm it must have a reflex in Agu and at least one of the Tbw dialects. Innovations that are identified are of two types, phonological/morphological and lexical.

4.1 Phonological/Morphological Innovations

Those terms that appear to derive from an etymon at a higher level of reconstruction but do not reflect the regular sound change rules are considered innovative. There are 5 of this type. All items reconstructed here are given at the Pre-Kalamian level for ease of comparison with other languages.

**`?i-ku?u` 'I'

>>Agu `yuu?`, Krm, TbwK `yuu` 'I.' This appears to come from PAn *`ku` 'I' with the addition of a vowel and the pronominal prefix *`?i-`. Cf. Ayta (Abellen) `hiko.o` 'I.'

**`dIlIp` 'swim'

>>Agu, Krm `dIlIp` 'to swim' Cf. PAn *`lezep` 'to dive.' Cf. Casiguran Dumagat `lIdIp` 'to swim under water.'

**`tan[an]` – '3rd person marker'

>>Agu `tanandiya?`, Krm, TbwK `tanya?` 'he/she,' Agu `tanira?`, Krm, TbwK
>`tanira` 'they' Cf. Kuyunen and Kinaray-a `tana` 'he/she.' The singular forms seem to be based on PAn *`ia[h]` 'he/she,' and the plural forms on PMP *`iDa` 'they.'

**`tim{Iu}d` 'chin, heel'

>>Agu `simId`, Krm `c&imud` 'chin;' Krm `c&imud yaN kakay`, TbwK `timId` 'heel'
>Cf. PAn *`timid`, *`timij` 'chin.'

**`wa?i[k?]` 'water'

>>Agu `wii?`, Krm, TbwK `wai?` 'water.' Cf. PAn *`wa[h0]iR` 'water.' The
>expected Klm form is *`wiil`. This has diffused into TbwC as `wai` 'water.'

4.2 Lexical Innovations

A number of lexemes in the Klm languages are most likely innovative and uniquely shared within the microgroup. They include the following:

**_g{aI}[k]Id_ 'bolo'
Agu, Krm, TbwK _gIId_ 'bolo'

**_gukuy_ 'to call'
Agu _gu?yan_, Krm, TbwK _guuy_ 'to call'

** _[k]alINIt_ 'near'
Agu, Krm, TbwK _?alINIt_ 'near'

** _[k]aniN_ 'to say'
Agu, Krm, TbwK _?aniN_ 'to say'

** _[k]IlId_ 'to fear'
Agu, Krm, TbwK _?IlId_ 'to fear'

** _[k]ImIt_ 'face, cheek'
Agu, TbwK _?ImIt_ 'face;' Krm, TbwK _?ImIt_ 'cheek' This has diffused into
TbwC as _?ImIt_ 'face.'

** _[k]IpIt_ 'old (person)'
Agu, Krm _mIIpIt_, Krm, TbwK _maIpIt_ 'old (person)'

** _[k]IqIl_ 'to bring'
Agu, Krm _?IkIl_, Krm _?Iklan_ 'to bring'

** _[k]imud_ 'to laugh'
Agu, Krm, TbwK _?imud_ 'to laugh'

**_lagIm_ 'black'
Agu _lagIm_, Krm _malahIm_, TbwK _laVIm_ 'black' Cf. Tagalog _lagi!m_
'gloom, downhearted feeling.' This item has diffused into TbwC as _lahIm_
'black.'

**_lanaw_ 'honey'
Agu, Krm _lanaw_ 'honey' Also borrowed into TbwC as _lanaw_
'honey.'

**`lIblIb` 'wall'

Agu, TbwK `lIblIb` 'wall' Cf. Iloko `lebleb` and Northern Kankanaey `lIblIb`

'border or rim of a basket;' cf. also Tagalog `libli!b` 'hidden, secret (place).' Diffused into TbwC as `lIblIb` 'wall.'

**`liwag` 'difficult'

Agu, Krm, TbwK `maliwag` 'difficult;' Krm `maliwag` 'poor' Cf. Tagalog

`liwag` 'slowness to act.'

**`pIlIq` 'to throw (away), to lose'

Agu, TbwK `pIlIk` 'to throw, toss;' Agu `?i?lIk`, TbwK `?ipIlIk` 'to throw

away;' Krm `naplIk`, TbwK `pIlIk` 'to lose'

**`pinli` 'rope, string'

Agu, Krm, TbwK `pinli?`, 'rope,' Krm, TbwK `pinli?` 'string'

**`qandas` 'liver'

Agu, Krm `kandat`, TbwK `kandas` 'liver' Diffused into TbwC `kandat`

'liver.'

**`qa{st}i{st}iya[k]` 'armpit'

Agu `kasi?iya?,` Krm `kac&ic&a?` 'armpit'

**`qulit` 'white'

Agu `kulit`, Krm, TbwK `makulit` 'white' Borrowed by TbwC as `kulit`

'white.'

**`{st}agbIN` 'to kick'

Agu, Krm `tagbIN` 'to kick'

**`si{dr}aq` 'to delouse'

Agu, TbwK `sirak`, Krm `c&irak` 'to delouse' Borrowed into TbwC as

`magtirak` 'to delouse.'

**`si{dr}uq` 'to burn'

Agu, TbwK `siruk`, Krm `c&iruk` 'to burn' Cf. Southern Alta `tedok` and Obo

(Manobo) `tiduk` 'to burn.'

**{st}impIN* 'to swell'

Agu *simpIN*, Krm *c&impIN* 'to swell' Borrowed into TbwC as *manimpIN*

'to swell.'

**{st}iNgi* 'red'

Agu *siNgi?*, TbwK *c&iNgi?* 'red' Also borrowed into TbwC as *matiNgi*

'red.'

**{st}u{dr}ubul* 'slave'

Agu *turubulun*, Krm *turuBulun* 'slave'

**talipaqa* 'frog'

Agu, Krm, TbwK *talipaka?* 'frog' Diffused into TbwC as *talipaka*

'frog.'

**tinaNuni* 'body'

Agu *sinaNuni?*, Krm *c&inaNuni?*, TbwK *tinaNuni?* 'body' Borrowed into

TbwC as *tinoNi* 'body.'

**tulm{Iu}n* 'to push'
Agu, Krm, TbwK *tulmun* 'to push'

5. Kalamian and Other Groups

5.1   Evidence of Diffusion.

The nearby Palawanic microgroup of languages—including Aborlan Tagbanwa (TbwA), Central Tagbanwa (TbwC), Batak (Btk), the various dialects of Palawan (or Palawano) (Plw) and Molbog (Mol)—coalesce with others into the Greater Central Philippines group (Blust 1991). The members of this larger group share certain phonological commonalities, such as reflecting PPh *R as /g/. Most of them share some lexical and semantic innovations as well. Yet in some Palawanic words, Blust points out, wherein a /g/ reflex of *R is expected, we find /y/ instead. He attributes these occurrences to the influence of a substrate, related to the "Central Luzon" microgroup (Sambalic and Northern Mangyan) that must have been displaced or assimilated by the more recent Greater Philippines settlers. In Sambalic and Northern Mangyan, as well as in Bashiic, *R is regularly reflected as /y/. Examples of Palawanic words containing an unexpected /y/ include:

**beRek* 'pig'   TbwA *bIyIk* (expected **bIgIk*) Cf. Iraya, Alangan, Tadyawan *bIyIk* 'pig.'

ZaRum 'needle'   Btk `dayum` (expected *`dagum`) Cf. Sambal, Iraya `kadayum`, Alangan `kurayum`, Tadyawan `karayum` 'needle.'

tubaR 'answer'   Btk `tubay`, TbwC `tuvay` (expected *`tubag`) Cf. Sambal `tubay` 'answer.'

The Kalamian languages also demonstrate this phenomenon. Some examples are:

?ikuR 'tail'   Krm, TbwK `?ikuy` (expected *`?iyul`) Cf. Sambal, Iraya, Alangan, Tadyawan `?ikuy` 'tail.'

niu!R 'coconut'   Agu, TbwK `niyuy` (expected *`niyul`, *`niul`) Cf. Ivatan `niyuy` 'coconut.'

tu!RaN 'parent-in-law' Krm, TbwK `punyaNan` (expected *`punulaNan`) Cf. Sambal Tina

`katyaNan` 'parent-in-law.'

Speakers of the Klm languages may also have displaced or assimilated an earlier population having the /y/ reflex of *R. More likely, they were established in their current territory but came into inevitable contact with such speakers and experienced some lexical give and take with them. The Klm languages certainly have borrowed from their contemporary neighbors such as Kuyunen, Tagalog and the northern Palawanic languages. Evidence of this diffusion abounds:

DiRuq 'to bathe'   Agu `digu`, TbwK `diVu` (expected *`diluk`) Cf. Hiligaynon `digu?` 'to

bathe.'

beRkes 'bundle'   Agu `bIgkIt` (expected *`bIlIt`) Cf. TbwA `bIgkIs` 'bundle.'

hi!paR 'sister-in-law'   Krm, TbwK `?ipag` (expected *`?ipal`) Cf. Tag, Hiligaynon `hipag`,

Kuyunen `?ipag` 'sister-in-law.'

It should be noted here that the phonological expression of loan words in the Klm languages gives some clue as to when and from where they were taken into these languages. For example, the words for 'egg' must have been borrowed into Agu from the substrate (where /y/ was the regular reflex of *R) and into Krm and TbwK from Tagalog or Bisayan (where the regular reflex of *R is /g/), and these borrowings must have occurred before the Klm rules affecting the voiceless stops operated. The resulting forms are Agu `ki?yuy`, Krm `ki?lug` and TbwK `kiklug` 'egg.' (The first occurrence of /y/ in Agu is unexplained.) Conversely, in the items meaning 'tail,' the Klm languages must have taken their items after the rules affecting *R and *k operated, giving `?ikuy` from the substrate in Krm and TbwK, while the source for the Agu `?ikug` must have been Bisayan, Palawanic or some other language with a /g/ reflex of *R.

5.2 Lexical Innovations Shared with Other Groups

Keeping in mind the caveats implied above about the extent and the time depth of diffusion, we are faced with a body of lexemes, not limited to the Kalamian languages, that occur only in the western Philippines from the north to the central and southern areas. Some of these are probably assignable to the level of PPh. Others are undoubtedly innovations in one language or one microgroup that spread to others either recently or more distantly in time. Any reconstructions are, of course, highly tentative. Most suspect are those that are shared only by Klm languages and the northern Palawanic languages. Nevertheless, this list should contain some Klm contributions to the reconstruction of the PPh lexicon.

*?alaN ~ *[k]alaN 'to buy, sell'
> Btk, TbwA ?alaN; Krm, TbwK ?alaN 'to buy, to sell'

*?ambeN ~ *[k]ambeN 'happy'
> TbwA, TbwC ?ambIN; Agu maambIN 'happy'

*?ati[ ] 'that (distant)'
> Alangan ?ati; Btk ?iyayati, PlwS ?atin, yatin; Agu ?asi, Krm ?ac&i, TbwK
>
> ?atii 'there (far from speaker and addressee)'

*?eRen 'sated; to live'
> Btk, TbwA ?IgIn; Agu ?IlIn 'sated;' Btk magIn, TbwC ?IhIn 'to live'

*?i-kawa 'you (singular)'
> Tadyawan kawa; TbwC kawa; Agu, Krm yawa?, TbwK yawa 'you (singular)'

*bawaN 'river'
> Southern Palawan, Molbog bawaN; Krm, TbwK bawaN 'river;' Agu babawaN 'to flow'

*belag 'not (negator of nominals), different'
> Btk, TbwC bIlag; Agu, Krm, TbwK bIlag 'not;' TbwA, TbwC bIlag;
>
> Krm bIlag 'different'

*binlay 'raft'
> TbwA binlay; Krm, TbwK binlay 'raft'

*busli? 'to lie; falsehood'
> Iraya busli?In, Alangan busli?on; Agu, Krm bu?li?, TbwK bukli? 'lie, to

lie'

*buwat 'long, tall, high'

Alangan mabbwat; Btk ?abwat, TbwA ?abwatay, TbwC ?abuwatay, Mol

mobuat; Agu mabwat, Krm, TbwK ?abwat 'long;' Alangan, Tadyawan mabwat, Tadyawan mabuwat; Btk madibwat, TbwA mabwatay, TbwC dibuat; Krm ?abwat 'tall, high'

*buyu? 'buttocks, anus'

Sambal (Mag-Indi) buyu?; Agu buyu?buyu? 'buttocks;' Krm, TbwK buyuBuyu? 'anus'

*damuR 'dew'

TbwC damog, Molbog damug; Krm damul 'dew'

*geba? 'forest'

TbwA gIba?, Brookes Point Palawan gOba?, Southern Palawan gUba?,

Molbog goba?; Agu kaguban, Krm kagIwan 'forest'

*ka{dr}asiyaw ~ *qalasiyaw 'deer'

Hanunóo karasyaw, Krm kalac&aw, TbwK kalasiaw 'deer'

*kumba? ~ *qumba 'lung'

TbwA kumba?, TbwC kumba; Krm, TbwK kumba? 'lung'

*lagat 'later'

Btk lagatlagat; Agu lagat lagat 'later'

*larip 'to slice'

Ivatan haripIn; TbwK larip 'to slice' Cf. Tagalog lalip 'removal of

marrow (of bone), pith (adhering to bark of trees)'

*{lr}ugud 'sibling, cousin'

Btk rogud 'cousin;' Agu lugud 'sibling'

*luwak ~ *luwaq 'to plant'

Btk ?iluak, TbwA, Brookes Point Palawan, Southern Palawan luwak,

TbwC manluak; Agu, Krm luwak, TbwK luak 'to plant'

*mi 'your (plural)'

Btk, TbwA, TbwC *mi*; Inati *kimi*, *mim*; Agu, Krm, TbwK *-mi* 'your (plural)'

pasiN 'buttocks'

Molbog *pasiN*; TbwK *pasiN* 'buttocks' Cf. Sambal (Tina) *pasiN* 'vagina.'

qedeN 'to stand'

Sambal (Bolinaw) *?umdIN*, Sambal (Tina) *?umduN*, *mi?ruN*; Sambal (Botolan) *mi:rIN*, Sambal (Mag-Indi) *mi:dIN*; Agu, Krm, TbwK *kIrIN* 'to stand' Cf. PAn(Blust) *ke[dD]eN* 'to stand.'

qi{djr}ib 'cogon'

Kapampangan *?ilib*; Agu, Krm, TbwK *kirib* 'cogon'

RaNaw 'tree, wood'

Alangan *yaNaw* 'tree;' TbwK *laNaw* 'firewood' Cf. Buol *kagoNoan* 'forest'

sakwal ~ *saqwal* 'to climb'

Btk *sakwal*, TbwC *takuwal*; Krm, TbwK *takwal* 'to climb' Because of

the initial consonant, TbwK must have borrowed this item from TbwC or Krm.

sal[i]yaN 'comb'

Btk *saliaN*, TbwC *talyaN*; TbwK *salyaN* 'comb'

seged 'betel leaf'

Btk *sIgId*, TbwC *tIhId*; Krm *tIhId*, TbwK *tIVId* 'betel leaf'
Note that if *sIgId* is the underlying form, TbwK must have borrowed the item from TbwC or Krm.

seqe{dj} 'rope, to tie'

Sambal (Mag-Indi) *sI?Il* 'rope,' Sambal (Mag-Indi, Mag-Anchi) *?is?Il* 'to

tie, tether;' Agu, Krm *tIkId*, TbwK *sIkId* 'to tie, tether'

tagek 'blood'

Btk *tagIk*, TbwC *tahIk*; Krm *tahIk*, TbwK *taVIk* 'blood'

tapnay 'to hold'

TbwA *tapnay*; TbwK *tapnay* 'to hold'

*tugda? 'to plant'

Alangan ?agtugda?; Btk magtugda, TbwA tugda?; Agu, TbwK tugda? 'to

plant (with dibble)'

*tugpu 'dew'

Btk, TbwA tugpu; Agu tugpu 'dew'

6. External Relationships of Kalamian Languages

6.1 Lexicostatistics

The lexicostatistical evidence demonstrates that the Klm microgroup is not particularly closer to any other one microgroup than to the others. The ranges of the percentages of cognates shared by Klm and other groups are listed in Table 2.

Table 2. Percentages of Shared Cognates between Kalamian and Other Microgroups (100-Item List)

Bashiic	33	-	35
Cordilleran	22	-	38
Sambalic	29	-	38
Northern Mangyan	28	-	34
Central Philippines	30	-	45
Southern Mangyan	30	-	39
Palawanic	40	-	48
Danaw	33	-	34
Manobo	30	-	40
Subanun			37
Gorontalo-Mongodow	27	-	36
Inati			46
Bilic	31	-	38
Sangiric	23	-	32
Minahasan	23	-	31

The rather elevated high figures for the Central Philippines and Palawanic are most likely the result of undetected borrowing. And the high percentage of shared cognates with Inati most likely results from mutual borrowing from Bisayan languages.

6.2 Lexical Sharing

Of approximately 1,950 lexical items attributed to PPh by Zorc, Charles, Reid, and myself, the Klm languages show a reflex of about 210 of them. The other microgroups that also have a representative in these innovative items vary widely because of several factors. Not the least of these is the number of languages represented in the microgroup data. Another reason for the resultant number is the quantity (and perhaps quality) of the data for the languages in question. Inati, for example, is the only language in its group, and the lexicon available for comparison is limited to the items found in Pennoyer (1986/87). The Central Philippines microgroup, on the other hand, is represented by many languages and there are quite extensive dictionaries and wordlists of some of

them. Table 3 lists the numbers of PPh items shared by Klm languages and languages of the other microgroups.

Table 3. Klm and Other MicrogroupsShared PPh Innovations (N = 210)

	Number	Percent
Bashiic	19	9
Cordilleran	107	51
Sambalic	79	38
Northern Mangyan	46	22
Central Philippines	151	72
Southern Mangyan	62	30
Palawanic	116	55
Danaw	44	21
Manobo	91	43
Subanun	41	20
Gorontalo-Mongodow	35	17
Inati	22	10
Bilic	43	20
Sangiric	29	14
Minahasan	29	14

It is not surprising that the Bashiic languages, at the northern extreme of the Philippine language distribution, shares only 9% of PPh reconstructions with Klm. Nearby Inati, represented by only one language with sparse data available, shares approximately 10% with them, in spite of the likelihood that both Klm and Inati have unidentified (and therefore undiscarded) items borrowed from Bisayan. The highest numbers for shared lexemes attributable to PPh are with the Central Philippines group (72%) and the Palawanic languages (55%). Again, we would expect this because of the undeniable contacts they have had with Klm.

If we disregard these extreme cases, the next highest percentages of lexical sharing with Klm are with the Cordilleran (51%), Manobo (43%) and Sambalic (38%) languages. With other members of the Greater Central Philippines family, such as Danaw, Subanun, etc., the percentages of shared PPh lexical items is much lower. This would indicate that the Klm languages do not convincingly subgroup more closely with the Greater Central Philippines family than they do with the languages of northern and central Luzon.

6.3 Phonological Changes

There is no single rule for the derivation of Klm phonemes from PPh that is unique. The aggregate of the rules, of course, is unique to the Klm languages.

The two most diagnostic of the protophonemes are *R and *q. The Klm reflex of PPh *R is /l/. This is also the regular reflex of *R in Central and Southern Cordilleran and in the Bilic languages. The /k/ reflex of PPh *q (as opposed to /?/ or 0) occurs only in the Klm languages and in the Bilic language Tagabili.

7. Conclusion

On a phonological basis, then, it would appear that Klm is more closely related to Bilic than to other microgroups. Both Klm and Bilic, however, each have a number of phonological rules not shared by the other. Likewise, there appear to be no lexical innovations uniquely shared by the two groups. We can conclude from this only that both Klm and Bilic are quite distinct groups that diverged from the rest of the Philippine population at an early date.

And from the evidence provided by lexicostatistics and lexical sharing, we can conclude that the Klm microgroup does not subgroup conveniently and convincingly with any other microgroup of Philippine languages and that it should, then, be considered as distinct from the others as is Sangiric, Bilic or Bashiic.

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