THE SOUTHERN CORDILLERAN GROUP OF PHILIPPINE LANGUAGES

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The Southern Cordilleran group of Philippine languages includes Pangasi-
nan, Ibaloy, Karaw, Kalanguya (Kallahan), and Ilongot (Bugkalot). Rules are
developed for the phonological derivation of these languages from Proto–
Southern Cordilleran (PSC), and morphological innovations within the
daughter languages are explored. Lexical items are reconstructed and
assigned to PSC and to the languages and dialects intermediate between it
and the modern forms.

1. INTRODUCTION. The Southern Cordilleran language group consists of Pan-
gasinan, Ibaloy, Kalanguya, Karaw, and Ilongot. As a language family it is most
closely related to the Central Cordilleran group (Reid 1979, 1989a, McFarland
1980), the two being coordinate descendants of Proto–South-Central Cordilleran
(PSCC). Pangasinan is spoken in the central portion of the province of the same
name, and it is one of the eight major languages of the Philippines. Ibaloy is spoken
primarily in the northeastern, central, and southern portions of Benguet province.
Kalanguya, also known as Kallahan and by several other names, is spoken in scat-
tered locales in southern Ifugaw, along the eastern flank of the Central Cordillera in
the province of Nueva Vizcaya, and in certain isolated locales in Benguet, Pangasi-
nan, and Nueva Ecija. Karaw is a language spoken in the barangay of Karaw in
Bokod municipality, Benguet. Ilongot, whose speakers prefer the name Bugkalut,
is spoken in remote areas of Nueva Vizcaya and Quirino provinces.[1]

Based on lexical evidence and the sharing of phonological rules, the internal rela-
tionships of the Southern Cordilleran (SC) languages are represented in table 1. This
subgrouping of the five languages was first proposed by Zorc (1979). Section 4 pro-
vides the basis for this organization and a discussion of how these languages were
classified prior to the work of Zorc and Reid.

2. PHONOLOGY. The phonemic inventory inherited from PSCC consisted of
14 consonants, four vowels, and vowel length, as shown in table 2.

TABLE 1. INTERNAL RELATIONSHIPS
OF SOUTHERN CORDILLERAN LANGUAGES

Proto–Southern Cordilleran

Proto–West Southern Cordilleran

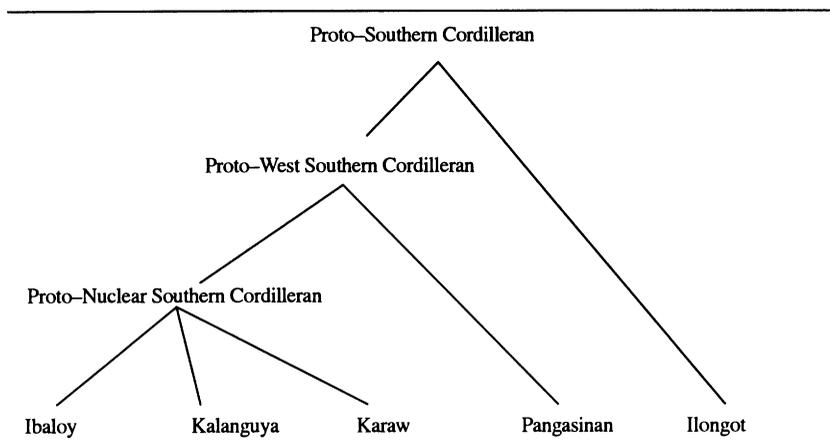Proto–Nuclear Southern Cordilleran

| Ibaloy | Kalanguya | Karaw | Pangasinan | Ilongot |

TABLE 2. PHONEMES OF PROTO–SOUTH-CENTRAL CORDILLERAN

CONSONANTS				VOWELS		
*p	*t	*k	*ʔ	*i	*ɨ	*u
*b	*d	*g			*a	
	*s					
*m	*n	*ŋ		*V: (length)		
	*l					
*w		*y				

The canonical form for the syllable was CV(C). There were few restrictions on the distribution of the phonemes. Neither *ʔ nor *ɨ could be in word-final position. A glide did not occur in the same syllable as its corresponding vowel; that is, *Ciy, *Cuw, *wu(C), and *yi(C) could not occur.

In PSCC, vowel length was restricted to open syllables, usually in penultimate position. If length was absent in the typical two-syllable word, light stress automatically fell on the last syllable. A vowel following a consonant cluster was, of course, stressed.

At some point in the development of the current SC languages, phonemic vowel length was lost, and stress became predictable. Under most circumstances, the first syllable of a word took on stress if that syllable was open and had a vowel other than *ɨ. ILT and PNG regained phonemic vowel length by similar processes, apparently as a later development and independently of each other. It is also likely that, during this same PSC time period, stress fell on the last vowel of a word if that vowel was preceded by a high vowel and its corresponding glide.

All SC languages inherited the four-vowel system of PSC intact. In all SC languages there is some oscillation in the height of the central vowels *ɨ and *a. This is regular in most cases, but in some instances the lowering of *ɨ to *a* is not predictable by rule. The height of the back vowel also shows considerable variation in the SC languages. Here I have followed the practice of McFarland (1977) in using a common symbol *u* for the back vowel in PNG (as well as in Kalanguya), and I have followed Ballard (in Reid 1971 and Brainard 1992) in using *o* for Ibaloy and Karaw (and Ilongot).

2.1 PANGASINAN. No modern SC language reflects the PSC inventory unchanged, although Pangasinan comes quite close to this situation. The phonemic inventory of Pangasinan is given in table 3.

TABLE 3. PHONEMES OF PANGASINAN

CONSONANTS					VOWELS		
*p	*t		*k	*ʔ	*i	*ɨ	*u
*b	*d		*g			*a	
	*s						
*m	*n		*ŋ			*V: (length)	
	*l						
	*r						
*w		*y					

2.1.1 Vowel length and stress. Zorc (1979) has argued that vowel length, or accent, was systematically lost in PNG, stress then predictably falling on the last

syllable of a word. Subsequently, vowel length was reintroduced by two compensatory processes. When before a consonant, *ʔ is deleted and replaced with compensatory lengthening of the preceding vowel.[2]

PSC	PNG	
*ku(m)paʔpɨy	kumpa:pɨy	'butterfly'
*baʔbá	ba:ba	'chin'
*kuʔgíp	ku:gip	'dream'

When the glottal followed a consonant, Pre-PNG metathesized the two, after which the glottal was replaced with vowel length according to the process described above.

PSC	Pre-PNG	PNG	
*bitɨwʔin	*bitɨʔwin	biti:win	'star'
*ʔalʔú	*ʔaʔlú	a:lu	'pestle'
*dapʔúl	*daʔpúl	da:pul	'ashes'

In the WSC languages, intervocalic consonants were geminated when certain verbal affixes were attached to a root. Also, some nouns indicating relationships, especially kin terms, formed their plurals by geminating the intervocalic consonant. Today, PNG does not permit geminate clusters within a root. Zorc's conclusion is that the reduction of these clusters to a single consonant is the second compensatory process by which PNG restored phonemic vowel length.

PSC		PWSC	PNG	
*tánɨm	'to plant'	*tannɨmɨn	ta:nɨmɨn	'will be planted'
*lútu	'cook'	*manluttu	manlu:tu	'to cook'
*ʔának	'child'	*ʔannak	a:nak	'children'
*túʔu	'person'	*tutuʔʔu	tutu:ʔu	'persons'

Once the language had recovered phonemic vowel length, then innovative items could be so characterized.

PNG	
lu:sɨk	'housepost'
ki:mɨy	'job, task'
a:lug	'rice field'

And, of course, loans from other languages have entered PNG with unaltered vowel length.

ru:sas	'flower'	< Spanish *rosas* 'roses'
da:gum	'needle'	< Iloko *da:gum*
da:yat	'sea'	< Kampapangan *da:yat*
i:lug	'river'	< Tagalog *ʔi:log*
kabulala:kaw	'rainbow'	< Sambal *kabunlala:kaw*

2. Most of the PAN, PHN, and PPH reconstructions are from Wurm and Wilson (1975). The exceptions are from Blust (1980), marked with the suffix B, from Zorc (1986, 1994), marked with the suffix Z, or they are mine (unmarked). Reconstructions assigned to PPHN, PC, PMC, PSCC and below are mine unless they are attributed to Reid and marked with the suffix R.

2.1.2 Vowels. PNG has undergone changes in all three of the nonfront vowels. In words having the form *Cɨ.CV(C) where the second vowel is not *ɨ,* the high central vowel is lowered to *a.*[3]

PSC	Pre-PNG	PNG	
*tɨlú	*tɨlú	talú	'three'
*kɨdúl	*kɨdúl	karúl	'thunder'
*ʔɨpát	*ʔɨpát	apát	'four'
*sɨlí	*sɨlí	salí	'foot'

But if the second vowel is also the high central vowel, the first vowel remains high.

PSC	Pre-PNG	PNG	
*bɨnɨ́g	*bɨnɨ́g	bɨnɨ́g	'back'
*ʔɨlɨ́ŋ	*ʔɨlɨ́ŋ	ɨlɨ́ŋ	'nose'
*ʔɨgɨ́s	*ʔɨgɨ́s	ɨgɨ́s	'belly'

When words that would otherwise fit this pattern are prefixed with the adjectival marker an-, the high central vowel is retained.

PSC	Pre-PNG	PNG	
*pɨtáŋ	*ʔan-pɨtáŋ	ampɨtáŋ	'hot'
*bɨlʔát	*ʔan-bɨʔlát	ambɨlát	'heavy'

PNG also shows sporadic raising of the low vowel *a to *ɨ*

PSC	Pre-PNG	PNG	
*baʔál	*baʔál	bɨʔɨl	'G-string'
*kɨtláb	*kɨtláb	kɨtlɨb	'to bite'

Finally, *u is occasionally reflected as *ɨ* as an instance of vowel harmony.

PSC	Pre-PNG	PNG	
*buklɨ́w	*buklɨ́w	bɨklɨ́w	'neck'
*ʔúbɨt	*ʔubɨt	ubɨt, ɨbɨt	'buttocks'
*dúlɨm	*ludɨm	lurɨm, lɨrɨm	'cloud'

(with metathesis of the first two consonants)

2.1.3 Consonants. Only two PSC consonants, *d and *ʔ, show variation in their reflexes in PNG. Glottal stop inherited from PSC remains in PNG when intervocalic. In medial clusters, *ʔ is deleted and replaced with vowel length, as discussed above. Also, PNG appears to have lost word-initial *ʔ, as is seen when consonant-final prefixes are added to roots.

PSC *d is reflected as *d* in word-initial position and following a consonant; in all postvocalic positions it is reflected as *r.* While this developed as a simple case of allophonic variation, the large number of loans, primarily from Spanish, requires *r* to be considered a separate phoneme.

PSC	PNG		PSC	PNG	
*dánum	danúm	'water'	*ŋádan	ŋarán	'name'

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3. This shift was documented by Zorc (1984–85:82).

| *dindíŋ | dindíŋ | 'wall' | *lúbid | lubír | 'rope' |
| *dɨkít | andɨkít | 'black' | *bɨdbíd | bɨrbír | 'tie, wrap' |

2.2 IBALOY. The phonemic inventory of Ibaloy is given in table 4. All dialects of IBL exhibit variation from PSC in most of the consonants and vowels, and there is some noticeable phonological variation among the IBL-speaking communities as well.

TABLE 4. PHONEMES OF IBALOY

p	t		ḳ	ḳ̣	ʔ	i	ɨ	o
b	d		g				a	
		č (š)						
m	n		ŋ					
	l							
w		y						

2.2.1 Stress. As in all of the NuSC languages stress falls predictably on the first syllable of a word whose shape is CV.CV(C) unless that syllable has a reflex of *ɨ. In the latter event, stress remains on the second syllable.

PSCC	PSC	IBL	
*matá	*máta	máta	'eye'
*sakít	*sákit	sákit	'pain'
*kidúl	*kídul	ḳírol	'thunder'
*tɨlú	*tɨlú	tɨdó	'three'
*ʔɨták	*ʔɨták	ʔɨták	'bolo'
*tɨlín	*tɨlín	tɨdín	'swallow'

There are, however, several words wherein stress is variable. These are those items where a high vowel is followed by a homorganic glide.

PSCC	IBL	
*búwa	bówa, bowá	'areca nut'
*púwɨk	pówɨḳ, powɨ́ḳ	'storm'
*siyám	síyam, siyám	'nine'
*níyug	níyog, niyóg	'coconut'

It was noted above that, in PNG, preconsonantal glottal stop is replaced with vowel length. In IBL, this does not usually occur.

PWSC	IBL	
*laʔlú	daʔdó	'pestle'
*buʔláy	boʔdáy	'land, earth'
*kaʔwáŋ	ḳaʔbʷáŋ	'handspan'
*saʔlát	saʔdát	'to exchange'

Nevertheless, in some locations, preconsonantal *ʔ is deleted and stress remains on the second syllable, regardless of the quality of the vowel in the first syllable. This occurs, for example, in KBY but not in IWK.

PWSC	PNG	IWK	KBY	
*baʔlú	ba:lu	baʔdó	badó	'new'
*baʔlíg	ba:lig	baʔdíg	ʔibadíg	'big'
*daʔlín	da:lin	—	čadín	'land, earth'
*kuʔgíp	kugku:gip	koʔkoʔkíp	kakokíp	'dream'
*taʔwin	ta:win	—	tabʷin	'sky'

There are only a few roots with three syllables that can be assigned to higher levels with any degree of confidence. In these instances, the long second vowel is shortened, and stress appears to be evenly distributed on the first and third syllables.

PSC	PNuSC	IBL	
*ʔaba:la	*ʔábalá	ʔábadá	'shoulder'
*ʔasa:wa	*ʔásawá	ʔásigʷá	'spouse'
*dalu:kap	*dálukáp	šálokáp	'palm (of hand)'
*maka:was	*mákawás	mákagʷás	'deer'

Addition of the verbal and adjectival prefixes maN- and ma- causes the stress to shift one syllable to the right with concomitant changes in intervocalic consonants and the now unstressed first vowel of the root.

móyas	mamojás	'smooth'
tába	matɨbá	'fat'
báyag	mɨbɨjág	'long time'
bílaŋ	mambidáŋ	'to count'
báyad	mambɨjád	'to pay'
ʔóras	maŋočás	'to wash'

2.2.2 Vowels. When a is in the first (unstressed) syllable of a root, it is raised to ɨ in the examples above. Likewise ɨ is sporadically lowered to a in the first syllable of a two-syllable root. This occurs more frequently in some locales, such as ITOT and IWK, than in others. Shown under "IBL (CMN)" here (and in other sections of 2.2 below) are the forms common in other locales not specifially identified).

PNuSC	IBL (CMN)	ITOT	IWK	
*pɨlsá	pɨlsá	palsá	pɨlsá	'boil (n.)'
*ʔilíŋ	ʔidíŋ	ʔadíŋ	ʔaddíŋ	'nose'
*kɨspíg	kɨspíg	ʔihɨspíg	kaspíg	'throw'
*kɨdsáŋ	kɨdsáŋ	mahadsáŋ	makadsáŋ	'strong'
*ʔɨsíl	ʔɨsíl	ʔasíl	ʔasíl	'word'
*tɨmúk	tɨmók	tamók	tamók	'forehead'

In NTB, ɨ is occasionally fronted to i before gemination of a consonant.

PNuSC	IBL (CMN)	NTB	
*ʔɨgís	ʔɨkís	ʔiggís	'belly'
*lɨbíŋ	dɨbíŋ	dibbíŋ	'deep'
*tɨmúk	tɨmók	timmók	'forehead'

2.2.3 Diphthongs. The word-final diphthongs *-ɨw and *-ɨy inherited from PSC are reflected as such in most dialects of IBL, but some, such as ATK, IWK, and ITOT show some merging of the vowel and glide features.

IBL (CMN)	ATK/IWK	ITOT	
págɨy	págiy	págɨy	'rice'
mátɨy	mátiy	mátɨy	'die'
páyɨw	páyuw:	páyow	'field'
págɨw	páguw:	págow	'chest'

2.2.4 Consonants. Consonants showing no appreciable variation whatever in IBL are *t, *ʔ, *s, *m, *n, and *ŋ. Those that have the same variants throughout the Ibaloy-speaking territory are *l* and *y*. The lateral has the variant *d* in word-initial position, immediately following a consonant, and intervocalically after a short or unstressed vowel.

PSC	IBL	
*líma	díma	'five'
*lámut	dámot	'root'
*buklíw	bokdíw	'throat'
*bɨlát	bɨdát	'skin'
*wálu	gʷálo	'eight'
*ʔúlat	ʔólat	'vein'
*túliŋ	tóliŋ	'black'

Morphophonemic alternation persists in IBL because of the shifting of stress: *bílaŋ* 'count', *bidáŋan* 'to count'.

All IBL dialects have [ǰ] as an allophone of *y* in the same environments as *l is reflected as *d*, with the minor exception that [ǰ] cannot immediately follow *i*.

PNUSC	IBL	
*yasyás	ǰasǰás	'breathe'
*kaʔyás	ḳaʔǰás	'light (weight)'
*maN-báyu	mambɨǰó	'to pound rice'
*siyám	siyám	'nine'
*ʔápuy	ʔápoy	'fire'
*báyad	báyad	'pay'

The dialects of IBL exhibit some variation among themselves in the development of other sounds. The voiced alveolar stop becomes a voiceless palatal affricate in the northern communities of Kabayan, Atok, and Natubleng, and it becomes a voiceless palatal fricative in all other IBL locales. This occurs when it is initial, preceded by a consonant, or intervocalic with an unstressed vowel preceding. In all locales, *d* remains in syllable- or word-final position; it is manifested as [r] when intervocalic and preceded by a stressed vowel.

PNUSC	IBL	
*dánum	čánom/šánom	'water'
*masdíl	masčíl/masšíl	'thick'
*ʔɨdúm	ʔɨčóm/ʔɨšóm	'different'
*ʔúdan	ʔóran	'rain'
*ŋádan	ŋáran	'name'

The voiced velar stop shows variation in the same environments as does the alveolar, the variant being a fronted voiceless velar stop [ḳ]. This sound is in contrast with the voiceless velar stop inherited from PSC, which is noticeably backed [ḵ]. Only in NTB does g not have this variant.

PNuSC	IBL	NTB	
*gáʔit	ḳáʔit	gáʔit	'companion'
*maʔgás	maʔḳás	maʔgás	'to fall'
*maN-ákub	manʔiḳób	manʔiggób	'fetid'
*ʔágaŋ	ʔágaŋ	ʔágaŋ	'hunger'
*págɨy	págɨy	págɨy	'rice plant'

While these variants of the voiced stops operate synchronically, it is best to treat them as separate phonemes, either because they overlap with another phoneme or because of the unnaturalized loans in IBL that create some degree of contrast.

All dialects of IBL except those of Kabayan, Bokod, I-wak, and Natubleng exhibit allophonic variation in the voiced bilabial stop. The variant is [v], and it occurs intervocalically when preceded by a stressed vowel.

PNuSC	TRiB	
*ʔúbi	ʔóvi	'yam'
*tába	táva	'fat'
*ʔábalá	ʔávadá	'shoulder'

In some IBL locales, there is allophonic variation in the labial and velar voiceless stops when intervocalic and preceded by a stressed vowel. Again, the northern communities of Kabayan, Bokod, I-wak, and Natubleng do not demonstrate this. The dialects of Sablan, La Trinidad, Tuba, and Itogon exhibit fricative variants of both *p* and *k;* Tublay shows it with *p* but not *k;* and Atok has it with *k* but not *p.*

PNuSC	KBY	ATK	TBA	ITO	
*sípa	sípa	sípa	sífa	sífa	'who?'
*ápuy	ʔápoy	ʔápoy	ʔáfoy	ʔáfoy	'fire'
*láki	dáḳi	dáhi	dáḳi	dáhi	'man'
*púkɨl	póḳɨl	póhɨl	póḳɨl	póhɨl	'bone'

As was mentioned above, all IBL dialects have the palatal affricate as a variant of *y.* All except NTB show variation with *w.* Sablan, La Trinidad, and Tublay have [v]; Itogon has [gʷ] and [v]; Tuba, Bokod, and I-wak have [gʷ]; Atok has [vʷ]; and Kabayan has [bʷ].

PNuSC	KBY	ATK	TBA	BOK	ITO	
*wálu	bʷálo	vʷálo	válo	gʷálo	gʷálo	'eight'
*ʔásawá	ʔásɨbʷá	ʔásavʷá	ʔásɨvá	ʔásogʷá	ʔásová	'spouse'
*ʔɨwɨy	ʔɨbʷɨy	ʔɨvʷɨy	ʔɨvɨy	ʔɨgʷɨy	ʔɨgʷɨy	'rattan'

Apparently NTB is the only IBL dialect that geminates an intervocalic consonant preceded by *ɨ.* As stated earlier, the central vowel is occasionally fronted under these conditions.

PNuSC	IBL (CMN)	NTB	
*bɨlát	bɨdát	biddát	'skin'
*ʔɨták	ʔɨták	ʔitták	'bolo'

| *tɨníŋ | ʔitɨníŋ | ʔitɨnníŋ | 'to hear' |
| *sɨgít | sɨk̥ít | siggít | 'sun' |

Gemination occurs after other vowels also, but not predictably.

PNuSC	IBL (CMN)	NTB	
*ʔúma	ʔóma	ʔommá	'swidden'
*ʔágɨw	ʔágɨw	ʔaggɨ́w	'day'
*ʔímɨŋ	ʔímɨŋ	ʔimmíŋ	'pubic hair'
(cf. PC *ʔi:mɨŋ 'facial hair')			

2.3 KARAW. Phonologically Karaw is quite similar to IBL, if a bit more complex. There is quite a bit of allophonic variation and of overlap among phonemes. Brainard (1992), couching her argument in terms of autosegmentation, analyzes this variation by allocating KAR consonants to two sets, the one more sonorant that the other. The two sets alternate with each other depending on three factors: sonority, syllable position, and the quality of the preceding vowel. This variation is dealt with here in terms of stress, syllable position, and the quality of the preceding vowel.

Brainard characterizes Karaw as having 22 consonants and 4 vowels, as shown in table 5.

TABLE 5. PHONEMES OF KARAW

p	t		k		k̥	ʔ	i		o
b	d		g	gʷ				ʌ	
ɸ	θ	č			x̣			a	
	ǰ								
m	n		ŋ						
	l								
	ř								
	s	y		w					

2.3.1 Vowels. As in IBL, the Karaw back vowel is represented by *o;* while there is considerable oscillation in its height, the other variants [ɔ], [u],S and [ʊ] are less frequently heard. The front vowel is also lowered to [e] and [ɛ] in some environments.

The high central vowel was lowered slightly to mid position. It is frequently lowered further to *a* when in the first syllable of a two-syllable word. This occurs preferentially after a voiceless segment.

PNuSC	KAR	
*tɨlú	tʌdó/tadó	'three'
*sɨgɨ́p	sʌk̥ʌ́p/sak̥ʌ́p	'below'
*tɨmúk	tʌmók̥/tamók̥	'forehead'

2.3.2 Diphthongs. Word-final *-ɨw and *-ɨy are reflected as *-ow* and *-iy,* respectively.

PNuSC	Kar	
*buklɨw	bok̲dów	'throat'
*páyɨw	páyow	'field'
*saʔpíy	saʔpíy	'to dry'
*ʔaltíy	ʔaltíy	'liver'

2.3.3 Consonants. The voiceless stops *p t k* have the fricative allophones [ɸ θ x] respectively following a stressed vowel.

PNuSC	Kar	
*yápit	ǰáɸit	'thin'
*ʔúpa	ʔóɸa	'hunger'
*pítu	píθo	'seven'
*máta	máθa	'eye'
*kúku	k̲óxo	'fingernail'
*sákit	sáxit	'pain'

The voiced stops *b d g* all have variants in certain environments. The bilabial stop is reflected as *g* and *gʷ* when preceded by a stressed *o* and *a* respectively.

PNuSC	Kar	
*ʔúbi	ʔógi	'yam'
*ʔúbɨt	ʔógɨt	'buttocks'
*kúbal	k̲ógal	'G-string'
*lúbɨg	dógɨg	'dull'
*ʔába	ʔágʷa	'taro root'
*ʔábɨl	ʔágʷʌl	'weave cloth'
*tába	tágʷa	'fat'

In one instance the variant is *w:* PNuSC *lábi > Kar *ʔadáwi* 'night'.

The voiced alveolar stop has the allophones [č] and [r] with the same distribution as in Ibl.

PNuSC	Kar	
*dánum	čánom	'water'
*masdíl	masčʌ́l	'thick'
*ʔálidúŋ	ʔáličóŋ	'shadow'
*ʔúdan	ʔóran	'rain'
*sída	síra	'viand'

The voiced velar stop has three variants. Word-initially, immediately following a consonant, and after a short unstressed vowel, the variant is a fronted voiceless velar stop.

PNuSC	Kar	
*guʔgu	k̲oʔk̲ó	'to scratch'
*sɨgíd	sʌk̲ʌ́d	'to wait'

Preceded by a stressed low vowel, *g is realized as [x]. This is a significant shift, because *g and *k fall together in this environment.

PNuSC	KAR	
*págɨw	páxow	'chest'
*págɨy	páxiy	'rice plant'
*ʔágat	ʔáxat	'ginger'

When immediately after a stressed front vowel, *g is reflected as *y.*

PNuSC	KAR	
*píga	píya	'how many?'
*pígut	píyot	'skinny'

There are no clear cases of *g* following stressed back vowel. The one somewhat questionable item of this form is *ko:ḳip* 'dream', which derives from PSC *kuʔgíp. The expected reflex in KAR is **koʔḳíp. It appears that the glottal stop has been replaced by vowel length (as a variant of stress) and that the expected voiceless allophone of *g* has not been altered even though it is now in an environment that normally produces the voiced segment.

KAR further has a glide variant of the bilabial nasal that occurs when preceded by a stressed nonback vowel and followed by a nonback vowel.

PNuSC	KAR	
*líma	díwa	'hand'
*láman	dáwan	'flesh'
*lámɨs	dáwʌs	'fruit'
*ʔáma	ʔáwa	'father'

The lateral phoneme is reflected exactly as in IBL.

PNuSC	KAR	
*bɨlát	bʌdát	'skin'
*lámut	dámot	'root'
*saklúd	sakdód	'horn'
*búlan	bólan	'moon'
*wálu	gʷálo	'eight'

The glides in KAR have the variants [gʷ] and [j] of *w* and *y* respectively, and, as in IBL, the variants do not follow their homorganic vowel.

PNuSC	KAR	
*waʔwá	mʌgʷaʔgʷá	'tomorrow'
*k[ɨi]yɨw	kʌjów	'tree'
*yápit	ǰáɸit	'thin'
*yɨgyɨg	ǰʌgǰʌg	'earthquake'
*siyam	siyám	'nine'
*nuwaŋ	nuwáŋ	'carabao'

2.4 KALANGUYA. The phonemic inventory of Kalanguya is given in table 6.

2.4.1 Stress. KLN conforms to the pattern of SC languages in having stress on the first syllable, if open and not containing a reflex of *ɨ, except in those words

TABLE 6. PHONEMES OF KALANGUYA

p	t		k	ʔ	i		u
b	d		g		ɨ (ə, e, o)		
			h (s)			a	
m	n		ŋ				
	l						
w		y					

where the vowel of that syllable is high and is followed by a homorganic glide. In these latter cases, the stress is variable.

PNuSC	Dky	Keh	Hng	
*siyam	siyám	hiyám	hiyám	'nine'
*niyug	niyúg	niyúg	níyug	'coconut'
*nuwaŋ	nuwáŋ	núwaŋ	nuwáŋ	'carabao'
*buwɨk	búwɨk	buwík	buwók	'hair'

2.4.2 Vowels. As with other SC languages, it is the central vowels that demonstrate the highest degree of variation. The only other vowel shift of note occurs in KEL, wherein high vowels followed by a homorganic glide are lowered (and fronted where necessary) as long as the glide is followed by a stressed vowel.

PKLN	KEL	
*buwík	bewék	'hair'
*nuwáŋ	newáŋ	'carabao'
*luwá	lewáʔ	'tear'
*siyám	heyám	'nine'
*niyúg	neyúg	'coconut'

As for the high central vowel, in most environments, DKY and KEH reflect it as *i̯*, KAY as *ə*, AHN and KEL as *e*, and HNG as *o*. In the KAY data (Reid 1971), *ɨ is consistently reflected as *ə*, although Afable (1989:ix), using the symbol "e" for this vowel, describes it as a "short, mid-central vowel . . . *a* and *e* are in free variation in syllables in other than ultimate position." This suggests that in KAY, rules apply to the oscillation between the vowels similar to those proposed here for other KLN dialects. For example, from the data at hand, it appears that KAY *ə* is lowered when it is in the first syllable of a prefixed verb root preceded by glottal stop.

PKLN	KAY		
*ʔɨmís	ʔəmə́h	manʔaʔmə́h	'to bathe'
*ʔɨmút	ʔəmút	manʔaʔmút	'to hide'

In AHN, KEH, and DKY, *ɨ is reflected as *a* in the first syllable of a word whose second syllable is a stressed vowel, although there are various local restrictions on the environments in which this occurs. In AHN, this lowering occurs on all occasions when the next vowel is not also a reflex of *ɨ.

	PKLN	AHN	
	*kɨtɨ́t	katɨ́t	'cold'
	*bɨlʔát	ʔambalʔát	'heavy'
	*sɨlí	halí	'foot'
But:			
	*ʔɨním	ʔením	'six'
	*ʔɨlíŋ	ʔeléŋ	'nose'
	*kɨtɨ́l	ketél	'cold'

The rule whereby *ɨ is lowered to *a* in KEH is blocked by a number of environmental conditions: when preceded by *b*, or followed by *g*, or occurring in a reduplicated syllable.

	PKLN	KEH	
	*ʔɨním	ʔaním	'six'
	*pɨlsá	palhá	'boil (n.)'
	*tɨmúk	tamúk	'forehead'
But:			
	*bɨlát	bɨlát	'skin'
	*bɨníg	bɨníg	'back'
	*bɨtɨ́k	bɨtɨ́k	'to run'
	*ʔɨgɨ́s	ʔɨgíh	'belly'
	*dɨgí	dɨgí	'rice husk'
	*pɨgsɨ́t	pɨghɨt	'to squeeze'
	*yɨgyɨ́g	yɨgyɨ́g	'earthquake'
	*nɨmním	manɨmním	'to think'

In DKY, the general rule lowering *ɨ to *a* is blocked only by word-final -*ɨ̯w* or by its occurrence in an affixed verb form.

	PKLN	DKY	
	*bɨtɨ́k	batɨ́k	'to run'
	*kɨntɨ́g	makantɨ́g	'hard'
	*kɨdsáŋ	makadsáŋ	'strong'
But:			
	*siŋʔɨw	siŋʔɨw	'fragrant'
	*tɨkdɨw	tɨkdɨw	'frog'
	*ʔɨsíl	ʔunʔɨsíl	'to say'
	*tɨbɨ́k	tɨtbɨkɨ́n	'to pierce'

In all KLN dialects except that of KEH and KAY, the low vowel *a* is raised. In DKY, this only occurs in nonverbal prefixed forms. The *a* must be in the first syllable of the root and be preceded by a voiced stop; also, the next syllable must contain the vowel *ɨ*.

	PKLN	DKY	
	*bálɨg	ʔabɨllɨ́g	'big'
	*dálɨm	ʔadɨllɨ́m	'deep'
	*dálɨm	nandɨllɨ́m	'under'
	*gáyɨk	gɨggɨyyɨ́k	'armpit'

In KEL and HNG, *a* is raised to *e* and *o* respectively in any word having either of two forms. A two-syllable root in which *a* occurs in the first syllable and is followed by the cluster C? provides the first instance.

	PKLN	KEL	HNG	
	*dap?úl	dep?úl	dop?úl	'dust'
	*pay?úk	pey?úk	—	'waterfall'
	*kal?ít	kel?it!	kol?ít	'bitter'
But:				
	*sa?dúk	ha?dúk	ha?dúk	'horn'
	*ta?píw	?eta?péw	katta?pú?	'shallow'
	*ya?mís	meya?méh	moya?móh	'soft'

A more general rule raising *a* in these two communities does so in three-syllable words. Unstressed *a* in the second syllable is raised if that syllable is open.

PKLN	KEL	HNG	
*má-?atúŋ	má?etúŋ	má?otúŋ	'hot'
*káwayán	káweyán	káwoyán	'bamboo'
*?ínapú	?ínepú?	?ínopú?	'child-in-law'

If that vowel is followed by *w*, the vowel is deleted:

PKLN	KEL	HNG	
*?ásawá	?ahwá?	?ahwá?	'spouse'
*mákawáh	makwáh	makwáh	'deer'

If the first syllable of the root is closed, the prefix is not stressed, and its low vowel is raised, while that of the root is not.

PKLN	KEL	HNG	
*ma-?andíŋ	me?andéŋ	mo?andóŋ	'straight'
*ma-ya?mís	meya?méh	moya?móh	'soft'
*ma-bɨl?át	mebel?át	mobol?át	'heavy'
*kadaŋyán	kedaŋyán	kodaŋyán	'rich'
*kabunyán	kebunyán	kobunyán	'sky'

2.4.4 Diphthongs. All dialects of KLN except HNG reflect word-final *-ɨw and *-ɨy as expected: KAY -əw and -əy, AHN and KEL -ew and -ey, and KEH and DKY -ɨw and -ɨy. In HNG, however, these two diphthongs experience merging of the glide and vowel to produce -u and -i respectively.

PKLN	DKY	KEL	HNG	
*bálɨy	bálɨy	báley	báli?	'house'
*págɨy	págɨy	págey	pági?	'rice'
*?altíy	?altíy	?altéy	?alsí?	'liver'
*páyɨw	páyɨw	páyew	páyu?	'field'
*págɨw	págɨw	págew	págu?	'chest'
*ta?píw	na?ita?píw	?eta?péw	katta?pú?	'shallow'

2.4.5 Consonants. In contrast to the other two branches of NUSC, KLN has undergone few consonant changes. All dialects of KLN except that of DKY have

participated in a shift from *s to h. Either DKY has retained s, or it has regained it under the influence of the surrounding languages, Kankanaey and Ibaloy.

PKLN	AHN	KEL	DKY	
*ʔásin	ʔáhin	ʔáhin	ʔásin	'salt'
*púsu	púhu	púhuʔ	púsuʔ	'heart'
*síku	híku	híkuʔ	síkuʔ	'elbow'
*pɨlsá	palhá	pelháʔ	palsáʔ	'boil (n.)'

Three of the KLN dialects for which data are available, KEL, HNG, and DKY, add a nonphonemic glottal stop on vowel-final words.

PKLN	KEL	HNG	DKY	
*súsu	húhuʔ	húhuʔ	súsuʔ	'breast'
*ʔulsá	ʔulháʔ	ʔulháʔ	ʔulsáʔ	'wild pig'
*ʔági	ʔágiʔ	ʔágiʔ	ʔágiʔ	'sibling'

A general rule applies to gemination of consonants in all KLN dialects. When the verbal affixes maN-, -ɨn, and -an are attached to a verb root, the intervocalic consonant of the root is geminated. Subsequent to this, of course, there are vowel changes in those languages that raise nonstressed a.

PKLN	KEL	HNG	DKY	
*maN-báyad	mambeyyád	mamboyyád	mambayyád	'to pay'
*bílaŋ-ɨn	billáŋen	billáŋon	billáŋɨn	'to count'
*ʔúlah-an	ʔulláhan	ʔulláhan	ʔullásan	'to wash hands'

But:

*ʔum-ʔáli	ʔumʔáli	ʔumʔáli	ʔunʔáli	'to come'

KEL and HNG share one other consonant shift that the other KLN dialects do not have, although this is simply a case of allophonic variation. The voiceless alveolar stop is rendered a sibilant when it occurs before the front vowel. This variant is always [s] in KEL, and in HNG it is either [s] or [ç], apparently in free variation.

PKLN	KEL	HNG	
*ʔátip	ʔásip	ʔásip	'sheath (for bolo)'
*ʔútin	ʔúsin	ʔúçin	'penis'
*ʔitíl	ʔesíl	ʔosíl	'vagina'
*bɨbtík	bebsík	bobçík	'to run'
*ʔaltíy	ʔaltéy	ʔalsíʔ	'liver'
*nɨttíy	nettéy	notçíʔ	'dead'

2.5 ILONGOT. Ilongot has experienced a number of phonological changes in its development from PSC. The current phonemic inventory is given in table 7.

2.5.1 Stress and Vowel Length. Ilongot underwent the shift of stress to the first open syllable (not having *ɨ) that NuSC did. In ILT, this has resulted in marked lengthening of the vowel.

PSCC	Pre-ILT	ILT	
*danúm	*dánum	dɨ:nom	'water'
*basá	*bása	bɨ:ta	'wet'

*pigá	*píga	pi:gɨ	'how many?'
*ʔilíŋ	*ʔilíŋ	ʔɨɣíŋ	'nose'
*kɨníg	*kɨníg	kɨníg	'thick'

TABLE 7. PHONEMES OF ILONGOT

p	t		k	ʔ	i	ɨ	o
b	d		g			a	
	s		ɣ			V: (length)	
m	n		ŋ				
	l						
w		y					

This pattern was altered by a shift in stress to the second syllable of a word when it followed a high vowel and its homorganic glide. This includes the glide between certain vowels produced by the deletion of *l.

PSCC	ILT	
*duwá	dowá	'two'
*ʔuwɨy	ʔowí	'rattan'
*siyá	siyá	'he/she'
*pi:law	piáw	'mud'
*bu:lan	boán	'moon'

The deletion of a preconsonantal glottal stop with concomitant lengthening of the preceding vowel, as in PNG, has created vowel length where PSC did not have it.

PSC		ILT	
*baʔkúl	'old (woman)'	bɨ:koɣ	'woman, female'
*daʔlág	'neighbor'	dɨ:ɣag	'near, neighbor'
*siʔbúk	'to blow'	si:bok	'to blow'
*saʔdúk	'horn'	ta:dok	'horn'

Naturally, the introduction of loan words has reinforced vowel length.

ʔa:dal	< Iloko	ʔa:dal	'to learn'
da:gat	< Tagalog	da:gat	'sea'
lo:kop	< Isinai	lu:ʔup	'ring'
talaba:ko	< Spanish	trabajo	'work'

A vowel occurring after a consonant cluster is usually stressed, although light stress may often be heard on the first syllable, especially if the first consonant in the cluster is voiced.

dɨpɣát	'stone'	bokɣó	'neck'	dɨgnay ~ dɨgnáy	'wind'
matɣ́m	'blood'	ʔóɣta	'deer'	ʔánsiŋ ~ ʔansíŋ	'clothing'
goʔgó	'scratch'	bóŋɣon	'rainbow'	pándɨk ~ pandɨk	'star'

2.5.2 Vowels.   The one consistent vowel shift that all ILT dialects have under-gone is the raising of *a after a voiced stop:

PSC	ILT	
*baʔbá	bɨʔbɨ	'tooth'
*daʔpúl	dɨ:poγ	'ashes'
*gáyaŋ	gɨyáŋ	'spear'

In KAW, *u is fronted to *i* when it occurs before a *w* that is followed by a central vowel, similarly to the situation in KEL.

PSC	KAW	
*duwá	dɨwá	'two'
*bu:wɨd	bɨ:wɨd	'sand'
*lu:wɨm	γɨ:wɨm	'ripe'

Sporadically, both PAY and GAN have *a* rather than the expected *i* as a reflex of *ɨ. This appears to happen preferentially immediately before a voiced intervocalic consonant. PAY, for example, has the following:

PSC	PAY	
*ʔɨŋít	ʔaŋít	'to laugh'
*kɨníg	ʔokaníg	'thick'
*ʔɨdín	ʔadín	'to hold'
*ʔilíŋ	ʔaγíŋ	'nose'
*ʔɨmút	ʔamót	'to hide'

2.5.3 Diphthongs.   The word-final sequences *-ɨw and *-ɨy have been reduced to -*o* and -*i* respectively.

PSC	ILT	
*ʔa:gɨw	ma:go	'day'
*buklíw	bokγó	'neck'
*pa:gɨy	pa:gi	'rice plant'
*ʔúwɨy	ʔowí	'rattan'
*dúkɨy, dukkíy	do:ki, dokkí	'long'

2.5.4 Consonants.   In the few inherited items that had the sequence *Cʔ, the two have metathesized and the glottal has been replaced with vowel length.

PSC	ILT	
*liŋʔít	γɨ:ŋit	'sweat'
*suyʔál	to:yaγ	'to push'
*latʔiy	nɨγa:si, ma:si	'night'

Those with the shape *ʔC have usually replaced the glottal stop with vowel length when the second syllable is a closed one.

PSC	ILT	
*kuʔgíp	ko:gip	'dream'
*baʔkúl	bɨ:koγ	'(old) woman'

But if the consonant following the glottal is an alveolar, the glottal stop remains.

PILT	ILT	
*daʔlím	díʔɣɨm	'deep'
*saʔlat	taʔɣát	'to exchange'
*dɨʔtál	dɨʔtáɣ	'floor'
*laʔnúp	ɣaʔnóp	'face'
*tuʔdúk	toʔdók	'thorn'

When the second syllable is open, the glottal stop remains.

PSC	ILT	
*guʔgú	goʔgó	'to scratch'
*waʔwá	waʔwá	'morning'
*suʔní	toʔní	'thorn'

ILT has undergone two changes affecting the voiceless alveolar obstruents. The stop *t is reflected as *s* before the front vowel *i,* and the fricative *s becomes *t* everywhere except when immediately followed by *i.*

PSC	ILT	
*tíla	siá	'vagina'
*ʔaltíy	ʔáɣsi	'liver'
*bása	bɨːta	'wet'
*ʔulsá	ʔóɣta	'deer'
*ʔɨgís	ʔɨgít	'belly'

The lateral phoneme *l is generally reflected as ɣ, often proceeding to deletion. This is an ongoing process, and various environments lend themselves to *l dele-tion more than others. Alternative pronunciations occur between villages and even within a village. The lateral is always reflected as ɣ in word-initial position and when following another consonant.

PSC	ILT	
*lága	ɣaːgɨ	'to weave (mat)'
*lɨdlíd	ɣɨdɣɨd	'to wipe'
*tadláŋ	tadɣáŋ	'rib'
*saʔlát	taʔɣát	'exchange'

It is also reflected as ɣ when followed by a consonant other than the glottal stop. If fol-lowed by the glottal stop, the *l is deleted and the preceding vowel takes on length.

PSC	ILT	
*ʔulsá	ʔóɣta	'deer'
*ʔaltíy	ʔáɣsi	'liver
*tɨlʔáp	tɨːʔap	'winnow'

In word-final position *l is nearly always reflected as ɣ after *o, a,* and *i.* When *ɨ* is the preceding vowel, *l is usually reflected as zero.

PSC	ILT	
*ʔápul	ʔaːpoɣ	'lime'
*kídul	kiːdoɣ	'thunder'
*dɨʔtál	dɨːtaɣ	'floor'

*síbal	si:bɨɣ	'answer'
*ʔíbil	ʔi:bɨɣ	'weep'
*támil	ta:miɣ	'cheek'
*tɨbíl	tɨbɨ́	'sharp'
*búkɨl	bo:kɨ	'seed'
*dɨŋíl	dɨŋɨ́ɣ, dɨŋɨ́	'hear'

In the case of intervocalic *l, there is no clear pattern. In the few instances of *l occurring after *ɨ, all of them reflect *l as ɣ.

PSC	ILT	
*ʔilíŋ	ʔɨɣíŋ	'nose'
*ʔilít	ʔɨɣít	'strong, hard'
*sɨlí	tɨɣí	'foot'

When between any other two vowels, ɣ and zero occur with equal frequency.

PSC		ILT	
*ʔúlu	'head'	ʔo:, ʔo:ɣo	'hair (of head)'
*ʔúlilá		ʔoi:ɣa	'widow'
*ʔálad		ʔa:d	'fence'
*kálat		ka:ɣat	'bite'
*sáliw		ta:iw, ta:ɣiw	'sell'
*pílaw		piáw	'mud'
*bílay		biáy, bi:ɣay	'alive'

There are many occurrences of phonetic (and phonemic) *l* in all ILT dialects. Most of these must be attributed to loans from other languages, but nearby donor languages are often difficult to identify.

li:gɨt	cf. Bon, Knk ligít	'anger'
bɨláŋ ~ bɨlíŋ	cf. IvtI mavaɨŋ ~ mavaɣɨŋ	'black'
pi:lag	cf. KnkN pilág	'lie down'

Others are innovations, shared or not, within ILT itself.

boliŋkɨd ~ ʔolíŋkɨd	'short'
lɨpíd ~ ʔɨ:pɨd	'cut off'
li:mot	'tongue'

The dialects of ILT spoken in Gan and in Pay exhibit allophonic variation in the glides in prevocalic position, having [v] as an allophone of *w* and [ž] (Pay) or [z] (Gan) as an allophone of *y*.

PSC	Pay	Gan	
*láwɨd	[ɣa:vɨd]	[ɣa:vɨd]	'betel leaf'
*yápit	[ʔožapít]	[mazappít]	'thin'

3. MORPHOLOGY. The four most notable areas of innovation in the development of SC morphology from PSCC are the pronouns, the deitics, the adjectival prefixes, and the verbal infix *-um-.

3.1 THE INFIX *-UM-. Throughout SC, and therefore at some time after the split with PCC but before ILT separated from WSC, the infix *-um- changed its form to the prefix *ʔum-, although the perfective remains an infix, as for example PNG -inm-.[4] Only KEL and HNG have retained the bilabial nasal, the rest of the SC languages having shifted it to the alveolar position.

PSCC	PSC	ILT	PNG	IBL	KAR	KAY	KEL	HNG
*-um-	*ʔum-	ʔon-	un-	ʔon-	ʔon-	ʔun-	ʔum-	ʔum-

The southern IBL communities of SBN, Tri, TUB, and Ito, at least, have further altered the vowel of the affix, and they have allowed the nasal to assimilate to the point of articulation of the root-initial bilabial or velar consonant.

KBY	TUB	
ʔonʔínom	ʔɨnʔínom	'to drink'
ʔonbɨtík	ʔɨmbɨtík	'to run'
ʔonkálat	ʔɨŋkálat	'to bite'

3.2 ADJECTIVAL PREFIXES. In PSCC, the prefixes *ʔa- and *ʔaN- mark a class of adjectives having some inherent property. The former has been retained in all SC languages except ILT, where it appears as the prefix *ʔo- or merges with *ʔaN-.

PSCC	PNG	ILT	
*bilay	abiláy	ʔambiɣáy	'alive'
*ʔa-da:lɨm	aralɨm	ʔodíʔɣɨm	'deep'
*basá	ambasá	ʔobɨ:ta ~ ʔambɨ:ta	'wet'
*paʔit	ampaʔít	ʔopa:ʔit ~ ʔampa:ʔit	'bitter'
*ʔi:nit	am(pɨtáŋ)	ʔoʔi:nit	'hot'

In HNG *ʔa- either merges with other prefixes or is replaced by *kaC-.

PSC	PNG	KEL	HNG	
*ʔa-dáwi	arawí	ʔedawwíʔ	kaddawwíʔ	'far'
*ʔa-dálɨm	aralɨm	ʔedallém	kaddallóm	'deep'
*ʔa-taʔgíy	atagíy	ʔetaʔgéy	kattaʔgíʔ	'tall'
*yaʔpíw	a(lɨmíw)	meyaʔpéw	kayyaʔpúʔ	'light (weight)'

And in KAR, *ʔaN- does not continue as an adjective marker. Adjectives are marked by *ʔon-, ma-, and *ʔa-. Further, the marker *na-, which is the perfective of ma-, has been replaced by the form *ʔiya-. Reid (pers. comm.) suggests that this may have developed from the form *mina-, with loss of the nasals (cf. Arta *mina-patid* 'dead').

PNuSC	IBL	KAR	
*pɨtáŋ	ʔampɨtáŋ	ʔonpʌtáŋ	'hot'
*bɨlʔát	ʔambɨlʔát	ʔonbʌlʔát	'heavy'
*kaʔyás	ʔaŋkaʔjás	ʔoṇkaʔjás	'light (weight)'
*napnú	napnó	ʔiyapnó	'full'

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4. Itbayaten Ivatan has both infixed and prefixed forms: *tumayuʔ, ʔumtayuʔ* 'to hide', and *sumayap, ʔumsayap* 'to fly' (Yamada 1967).

*napsíl	napsíl	ʔiyapsÁl	'sated'
*nayʔisúp	nayʔisóp	ʔiyayʔʌsóp	'near'

3.3 PRONOUNS. Reid (1979) has reconstructed pronominal forms for PC, PSCC, and PSC. The only change from PC to PSC in the long nominative forms was the elimination of the last two segments from the IS *siyaken to produce the following set.

IS	*siyak	IP	*siʔikami
2S	*siʔika	2P	*siʔikayu
I + 2S	*siʔikita	I + 2P	*siʔikitayu
3S	*siya	3P	*siʔida

The IS form might better be reconstructed as *siʔak, given the ILT form and the normal propensity for other Cordilleran languages to introduce a glide when eliminating ʔ in this particular intervocalic environment.

A subsequent change alters the medial syllable *-ki- in the I + 2S and I + 2P to *-ka- by analogy with the IP and 2P forms that both begin with the sequence *siʔika-. The analogical change spread also to the 3P form in PNG, changing *siʔida to *siʔikada. Actually, the shift from *-ki- to *-ka- does have a reflex in ILT (GAN) as well. Either this change, at least for the I + 2P form, predates the split of ILT from WSC, or GAN developed this independently at a later time by analogy with the IP form. Alone among the various dialects of IBL, KBY has retained the original *-ki- sequence in the I + 2P form, *siʔkitajó*.

Other developments in ILT, Reid notes, include the regularity in the development of ILT *sikisi* and *siki* from *siʔikitayu and *siʔikayu respectively. The evolutionary steps are:

*siʔikitayu > *sikitayu > *sikitay > *sikitɨy > *sikiti > *sikisi
*siʔikayu > *sikayu > *sikay > *sikɨy > *siki.

Also, in ILT, the 3P form changed from *siʔida to *siyay dí* by analogy with the 3S form: *siʔida > *siya + ʔida > *siyay da > *siyay dí*. The corresponding pronoun in GAN, *siyay ʔídí* 'they', highlights this process.

PAY and GAN then reanalyzed the 3S form to contrast with the 3P pronoun to mark singularity by producing *siya so*. The sequence *so* at first appears to be irregular, since *s* only occurs before the front vowel. A likely reconstruction for this particle, then, would be *siyu. Although it seems a long reach, the corresponding pronouns in two Northern Mangyan languages, Alangan of Baco and Tadyawan of Alibato, both in Oriental Mindoro, have *si:yo* and *siyó* respectively for '3S',[5] In both the ILT and Mangyan cases, this form may derive from *sinu 'who?' with loss of the nasal.[6]

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5. I am indebted to Mr. James Clifford and Mr. Hugh Porter for this information.

6. In Alangan and Tadyawan, the nasal has also been lost in the perfective infix *-in-;* cf. Alangan *kayat* 'bite' and *kiya:yat* 'bitten'.

PAY has carried the analogy to the 1S form, yielding *siyá ?ák,* ensuring that all pronouns that do not begin with the sequence *sik-* are marked with *siya-,* giving the following set:

1S	siyá ?ák	1P	sikamí
2S	si:ka	2P	sikí
1 + 2S	sikíta	1 + 2P	siki:si
3S	siyá só	3P	siyáy dɨ

Early in the development of SC, before ILT diverged from WSC, the 3S genitive form *-na was replaced by *-tu, which developed from the deitic 'here, this'. PWSC then adopted the 3S long nominative form *si?ikatu.

The initial sequence *si?i- was reduced to *si- both in ILT and PNG. For PNG this produces the following set:

1S	siyák	1P	sikamí
2S	siká	2P	sikayú
1 + 2S	sikatá	1 + 2P	sikatayú
3S	sikatú	3P	sikará

The NuSC languages underwent another development not shared with PNG and ILT. In the medial sequence *-ka-, the voiceless velar stop *k became voiced. Also, the sequence *si?ga- was reanalyzed as the formative for the long nominative, and the feature 'person' became marked by the addition of genitive markers in 1S and 2S. The resulting long nominative forms in the NuSC languages are:

	PNuSC	IBL	KAR	KLN
1S	*si?gák	si?k̠ák	si?k̠ák	hi?gák
2S	*si?gám	si?k̠ám	si?k̠ám	hi?gám
1 + 2S	*si?gata	si?k̠áta	si?k̠áθa	hi?gáta
3S	*si?gatu	si?k̠áto	si?k̠áθo	hi?gátu
1P	*si?gami	si?k̠ámi	si?k̠áwi	hi?gámi
2P	*si?gayu	si?k̠áyo	si?k̠áyo	hi?gayu
1 + 2p	*si?gatayu	si?k̠atajó	si?k̠áθayo	hi?gátayu
3P	*si?gada	si?k̠ára	si?k̠ára	hi?gáda

In the southern IBL communities of La Trinidad, Tuba, and Ito, and also in I-wak, the glottal stop has been deleted, leaving *sik̠ák, sik̠ám,* and so forth. In AHN, the glottal has merged with the following velar stop: *higgák, higgám,* and so forth. HNG has shared in the NuSC developments only in the 1S and 2S pronouns. The balance of the long form nominative pronouns are retained from earlier etyma. The 1S form also has a competing form, *híku?,* whose geographically closest cognate forms are found in Sambalic (cf. Bolinao *si?ku,* Santa Cruz and Botolan *hiku,* 'I'). The other pronouns are traceable to PC.

	PPhN	Pre-HNG	HNG
1S	*si?ku	*si(?)ku	híku?

	PNuSC	Pre-HNG	HNG
1S	*si?gák	*si?gák	hi?gák
2S	*si?gám	*si?gám	hi?gám

	PC	Pre-HNG	HNG	
I + 2S	*sita	*sita	híta?	
3S	*siya	*siya	híya?	
IP	*sikami	*síkɨmí	hikmí?	
2P	*sikayu	*síkɨyú	hikyú?	
I + 2P	*sitayu	*sítɨyú	hityú?	[hiçyú?]
3P	*sida	*sida	hída?	

The genitive set of pronoun clitics demonstrate much less variation in their development than do the long nominative forms. All SC languages, with the exception of KAR and ILT (KAK), have the expected reflexes of the PSC set.

1S	*-ku ~ *-k	IP	*-mi
2S	*-mu ~ *-m	2P	*-yu
I + 2S	*-ta	I + 2P	*-tayu
3S	*-tu	3P	*-da

In KAR, the I + 2S form -ta does occur, but it is more common to hear -táyo, and the I + 2P form -táyo is disambiguated by affixing the 3P clitic to form -tayočá. In ILT (KAK), the reported form for I + 2S is the plural pronoun -si rather than the expected -ta, which is the form for this pronoun in the other ILT dialects.

3.4 DEITICS. The fourth area of morphological divergence of SC from PC lies in the deitics. On the basis of the Iloko forms, PC must have included at least the set:[7]

DEMONSTRATIVES		LOCATIVES	
*?i-tu(y)	'this'	*di-tu(y)	'here'
*?i-ta(y)	'that (I)'	*di-ta(y)	'there (I)'
*?i-di?a(y)	'that (II)'	*di-di?a(y)	'there (II)'

All SC languages except HNG and two dialects of ILT have retained the *di- formative in the locatives, but only ILT, PNG, and the TUB dialect of IBL have kept the *?i- prefix of the demonstratives. The NUSC languages and, to a certain extent, PNG have adopted other markers for the latter, most commonly ?a-, si-, and sa-.

In the roots, ILT retains the sets *tu and *ta, and, as all other SC languages, it has adopted the form *ma(n) as a replacement for *di?a(y). PWSC substituted *ya for *tu, which, as mentioned earlier, is now the genitive marker for the 3S pronoun. The origin of *ya is not immediately apparent, although it probably derives from the 3S pronoun *siya. The base of the item meaning 'that, there (I)' has the form *tan* in two dialects of ILT and all WSC languages but HNG. This yields the following sets for PNG, KAW, and PAY.

	KAW	PAY	PNG
'this'	?ito	?itot	a:ya
'that (I)'	?itan	?itan	itán, a:tan
'that (II)'	?ima, ?iman	?iman	imán, a:man
'here'	dito	dito	diyá

7. In the glosses that follow, (I) means 'near addressee', and (II) means 'far from both speaker and addressee'.

'there(I)'	dita, ditan	ditan	ditán
'there (II)'	diman	diman	dimán

The addition of final -*t* in Pay is unexplained. It is found also in the Kak locatives.

'this'	(ʔi)to	'here'	ʔitot
'that (I)'	(ʔi)ta	'there (I)'	ʔitat
'that (II)'	(ʔi)ma	'there (II)'	ʔimat

Gan varies in several ways from the Ilt norm; *ta has been displaced by *tod* and *ma(n) by *mad*. Further, two of the locatives have lost the *di- prefix and substituted for it the suffix -*ɨn*.

'this'	say ʔi:to	'here'	di:to
'that (I)'	san tód	'there (I)'	to:dɨn
'that (II)'	say ʔi:ma	'there (II)'	ma:dɨn

Since *s* only occurs before the front vowel, the underlying forms must be:

'this'	*siya-y ʔitu
'that (I)'	*siya-n tud
'that (II)'	*siya-y ʔima

Throughout the Philippines, *siya is a common lexeme for the third singular pronoun, as is seen in Reid's reconstruction of PC *siya '3s'. Its use as the formative for the demonstratives is quite logical, as in the gloss 'the one here' for 'this'. Also, phonologically, *siya is a likely form to be the origin of ʔa-, si-, and sa-. Consider the following Kln sets from Keh and Dky.

	Keh	Dky
'this'	hiyá ya	siʔíyay, síyay
'that (I)'	hiyá tan	siʔítan
'that (II)'	hiyá man	siʔimán

Ahn and Kay have added the form *ʔada(y) for 'this, here', and Ahn has further altered the other two demonstrative forms.

	Ahn	Kay
'this'	hiʔaya, hiʔada	hiʔaday
'that (I)'	hiʔaditin	hiʔatan
'that (II)'	hiʔadimin	hiʔamman

The deitics in Kel and Hng show the most radical divergence from the WSC norm.

	Kel	Hng
'this'	húyaʔ, yaʔhúy	yahhúy
'that (I)'	huttán	ʔommán
'that (II)'	húman, hummán	ʔommún
'here'	di diyáy, ʔiyadyáʔ	(yad) diyáʔ
'there (I)'	di ditan, ʔittén	yad man, yad ʔommán
'there (II)'	di dimmán, ʔimmén	yad ʔommún

Kel has adopted a demonstrative prefix *su- and discarded the inherited form; Hng shares this prefix in the stem meaning 'this' but has not generalized it to the

other demonstratives. This prefix, of course, is identical to the particle that GAN and PAY use to mark off the third singular pronoun from the plural in *siyá so.* If, indeed, it originates in PPHN *siyu, then it is shared again in the WSC forms for the meaning 'who?', such as PNG *siyupá, siyupáy,* and in the NuSC item *sotá ~ huttá* 'whatchamacallit'. The locative prefix *di-* has been reanalyzed as part of the base forms, and the marker is again used, somewhat redundantly, in the forms such as *di ditan* 'there (I)'. KEL's alternative set of locatives show another set of prefixes using *ʔi-, while altering the vowel of the two items meaning 'there'. The locatives in HNG employ an innovative marker *yad.* In both the demonstratives and the locatives, *man has been reassigned to 'that, there (I)' and the new item *mun is used for 'that, there (II)'.

With the exception of TUB, mentioned above, IBL shows remarkable uniformity in the deitics. KAR conforms to the IBL pattern, but it also allows the syllable -*ʔa* as an alternative to final -*n* in all forms meaning 'that, there'.

	PWSC	IBL	KAR
'this'	*siya-ya(y)	sajáy	sejáy, sʌjá
'that (I)'	*siya-ta(n)	satán	setán, sʌtáʔa
'that (II)'	*siya-ma(n)	samán	semán, sʌmáʔa
'here'	*di-ya(y)	čiyáy	čiyáy
'there (I)'	*di-ta(n)	čitán	číθan, číθaʔá
'there (II)'	*di-ma(n)	čimán	číwan, číwaʔá

4. LEXICOSTATISTICS AND EXTERNAL RELATIONS.

Inferences based solely on lexicostatistical analysis may be suspect, as many linguists suggest, but they may provide corroborative evidence of conclusions based on shared phonological and lexical innovations. The figures below are based on a comparison of basic vocabulary using a standard 100-item list. The items compared are those appearing on the list proposed by Swadesh (Samarin 1967), with a few exceptions. The following terms were deleted because they are often borrowed items or they replicate other list items in northern Luzon languages: green, round, seed, fish, kill, lie, sun. They were replaced by the terms: deep, wide, thorn, eel, brain, run, laugh.

When comparing a language with an established subgroup, say PNG (one case) with IBL (12 cases), there are three logical choices of which figure to adopt as indicating their relationship: the lowest figure, the highest, or an average of all. In this exercise I have used the mean, in an attempt to eliminate the extreme cases that may have been brought about by hidden borrowing, either between the languages in question or between one (or both) of them from languages not under consideration.[8] PNG, for example, shares 65% of basic vocabulary with the dialect of IBL

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8. Using the median, rather than the mean, provides similar results:

	PNG				
IBL	.61	IBL			
KAR	.58	.74	KAR		
KLN	.62	.79	.67	KLN	
ILT	.44	.31	.33	.33	ILT

spoken in Pico, La Trinidad, but only 56% with the IBL dialect of Natubleng, Buguias. The mean percentage of cognates shared by PNG and IBL dialects is 61%. That is the figure used for present purposes.

There is a problem in determining the relationships of the KLN dialects to IBL. The southern KLN communities show much closer relationships to IBL than do those of the north, on the basis of lexicostatistics alone. This would suggest two quite separate relationships, with IBL and northern KLN splitting at the 67% level and IBL and southern KLN splitting at 85.5%. On the basis of shared (and non-shared) phonological rules and shared lexical innovations, however, it appears wiser to posit a single KLN speech community, the southern representatives of which have borrowed extensively from their geographically proximate IBL neighbors.

With these considerations in mind, the percentages of shared cognates among SC languages are:

	PNG				
IBL	.61	IBL			
KAR	.58	.74	KAR		
KLN	.62	.76	.65	KLN	
ILT	.43	.32	.33	.34	ILT

The percentage of cognates shared by KAR and IBL is undoubtedly inflated by borrowing, since KAR is surrounded by IBL speakers. Because of this and the apparent borrowing between IBL and some dialects of KLN, the three languages, IBL, KAR, and KLN, are tentatively considered coordinate descendants of one ancestral tongue, PNuSC.

The lexicostatistical figures provide the basis for the tree diagram in table 1. Other investigators, using other techniques and/or using comparative lexical lists of various lengths, have arrived at quite different views of the relationships of the languages in question.

Thomas and Healy (1962) postulated a four-way split of the Philippine Super-stock into Ivatan, Ilongot, Baler Dumagat (Northern Alta), and the Philippine Stock. The latter, they suggested, split three ways into the Northern Philippine Family, Pangasinan, and the Southern Philippine Family. This arrangement puts the three major branches of SC in three radically different subgroups of Philippine languages.

Fox, Sibley, and Eggan (1965) arrived at percentages of shared cognates between ILT and PNG of .416 and between ILT and IBL of .393. Nevertheless, they classed ILT separately from the "Northern Division," "Central Division," and "Southern Division," roughly NC, CC, and SC respectively. "The relationship of Ilongot to all other groups ranges below 40%, with the exception of Gaddang and Pangasinan, but in its structure Ilongot belongs with the Northern Luzon Type, as against the Central Luzon languages" (Fox, Sibley, and Eggan (1965:109).

Morphological and syntactic information is not given, and it appears that the "structure" referred to must be phonological. It is likely that Fox, Sibley, and Eggan (1965) were misled by the phonological rules that ILT shares with some of the NC languages.

Thomas and Gieser (1973), working toward different purposes, likewise grouped ILT as a single classification under "Northern Negrito group and Luzon various," coordinate with the "Baler group," Northern Cordilleran, Central Cordilleran (which included Iloko, Itneg, Ibaloy, and Kalanguya as well as CC languages), and others.

Walton (1979), using the 372-item list in Reid (1971), postulates that Ivatan split off first from "Northern Philippine," followed by a divergence of ILT. "Northern Philippine split at 29% into Ilongot and Cordilleran. This is the percentage of cognates Ilongot shares with Balangao, Gaddang, and Itawis, discounting the higher percentages Ilongot shares with Southern Cordilleran (Pangasinan and Karaw) and Kankanay as attributable to mutual borrowing from Pangasinan (a language to which each of these is geographically adjacent)" (Walton (1979:81). The discounting of these higher percentages is unwarranted. Pangasinan has undoubtedly contributed lexemes to its neighboring languages, as it has borrowed from them, but its contribution to the vocabulary of KNK must be minimal, and it is lexically farther from KAR than it is from any SC language except ILT. ILT has borrowed heavily from languages with which it has come into contact, such as Tagalog and Isinai, and when it has done so it has retained traces of the borrowing in phonological irregularities. For example, ILT shows phonetic [l], when [ɣ] or zero is expected, or [i] or [o] where [ɨ] is the regular reflex. What may be expected to be early loans into ILT from PNG, because they have been fully naturalized, may just as well be retentions from an earlier shared language.

The primary reason for separating ILT from other Cordilleran languages was undoubtedly the large number of uniques in its basic vocabulary, which depresses the percentage of cognates that ILT shares with other languages. Zorc (1986:154) argues that some of these, at least, are Austronesian retentions.

Reid (1979, 1989a, 1989b) has used a number of criteria to classify the languages of northern Luzon, including shared lexical, morphological, phonological, and syntactic features. His (1979) reconstruction of the Proto Cordilleran pronoun systems is particularly compelling. The grouping of ILT with SC that Reid and Zorc established is now widely accepted.

It might be argued that ILT is, indeed, related to the other SC languages, but no more so than to the CC languages. The lexicostatistical calculations argue against this. The percentages of cognates that ILT shares with the SC languages ranges from .27 to .45, whereas the range for CC languages is .24 to .30. That ILT is so closely related to CC is not surprising if it is a first order descendant of PSC. The divergence of ILT from PWSC most likely occurred very shortly after PSC and PCC themselves split.

ILT shares some morphological, semantic, and lexical innovations with CC languages that do not occur in other SC languages. These items must be added to the inventory of PSCC.[9]

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9. Reconstructed forms containing either of two possible phonemes have those phonemes in square brackets; e.g., *k[iu]pít has reflexes of both *kipít* and *kupít*. Those with a segment that may or may not have been present have that segment in parentheses; e.g., the form ancestral to both *bati:lid* and *banti:lid* is represented as *ba(n)ti:lid.

*ʔɨdín: BonE, Iꜰɢ, Kʟᴀ ʔodón; Iᴛɢ ʔɨdín; Isɪ ʔonnán, maŋdón; Iʟᴛ ʔɨdín, ʔadɨn 'to hold'. Cf. PAN(Dy) *heZen 'to squeeze out'.

*ʔulita:ʔu: Bon, Kɴᴋ ʔolita:ʔo; Bʟᴡ ʔulita:ʔo; Iꜰɢ ʔulita:ʔu; Iʟᴛ ʔoyta:ʔo, ta:ʔo 'uncle'. Cf. PPʜ(Z) *Ulitaᵒu 'young man'.

*baʔbá: Bon, Kɴᴋ, Iꜰɢ babʔá; Kʟᴀ babʔá, ba:ba; Isɪ ba:va, bavá; Iʟᴛ bɨʔbɨ 'tooth'. Cf. PAN(Dy) *baqbaq 'mouth'.

*ba(n)ti:lid: KɴᴋN (Luba), Kʟᴀ (Masadiit) banti:lid; KʟᴀN bate:led; Iʟᴛ bɨsi:lid 'mountain'. With unexpected *l* in Iʟᴛ.

*bɨká[kŋ]: BonN bɨkbɨkán 'bow-and-arrow'; KɴᴋN bɨkáŋ; KʟᴀS boʔáŋ 'bow-and-arrow, bow'; Iʟᴛ bɨkák 'bow (weapon)'.

*daʔlág: BonN, Kʟᴀ dalʔág 'neighbor'; KɴᴋN da:ʔag 'draw near'; Iʟᴛ dɨ:ɣag, dɨ:ag 'near', kadɨɣág 'neighbor'.

*dɨplás: Bon dɨplás; Kɴᴋ dɨppás 'cliff'; Iꜰɢ (Hapaw) dopwáh 'stone'; Iꜰɢ dopláh 'rock, cliff, boulder'; Iʟᴛ dɨpɣát 'stone'.

*ga:tud: Bon, Kɴᴋ ga:tod 'tailfeathers'; IꜰɢE ga:tud; Iʟᴛ gɨ:tud 'back (of person)'.

*kay(ʔ)ab: KɴᴋS kayʔáb; Iʟᴛ kayáb 'to climb'.

*kilɨm: Bon kilɨm 'sour wine'; KɴᴋN kilɨm 'set the teeth on edge, ki:lɨm 'sour'; Iʟᴛ ki:ɣɨm 'sour'.

*k[iu]pít: Kɴᴋ kipít, nakpít 'withered, dried up'; Iꜰɢ kupít 'dry (of leaves)'; Iʟᴛ nakpít 'dry'.

*kiskís: KɴᴋN kiskís; Iʟᴛ kitkít 'bark (of tree)'. Cf. PAN(D) *kiskis 'scrape'.

*ku:bu: KɴᴋN ko:bo, kobó 'to fence in'; Iꜰɢ ku:bu(h) 'house lot'; Iʟᴛ ku:bu 'space under house'.

*labák: KɴᴋN labák; Iʟᴛ ɣabɨk, ɣinabɨk 'to hit someone with an object'. Cf. Iloko labák 'to abuse someone'.

*liŋít: Iᴛɢ liŋít; IꜰɢE loŋót; Iʟᴛ ɣinɨŋít 'sweat'. Cf. PHN(Z) *liŋʔet 'sweat'.

*ligít: Bon, Kɴᴋ ligít; Iʟᴛ li:gɨt 'anger'. With unexpected *l* in Iʟᴛ.

*makán: Bon, KɴᴋN makán; IꜰɢE maʔán; Iʟᴛ makán 'cooked rice'. Cf. PPH *makán 'edible'.

*pilág: KɴᴋN ʔipilág; Iʟᴛ pi:lag 'to lie down'. With unexpected *l* in Iʟᴛ.

*piláw: KɴᴋN piláw 'very soft mud'; Iʟᴛ piáw 'mud'. Cf. Tᴀɢ pílaw 'turbidity of water'; Iʟᴋ piláw 'pool of standing water'.

*siŋa:ʔVg: KɴᴋN siŋáʔag, siŋáʔig; Iʟᴛ ʔantíŋʔog 'fragrant'. The loss of the second vowel was a late development in Iʟᴛ.

*siʔlɨk: Bon silʔɨk; Iʟᴛ ʔaniʔɣ́ɨk 'to sniff'.

*suʔní: KɴᴋN sonʔí 'splinter, intrusive body'; Iʟᴛ toʔní 'thorn'.

*tunúŋ: Bʟᴡ tonúŋ; Iʟᴛ tonóŋ 'cold'.

*yam(m)íw: IFG yammó; ILT yamó 'to float'.

Lexical sharing exclusively between ILT and CC is offset, however, by similar such sharing between CC and each of the other branches of SC. PNG, for instance, shares a number of items exclusively with CC languages.

*ʔíd: KNK ʔíd; PNG íd 'toat (marker of distant location or time)'. Cf. PCC *ʔad idem.

*ʔugtán: BON, KNK yogtán; KNkN ʔogtán; KNkS ʔiyogtán; PNG yugtán 'younger sibling'.

*ʔulit: IFG ʔulʔu:lit; KLA ʔulʔullít, ʔullít 'story'; PNG ulít 'narration'. Cf. PPH *[qʔ]ulít 'to repeat'.

*b/al/a:ʔuk: BON (Maligcong) bala:ʔok 'spatula'; BON (Mainit) bala:ʔok; BON (Darlic), KNkN ba:ʔok; PNG bala:ʔuk 'ladle'. The vowel length in PNG is irregular.

*di:ŋut: BON di:ŋot; PNG mariŋút 'dirty'.

*gud(iu:)gud: BON godo:god, IFG gudi:gud, KLA gudu:gud, PNG gurgúr 'to rub'. Cf. PC *gudgúd 'itch, herpes, scabies'.

*kitláb: IFG kotláb 'to bite deeply into something'; ITG kittáb; PNG kitlíb 'to bite'. The merging of *l* with *t* in ITG is irregular.

*ku(m)paʔpíy: BON kopapʔíy, BONN kopa:pɨy, KLA (Masadiit) kappa:poy, koppa:poy, PNG kumpa:pɨy 'butterfly'.

*latúg: KNkN latóg, latób 'to swell (of the eyes)'; PNG latúg 'to swell'.

*libuŋít: BON ʔaliboŋitŋít 'pitch black'; PNG kalibuŋitán 'dark'.

*sagság: ISI saxsáx; PNG sagság 'to pierce'. Cf. IVT sagság 'chop, hash'.

In addition to the items shared with CC languages, PNG demonstrates external relationships with the other Northern Philippine, but non-Cordilleran, languages. Many lexical items are suspect, however, as there has apparently been a substantial amount of borrowing between PNG and the Sambalic languages.

The other three SC languages constitute the Nuclear Southern Cordilleran subgroup. Lexical and phonological data were collected from 12 Ibaloy-speaking communities, all in Benguet province except for I-wak, which is spoken in some remote barangays of Kayapa municipality in Nueva Vizcaya province. The dialects of Ibaloy are all very similar to each other, sharing from 86% to 98% of basic vocabulary and exhibiting only minor phonological differences among themselves.

There are six dialects of Kalanguya for which data are available. This language and the people who speak it have been called by several different names. Those groups in Tinoc, Ifugaw have been labeled "Kalanguya" for quite some time. The dialect spoken in the barangay of Antipolo, Asipolo municipality, Ifugaw is Keley-i, and the one spoken in Amduntog, Asipolo is Yattuka or Hanglulaw (Hanglulo in the Ifugaw language). The dialect spoken in Amlimay, Buguias is Mandek-ey, and that of sitio Tinudan, Kabayan Poblacion is Mangkehang. In Nueva Vizcaya the various groups found in Kayapa and Santa Fe have been

labeled Kallahan (Rice 1978, Afable 1989).[10] Keley-i and Hanglulaw are quite
similar to each other lexically, sharing 94% of basic vocabulary. Kehang, Mandek-
ey, and the dialect of Kayapa proper are all closely related to each other, sharing
between 87% and 94% of basic vocabulary. On the basis of lexicostatistics, Kalan-
guya of Ahin is more closely related to this group, at from 80% to 86% of basic
lexicon, than it is to the two northeastern dialects. Although quite close to KEL
(85%), its lexical relationship to HNG is remarkably low (58%). Undoubtedly,
there has been quite a bit of borrowing between the northern dialects of Kalanguya
and Ifugaw and, as mentioned above, between the southern dialects and Ibaloy. If
looked at on the basis of shared innovations, however, Ahin seems to be slightly
closer to the northeastern pair than to the three somewhat to the south. Since this is
the case, I have tentatively classed KLN of Ahin as a third branch of Kalanguya
coordinate with the other two.

Karaw is a truly interesting case. It is agreed by speakers of Karaw and their
Ibaloy neighbors in Bokod that the people of Karaw are an "intrusive" population,
having migrated to their present location at some time in the distant past. The oral
tradition in Karaw holds that the people came to this place from a village in Bon-
toc called Palingaw by way of the Nueva Vizcaya lowlands (Brainard 1992:27).
The language is most definitely a SC one, and it obviously did enjoy a long period
of independent development. While it is similar phonologically to Ibaloy, there are
some important differences. And there is a large amount of basic vocabulary not
shared with other languages.

There are several lexical innovations that Karaw shares exclusively with CC
languages, but they do not constitute convincing proof of a long association with
Bontok in particular. They are shared, however, with BON, KNK, IFG, and ISI, lan-
guages with which KAR would have come in contact if the oral tradition is histori-
cally correct.

*ʔaniːnit: BONE ʔaninnít, BONS ʔaninnít, ʔanannít; KAR ʔanínit 'ghost'. Cf.
PAN(Z) *qaNíCu 'ghost, spirit of the dead'.

*ʔupés: IFG (Banawe) ʔopóh; KAR ʔoːɸʌs 'to rub'.

*luːbɨg: KNKN loːbɨg; KAR ʔʌdógʌg 'dull, blunt'.

*ŋiːti: KNKN ŋiːti, ŋitiyán 'black, dark'; KAR ʔʌŋíθiʔán 'dirty'.

*ŋiyug: BON, KNK ŋiyóg, BLW ŋiyúg; KAR ŋiyóg 'coconut'. Cf. common
SCC niyúg 'coconut'.

*piŋwi: IFG piŋwí; KAR piŋʷí 'to turn around'.

*siʔpúk: KNKN sipʔók, ISI sipʔúʔ; KAR siʔpók̩ 'to blow'. Cf. PMC(R)
*siʔbuk 'to blow'.

*sukláy: IFG (Batad) huʔláy 'to shovel'; KAR sok̩dáy 'to dig'. Cf. PNG sukláy
'to turn upside down'.

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10. In 1994 at a meeting of representatives of all these groups it was resolved that they all belonged to
one "tribe" and that the proper designation for themselves should be "Kalanguya." The term "Kal-
lahan" was specifically rejected (Kalanguya Tribal Congress 1994:98–99).

*tukgúŋ: BON tokgóŋ 'to sit beside, guard'; IFG tukgóŋ 'to squat, hunker'; KAR tokḳóŋ 'to sit'.

These items should be assigned to the level of PSCC.

5. SHARED INNOVATIONS

5.1 PROTO SOUTHERN CORDILLERAN. Naturally, a great deal of lexical borrowing is to be expected in the context of ethnic diversity presented by the Cordillera Central. Items that are well represented in SC but that occur otherwise only in contiguous CC-speaking communities are tentatively judged to be loans in the latter. This is especially evident for those items that are found in the KNKS dialects spoken in Benguet but not in other branches of the CC family. Even more apparent as loans are those terms that appear in IFG of Kiangan and that Lambrecht (1978) labels *hudhúd* words. Virtually all of these items come from the "Lagawe language," i.e., Kalanguya. In the lists that follow, such apparent loans are noted as "cf. KNKS" or "cf. IFG" without further comment.

Items are assigned to the level of PSC if they are innovations shared exclusively by ILT and at least one other SC language. They are considered innovative if they are totally new lexemes, if they represent a significant semantic shift from some ancestral item, or if they exhibit irregular phonological change.

*ʔágat: PNG agát; IBL, KLN ʔágat; KAR ʔáxat; ILT ʔa:gɨt 'ginger'.

*ʔag[dw]ɨl: KAR ʔagwál 'G-string'; ILT ʔagdɨ 'clothes, skirt'.

*ʔápil: IBL, KLN ʔápil; KAR ʔáɸil; ILT ʔa:piɣ 'different, other'. Cf. PNuCC *ʔapíl 'twin'.

*ʔɨmút: PNG yamút; IBL, ILT ʔamót, ʔɨmót; KAR ʔʌmót; KLN ʔɨmút, ʔamút 'to hide'. Cf. IVT ʔamot, DGTC ʔɨmót 'to suffocate'; IsG ʔammót 'to cover the mouth with the hand'.

*ʔima(n): PNG imán, IBL ʔimán; KAR ʔíwan; KLN sɨʔimán; ILT ʔi:ma, ʔimán 'that (far from speaker and addressee)'.

*ʔúdas: PNG urás; IBL ʔo:ras, ʔodsán; KLN ʔu:dah, maŋuddáh; ILT ʔo:dɨt 'to wash (object)'. Cf. PHF(Z) *SúRas 'to wash'.

*ʔúgɨs: PNG kaʔugsán; IBL naʔo:gɨs 'ugly'; PNG maʔugís; ILT ʔo:gɨt 'bad'.

*bágu: PNG bagú; IBL bágo; ILT bɨ:go 'feather, body hair, pubic hair'; KAR bágo 'pubic hair'; KLN bágu, báguʔ 'body hair, pubic hair'. This item has diffused into KNKS ba:go 'feather, body hair, pubic hair' and KNKN bagba:go 'head hair, body hair'.

*baklâŋ: IBL, KAR bakdáŋ 'body, tree trunk'; KLN baklâŋ 'body'; ILT bɨtɣáŋ 'body'. The term in ILT has undergone regressive assimilation of the voiceless stop. Cf. ILK bakráŋ 'side of the body'.

*baʔkúl: IBL ʔɨbaʔḳól, baʔḳól; KAR ʔabaʔḳól; KLN nabaʔkúl 'old woman'; IBL (IwK) baʔḳól 'wife'; ILT bɨ:koɣ 'woman, female'.

*bɨtík: PNG batík; IBL batíḳ, bɨtíḳ; KAR bʌtíḳ; KLN batík, betík, bətík; ILT (GAN) bɨsík 'to run'. This item has diffused into IFG butík, bumtík 'to run'.

*bɨyʔín, bíʔɨn: KLN beyyén, biyón 'betel leaf'; ILT bi:ʔɨn 'betel chew'. Cf. IFG bi:yen 'betel vine, betel leaf'. Cf. Pan(B) *buyuq 'betel'.

*bukbúk: IBL, KAR boḳbóḳ; KLN bukbúk, bukbúkən; ILT bokbók 'to slice (meat)'. This item has diffused into KNkN as bokbók 'to cut up, to divide cooked meat'.

*buʔlá(y): IBL boʔdáy 'outside', boʔdayán ni ʔaḳɨw 'east'; KLN buʔláy 'outside', buʔláyan ni hɨgít, buʔláyan ni ʔágɨw 'east'; ILT boʔlá 'outside', buʔla:ʔan nimɨ ʔilag 'east'. The l is unexpected in ILT. Cf. ILK bu:lay 'to escape', KNkN bowáy 'to go out'.

*daʔlín: PNG da:lin; IBL čadín; ILT dɨ:ɣin 'land, soil, earth'. Deletion of the glottal stop accounts for the vowel length in PNG and ILT, and it also explains the second-syllable stress and occurrence of d rather than l in IBL.

*dɨkdík: IBL čɨḳčíḳ, šɨḳšíḳ; KAR čʌḳčʌ́ḳ; KLN dəkdók; ILT dɨ:kdɨ:k 'to boil' But cf. BONtok dɨkdík 'to be boiled dry, of cooking vegetables, meat, or rice'.

*dílig: KLN dílig; ILT di:g 'edge, shore'. Cf. IFG di:lig 'side beam'.

*di-ma(n): PNG dimán; IBL čimán, šimán; KAR číwan, číwaʔá; KLN dimán, dimmán; ILT dimán 'there (far from speaker and addressee)'.

*káwil: KAR ḳáwil 'bamboo water container'; ILT ka:wi 'bamboo water container, bamboo raft'.

*k[ɨi]yíw: PNG kiyíw; IBL ḳiyíw, ḳɨyíw; KAR ḳʌjów; KLN kiyíw, keyew, kiyúʔ; ILT kɨyó, kiyó 'tree'; IBL ḳaḳɨyɨwán, kaḳiyuwán; KLN kakíyɨwan 'forest'. Cf. PAN(B) *kahiw 'tree'.

*kiNlúŋ: PNG kinlúŋ; ILT kiŋɣóŋ 'shield'.

*kuʔgíp: PNG kugku:gip; IBL ḳoʔḳoʔḳíp, kogḳokíp, ḳogḳógip; KAR ḳoḳip; KLN kuʔkuʔgíp; ILT ku:gip 'dream'. Zorc (1979) reconstructs this item as Proto-Pangasinic *kuqgip 'dream'. Cf. PSCC *ʔu:gip 'to sleep'.

*lúwɨm: IBL ʔadówɨm, ʔɨdówɨm; KLN nalúwɨm; ILT naɣu:wɨm, ʔoɣɨ:wɨm 'ripe'. Cf. PHF(Z) *luʔum 'ripe'.

*ma-ʔɨdɨm: PNG ŋa:rɨm; IBL maʔčɨm, maʔšɨm; KAR ʔaraʔčʌ́m; KLN ʔədóm, maʔdóm, maʔdɨm; ILT madíʔdɨm, ma:dɨdɨm 'afternoon'. Zorc reconstructs this item as Proto-Pangasinic *maq( )dem 'afternoon'. Cf. PMC(R) sedem 'dark'.

*pɨgs[ɨí]t: IBL pɨgsít; KLN pɨghít, pəghót, peghét; ILT pɨgsít 'to squeeze'.

*pínat: PNG pi:nat 'to stretch'; KLN pínat; ILT pi:nat 'to pull'. Cf. KNkN pi:nat 'to stretch out one's legs'.

*púyuk: PNG puyúk; IBL, KAR póyoḳ; ILT po:yok 'to rub'.

*saʔlát: PNG salát; IBL, KAR saʔdát; KLN haʔlát; ILT taʔɣát 'to exchange'. The expected form in PNG is *sa:lat.

*sɨlí: Png salí; Ibl sɨdí; Kln hɨlí, həlí, halí, helíʔ, holíʔ, salíʔ; Ilt taɣí, tɨɣí 'foot'.

*sɨŋíg: Png, Ibl sɨŋíg; Kln heŋég; Ilt tɨŋíg 'trunk of tree'. Cf. Isg taŋŋág 'kind of tree'.

*taʔwɨn: Png, Ilt ta:wɨn; Ibl tabʷɨn 'sky'. Zorc has reconstructed this as Pre-Pangasinic *taqwen 'sky'. Cf. PAn(Dy) *taqwen 'year'.

*tɨkyáb: Png tɨkyáb; Ilt takyáb 'to fly'.

*-tu: Png, Kln -tu; Ibl, Kar, Ilt -to 'third singular genitive pronoun'.

*túʔu: Png tuʔú; Ibl, Kar, Ilt tóʔo; Kln túʔu 'person'. Cf. PAn(Dy) *Caʔuʔ 'person'.

*waʔwá: Kar mʌgʷaʔgʷá 'tomorrow'; Kel waʔwáʔ 'morning'; Ilt wáʔwa 'morning', mawáʔwa 'tomorrow', tan wáʔwa 'day after tomorrow'. Cf. Ifg waʔwá '. . . beginning of the morning'.

5.2 PROTO WESTERN SOUTHERN CORDILLERAN.
Those items for which a reflex in Ilt has not been found but which are shared exclusively by Png and at least one other SC language are assigned to the level of PWSC.

*ʔagɨyyít, ʔaggíyɨt: Png agɨ:yɨt 'mosquito'; Kln ʔaggíyet, ʔaggíyot 'housefly'.

*ʔákad: Png akár; Ibl ʔákad, manʔakád; Kar ʔáxad; Kln ʔákad, manʔakkád 'to walk'. Cf. Ifg ʔa:kad, 'to make great steps in walking'.

*ʔaʔmáy: Png a:maya:may, amya:may; Kln (Hng) naʔmáy 'many'. But cf. Kalamansig Cotabato Manobo ʔamayan 'big'.

*ʔamáyu: Png ama:yu 'toy'; Ibl manʔamáyo; Keh, Dky manʔamáyu 'to play'.

*ʔamtá: Png amtá, Ibl, Kar, Kln ʔamtá 'to know (person or fact)'. This item is assigned to PWSC because of its wide distribution in that subgoup, but it is also found in neighboring CC languages: KnkN (Bauko), Ifg (Kia), and Isi ʔamtá 'to know'.

*ʔan-tíkɨy: Png antikɨy 'short (obj.)'; Ibl ʔantíkɨy 'short (obj. or person)'; Kln ʔantikkə́y, ʔantikkéy, kasikkíʔ 'short (person)'. Ifg has borrowed this term, ʔantikké, ʔatikké 'short '.

*ʔáŋub: Png aŋúb; Ibl, Kar ʔáŋob; Kln ʔáŋub, ʔaŋŋúbən 'to smell'. Cf. PC *ʔa:jub 'to smell'.

*ʔɨlíg: Png alíg 'don't'; Kln ʔelég, ʔológ 'not (v., past and nonpast)'. Cf. PSCC *ʔ[aɨ]g 'negative of verbs' and Sambal (Botolan) ʔagmo 'don't'.

*balaŋá: Png ambalaŋá, Kln ʔambalaŋá; Ibl ʔambalɨŋá, ʔɨmbalɨŋá 'red, yellow'. Cf. KnkS manbala:ŋa 'red, yellow'.

*baʔlíg: Png ba:lɨg; Ibl bavaʔdɨg, ʔibaʔdɨg; Kln ʔaballóg, ʔabɨllɨg 'big'.

*baʔyɨs: Png bayɨ́s; Kar baʔjás 'to borrow'. The expected form in Png is *ba:yɨs.

*bíʔi: Png biʔí; Ibl, Kar, Kln bíʔi 'woman, female'. Cf. PPh(Z) *ba:[h]i 'woman'.

*bilun̍ít: Png ambilun̍ít, Ibl ʔambilon̍ít, ʔɨmbilon̍ít 'dark'. Cf. PSCC *bulin̍ít 'dark'.

*dúkul: Png dukúl; Ibl čóḳol, šóhol; Kln dúkul 'to lie down'. Cf. DgtC dukóg 'to lean down', KnkN dokó 'to turn one's back on something'. The DgtC form suggests a possible PC reconstruction of *dukuR with a meaning incorporating downward motion.

*galgál: Png ga:galɨn; Ibl, Kar ḳalḳál; Kln galgál 'betel chew'. Cf. PPh(Z) *galgal 'to chew'.

*gánu: Png ganú; Ibl ḳáno; Kln gánu, magannú 'fast, quick'.

*gílig: Png gilíg; Ibl, Kar ḳílig; Kln gílig 'shore'. Cf. PSC *dílig 'shore, edge'.

*kúlaláw: Png kulaláw 'tumeric'; Kel kuleláw 'yellow'. Cf. Ifg kula:lo 'tumeric' and kinula:lo 'yellow'.

*kúlun: Png kulu:kulún̍; Kln kulkúlun 'throat'. Cf. PMP(B) *karunkun 'throat'.

*la₁: Png unlá; Ibl ḳála 'to come'.

*la₂: Png la; Ibl, Kar la, da 'already (completion marker)'.

*ládag: Png larág; Ibl, Kar dárag; Kln ládag 'to swell'.

*lásus: Png sanlasús; Ibl dásos, sandásos; Kar sandásos; Kln láhuh, han-láhuh, halláhuh 'hundred'. This item has diffused into one dialect of Isi as sinlasús. Cf. PAn(Z) *Ratús 'hundred'.

*lupdá: Png lupdá 'to spit'; Ibl (Atk) dopčá 'spittle'; Kln lupdá 'spittle', ʔumlupdá 'to spit'. Cf. Hiligaynon dupláʔ, Kinaray-a dupra 'to spit'.

*lúpuk: Png lupúk 'weak, worn out'; Tub, Tba ʔɨdófoḳ 'rotten'. Cf. Tag lupok 's.o. soft surfaces or swellings that stay pressed or depressed when pressed'; PC *lu(:)pek 'rotten'.

*pɨsíl: Png napsíl; Ibl pɨsíl, napsíl; Kar ʔiyapsÁl; Kln pɨhíl, pehél, naphíl, naphál, naphél, naphól 'full, sated'. Cf. PAn(Dy) *be[cs]úRe 'sated'; cf. also DgtC pɨsíg 'swollen (of a woman's breast that is full of milk)'.

*pígad: Png pigár 'to invert, turn over'; Ibl pígad; Kln piggádon 'to turn'.

*púkɨl: Png pukíl; Ibl pókɨl; Kar póxʌl; Kln púkɨl, púkəl, púkel 'bone' Cf. PPh(Z) *bukel 'bone', PNuCC *pu:kɨl 'shoulder'.

*sákɨy: Png sakíy; Ibl sáḳɨy; Kar saʔḳí; Kln hákɨy, hákəy, hákey, hákiʔ 'one'.

*si-ʔamá(n): PNG a:man, sa:man; IBL samán; KAR sʌmán, sʌmáʔa; KLN hiʔammán, hiyamán 'that (far from speaker and addressee)'.

*si-ʔatán: PNG a:tan, sa:tan; IBL satán, hatán; KAR sʌtán, sʌtáʔa; KLN hiʔatán, hiyatán 'that (near addressee)'.

*si-ʔáya: PNG a:ya, sa:ya, IBL sajáy, háyay; KAR sʌjá, sʌjáy; KLN hiʔayá, hiyayá 'this'.

*siyu-pa(y): PNG siyupá, siyupáy; IBL sípa; KLN hípa 'who?'. Cf. PPH *sinu 'who?' and PC *pay 'adverbial particle; still, yet, so?', with loss of the nasal after *i*. IBL and KLN have eliminated the second syllable most probably by first dropping the unstressed vowel; the now unnecessary glide is simply vocalized as vowel length: *siyu + pa > *siyupa > *siypa > *si:pa.

*yúduŋ: PNG yurúŋ; KLN yúduŋ 'to sit'. Cf. BON and KNK yo:doŋ 'to bend over' and IFG yudúŋ 'to squat'.

5.3 PROTO NUCLEAR SOUTHERN CORDILLERAN. Innovations that occur in all three branches of NuSC may be assigned with confidence to the level of PNuSC.

*ʔákan: IBL ʔákan, ʔiʔkán; KAR ʔiʔkán; KLN ʔákan, maŋiʔaʔkán 'to give'.

*ʔáŋɨl: IBL ʔáŋɨl; KAR ʔáŋʌl; KLN ʔáŋəl, ʔáŋel 'body'. Cf. PSCC *ʔa:ŋɨl 'soul, spirit, substance'.

*ʔasgáŋ: IBL naʔaskáŋ, ʔinɨskáŋ, kaʔaskáŋ; KAR ʔiyaskáŋ; KLN ʔinahgáŋ 'neighbor'; IBL nayʔaskáŋ; KLN naʔihaʔgáŋ 'near'. With metathesis of the first two consonants of the root in KLN 'near'.

*ʔátip: IBL, KLN ʔátip; KAR ʔáθip 'sheath for bolo'. Cf. PC *ʔa:tip 'wooden or iron rod'.

*ʔátiw: IBL, KLN ʔátiw; KAR ʔáθiw 'to lose (item)'. PC *ʔa:tiw 'to lose (contest), to be defeated'.

*ʔɨdɨm: IBL maʔčɨm, naʔčɨm, naʔšɨm, kaʔčɨmán; KAR kaʔčʌmán; KLN maʔdəm, kaʔdɨmán, kaʔdamán 'yesterday'. Cf. PWSC *ʔɨdɨm 'afternoon'.

*ʔɨdúm: KAR ʔʌčóm; KLN (KEL) ʔedúm 'companion'. Cf. PSCC *ʔ[ɨu]dúm 'other, different'.

*ʔɨgdí: IBL ʔɨgči, ʔɨgší, ʔagší; KAR ʔʌgčí; KLN ʔagdí 'to hold'; IBL ʔagčí, ʔɨgčí 'to carry'.

*ʔɨsíl: IBL ʔɨsíl; KAR ʔʌsʌ́l; KLN ʔəhál, ʔɨhíl, ʔehél, ʔohól 'word, language, to say'.

*ʔímuk: IBL ʔímok; KAR ʔatímok; KLN ʔímuk, 'housefly'. Cf. PSCC *ʔi:muk 'mosquito'.

*ʔutík: IBL ʔotík, ʔoʔotík 'few, small'; KAR ʔotík 'few'; KLN (DKY) ʔuʔutík 'few', ʔuʔʔuttík 'small'. The stress on the second syllable is irregular in this item. Cf. PAN(D) */h/e(n)Tik 'small, few'.

*bánaw: IBL ʔɨmbánaw; KLN ʔambánaw 'wide'; KAR bánow 'deep'.

*bay[dn]ɨk: IBL baycɨk̟, bayšɨk̟, baynɨk̟; KAR baynʌ́k̟; KLN baydə́kən 'to stab'. Cf. KNKS baynɨk 'to stab'.

*bítɨg: IBL ʔɨbítɨg, ʔabítɨg; KAR ʔabíθʌg; KLN nabítɨg, nabíteg 'poor'.

*búki: IBL bók̟i; KAR bóxi; KLN búki 'meat'. Cf. KNKN bokí 'to distribute meat'.

*gúdab: IBL, KAR ʔɨk̟órab, ʔak̟órab; KLN nagúdab 'blind'. Cf. KNK goːdab and ISI (Dupax) nahuláv 'blind'.

*kɨdsáŋ: IBL mak̟adsáŋ, mak̟ɨdsáŋ; KAR maxʌdsáŋ; KLN makədháŋ, makadháŋ 'strong, fast'.

*kɨsís: IBL k̟ɨsís, k̟asís; KAR k̟asís; KLN kahih, kehíʔ, kohíʔ 'semen'. Loss of final s in KEL and HNG is unexplained. Cf. PC *kVsít 'semen'.

*kaʔyás: IBL ʔɨŋkaʔjás, ʔaŋkaʔjás; KAR ʔonkaʔjás; KLN ʔaŋkaʔyáh, ʔaŋkaʔyɨs 'light (weight)'. Cf. KNKS makayʔás 'light'; also KNKN kayʔás 'quickly, fast'.

*kíbut: IBL k̟íbot, maŋíbot; KAR k̟ébot, mʌŋíbot; KLN kíbut, maŋibbút, ʔunkíbut 'to steal'. Cf. PNG kiːbut 'miserable, dissatisfied'; ILK kibút 'miser'.

*kúbal: IBL k̟óbal; KAR k̟ógal; KLN kúbal 'G-string'. This term has diffused into KNKS as koːba 'G-string'. Cf. PSCC *kuːbal 'bark cloth'.

*kulpút: IBL, KAR k̟olpót; KLN kulpút 'cloud'. Cf. IFG koːput (Hapaw) and kulpút (Kiangan) 'cloud'.

*lánas: IBL (KBY), KAR dánas; KLN (DKY) lánas 'flood'. Cf. ILK lanás 'rising of the tide'.

*mími: IBL, KAR, KLN mími 'urine'. Cf. PAN(D) *miGmiG 'to urinate'; KPM ʔimíʔ 'urine'.

*nɨm: IBL, KLN nɨm; KAR nʌm 'if'. Cf. PC *ŋem 'if'.

*níman: IBL, KAR, KLN níman 'now, today'. Cf. PNG nimán 'then, a while ago'; cf. also KNKS ʔɨd niːman and IFG ʔad niːman 'today'.

*ŋaʔŋá: IBL, KAR, KLN ŋaʔŋá 'young (person), child'. Cf. KNKN ŋaŋʔá 'newborn bird'.

*ŋíla: IBL, KLN, KAR ŋíla 'ear'. Cf. PPH *taŋiːla 'ear'.

*paʔilɨŋ: IBL paʔidɨŋ, KAR paʔidʌ́ŋ; KLN paʔillɨŋ, paʔilləŋ 'fish'.

*paʔlúk: IBL paʔdók̟ 'river, stream'; KAR paʔdók̟ 'stream'; KLN paʔlúk, paʔpaʔlúk 'river, stream'.

*paspás: IBL, KAR paspás 'eyebrow, eyelash'; KLN pahpáh 'eyelash'. Cf. KNKS paspás 'eyebrow'.

*pɨtíŋ: IBL maptíŋ 'good, pretty, clean'; KAR maptʌ́ŋ 'good'; KLN pətə́ŋ, maptíŋ, maptə́ŋ 'good'. Cf. KNK, maptíŋ 'good, pretty, clean'.

*pispís: IBL, KAR pispís; KLN pihpíh, mamihpíh 'to choose'. Cf. DGTC pespés 'to pick fruit', BON pispís 'to choose the good leaves or beans for cooking', IFG pihpíh 'to pinch with the fingers and thumb'.

*saʔpát: IBL, KAR saʔpát; KLN haʔpát 'above'. Cf. PNG sapát 'place on top of something', ILK sa:pat 'top, summit', IFG ha:pat 'basket cover'.

*sáya: IBL, KAR sáya; KLN háya 'tear (in eye)'.

*súsut: IBL, KAR sósot; KLN húhut 'intestines'. Cf. PNG sutsut 'to disembowel'; KNKN sotsót 'to express the dirt, e.g., from the bowels'.

*tɨmúk: IBL tamóḳ, tɨmóḳ; KAR tʌmóḳ, tamóḳ; KLN tamúk, tɨmúk 'forehead'.

*tuŋgál: IBL, KAR toŋḳál; KLN tuŋgál 'to buy'. Cf. TAG tuŋgál 'to buy or sell one by one, retail'.

*yɨpʔis: IBL ʔanjɨpʔis, ʔinjɨpʔis 'soft, smooth'; KAR ʔʌnjʌpʔʌs 'soft'; KLN ʔanyapʔéh 'soft, smooth'.

Those items that appear in only two branches of NuSC offer less convincing evidence for assignment at this level, although those shared by KAR and KLN are more likely to derive from PNuSC than those shared only by KAR and IBL.

*ʔágaŋ: IBL, KLN ʔágaŋ, naʔágaŋ 'hunger'. Although this term is widespread in IFG, its distribution implies that it diffused into IFG from NuSC.

*ʔákad: IBL ʔáḳad; KLN ʔákad 'to go home'. Cf. PWSC *ʔákad 'to walk'.

*ʔánɨŋ: IBL ʔánɨŋ; KAR ʔánʌŋ 'not yet'. Cf. IFG ʔannóŋ 'fulfillment of what is desired or wished'.

*ʔapusás: IBL ʔafosás, ʔamposás, KAR ʔaposás 'light (color)'.

*ʔáwas: IBL, KAR ʔáwas 'outside'.

*ʔɨgáy: IBL ʔɨḳáy, nɨmʔɨḳáy; KAR ʔʌŋḳáy 'later'. Cf. BON, KNK ʔɨgáy 'negator of past verbs'.

*ʔigní: IBL ʔigní; KLN ʔagní 'to hold, carry'. Cf. PNuSC *ʔɨgdí 'to hold, carry'.

*ʔɨmán: IBL ʔɨmán, KLN ʔammán 'don't'.

*ʔimlɨŋ: IBL ʔimdɨŋ, KAR ʔimdʌŋ 'happy'. Cf. PC *ʔamRáŋ 'happy'.

*ʔu[dg]sí: IBL ʔodsí, ʔogsí 'to wash hands'; KLN ʔudhí 'to wash (object)'.

*ʔúgan: IBL (NTB) manʔo:gan; KLN manʔuggán 'to cook', ʔinuggán 'cooked rice'. Cf. PSCC *ʔugʔán 'small cooking jar'; KNKN maŋogʔán 'to cook for oneself alone'.

*ʔuklúŋ: IBL ʔoḳdóŋ; KLN ʔuklúŋ 'thirst'. Cf. PSCC *ʔuklúŋ 'to crave'.

*ʔún(ɨy i): IBL ʔon, ʔóni, ʔonʔán; KLN ʔúnəy, ʔunʔán 'to see'.

*ʔúpa: KAR ʔóφa; KLN ʔúpaʔ 'hunger'. Cf. IFG ʔupá 'to crave something to eat'.

*ʔúwɨs: IBL naʔówɨs; KAR ʔaʔówʌs 'ugly'.

*baʔŋás: IBL baʔŋás; KLN baʔŋáh 'to lie (untruth)'.

*búkɨw: IBL (NTB) bɨ̠k̠kɨ̠w; KAR bóxow 'chicken louse'. Cf. ILK bu:kaw 'kind of insect'; KNKN bo:kɨw 'moth'; KNKS bo:kaw 'dragonfly'.

*buʔláy: IBL boʔdáy; KLN buʔláy 'land, soil, earth'. Cf. PSC *buʔlá(y) 'outside, east'.

*buliʔlí: IBL bodiʔdí, bodíʔdi; KLN kamanbuliʔlí 'to turn over'. Cf. PPH(Z) *ta buli[ ] 'to turn over'; this item has diffused into Isinai manbuli:li 'to turn'.

*buŋlúl: IBL boŋdól, KLN buŋlúl 'rainbow'. Cf. PC *buŋlún 'rainbow'.

*búŋut: IBL bóŋot; KLN búŋut 'mouth'. Cf. TAG buŋót 'beard', KNK bóŋot, IFG boŋút 'to muzzle'.

*diksál: IBL (KBY) čisk̠ál; KLN dikhál, dikhálen, monikhál 'to split (wood)'. This item shows metathesis of the medial consonant cluster in KBY; it has also diffused into IFG as dikhál 'to split logs'.

*dinuwín: IBL, KAR činowín 'water jar'.

*dukiyáŋ: IBL ʔanšohiyáŋ, ʔinšohiyáŋ 'long'; KLN nopaddukyáŋ 'long, high'. Cf. PSCC *ʔan-du:kɨy, *ʔan-dukkɨy 'long'.

*gáʔit: IBL k̠áʔit; KLN gáʔit 'companion'. Cf. PNuCC *da:ʔit 'companion'.

*galuŋgúŋ: KAR k̠aloŋk̠óŋ; KLN galuŋgúŋ 'throat'. Cf. PMP(B) *karuŋkuŋ 'throat'; this item has diffused into Isinai as galoŋgóŋ 'throat'.

*kaʔibu-an: IBL k̠aʔibwáŋ 'grass'; IBL k̠aybowán; KAR k̠aʔibowán 'cogon'. Cf. PC *ʔi:bu 'awn (of grain)'.

*ká[kt]ɨb: IBL k̠ák̠ɨb; KLN káteb, kátob 'turtle'. This term appears to have spread from KLN into IFG (Bayninan), ʔattob 'turtle'.

*káyaŋ: IBL naykayáŋ, KLN naŋkáyaŋ 'above, sky'. Cf. PSCC *kayáŋ 'tall, high'.

*kɨdíl: IBL k̠ɨčíl, k̠ɨšíl, k̠ašíl; KAR k̠ʌčʌ́l 'pig'.

*kɨspíg: IBL k̠ɨspíg, k̠aspíg; KLN ʔikɨhpíg, kahpíg 'to throw, toss'. Cf. KNKS kospíg 'to throw'.

*kɨtít: IBL ʔiŋk̠atít, ʔaŋk̠ɨtít, ʔiŋk̠ɨtít; KLN ʔankatít, ʔaŋkatít, ʔaŋkɨtít 'cold'.

*kiʔ[ln]ut: IBL k̠iʔdótan; KLN kiʔkiʔnút 'anus'.

*kíŋaw: IBL (Tri) kíŋaw; KLN (KEL) kikkíŋaw 'echo'.

*lɨbíŋ: IBL dɨbíŋ, nalbíŋ; KLN ləbə́ŋ, nalbə́ŋ, nalbíŋ 'wet'. Cf. PSCC *lɨbíŋ 'flood'.

*lɨdík: IBL naydɨčík, naydɨšík, nalčík; KLN lədə́k, naʔildə́k, maldík 'deep'. Cf. KNKN lɨdík 'to fathom, to sound'; also Botolan lɨdig 'deep'.

*lɨtáŋ: IBL dɨtáŋ, maŋiltáŋ; KLN maŋilaltáŋ 'to boil'. Cf. TAG la:taŋ 'rise in temperature', BON lɨtáŋ 'broth in which meat has been boiled'.

*líbɨg: IBL dibḵán; KLN malibgín, malibgánan 'to forget'.

*linuwán: IBL, KAR dinowán 'honey'.

*lítup: IBL ditópan; KLN lítup, littúpan 'west'. Cf. ILK litúp 'to finish, complete'.

*luʔbɨt: IBL doʔbɨt; KAR doʔbʌt 'grass'.

*lúʔum: IBL naydoʔóm; KLN nayluʔúm 'below'. Cf. PC *Ru:ʔuŋ 'below'.

*lúwɨn: IBL (TUB) ʔido:vɨn; KLN (AHN) nalúwen 'ripe'. Cf. PSC *lúwɨm 'ripe'.

*ŋáʔaw: IBL ŋáʔaw, ŋaʔŋáʔaw 'bad, ugly'; KLN ŋáʔaw 'bad'. Cf. BON ŋa:ʔaw 'name of a spirit, used to frighten children'; KNkN ŋa:ʔɨw 'very poor, very needy'.

*páyad: IBL, KAR páyad 'wing'. Cf. PC *payák 'wing', KNkN payadán 'chicken, poultry, used only in tails'.

*pɨgʔás: IBL pɨgʔás, pagʔás; KAR pʌgʔás 'to hit (with obj.)'. Cf. KNkS pogʔás 'to hit (with object)'.

*sɨgíg: IBL ʔansɨḵíg, ʔinsɨḵíg, ʔinsaḵíg; KLN ʔanhɨgíg 'dirty'.

*sɨgít: IBL sɨḵít, KLN həgít, hagít 'sun'. Cf. KNkS sigít, sogít, and IFG hugít 'sun'.

*su-ta: IBL sotá; KLN huttá 'whatchamacallit'.

*tálaw: IBL, KLN tálaw 'star'. Cf. PC *ta:law 'the planet Venus'; this item has diffused widely into BON and KNk, and it has entered ILT (PAY) as kanta:law 'shooting star'.

*tɨgʔín: IBL tɨgʔín; KAR tʌgʔín 'cold'. Cf. KNkS togʔín 'cold'.

*tintín: IBL, KLN tintín 'vagina'. Cf. KNkN tintín 'to stick in'.

*túla: KAR toláʔi; KLN túla 'where?'. The stress in KAR is irregular.

*túŋaw: IBL tóŋaw; KLN túŋaw 'to sit'. Cf. KNkN to:ŋaw 'restricted, remaining at home', IFG tu:ŋo, tu:ŋaw 'obligatory day of rest'.

*tuplák: IBL topdáḵ; KLN tuplákan 'carabao wallow'. Cf. PCC *tablák 'carabao wallow'.

*túwa: IBL tówa; KLN túwa 'where?'.

A few items appear in IBL and, in KLN, only in Mangkehang and/or Mandekey; they are particularly suspect since the latter are surrounded by Ibaloy. If they are, indeed, borrowed into these two Kalanguya dialects then they should be assigned to the level of Proto Ibaloy.

*ʔágɨw: IBL (Tri); KEH ʔágɨw 'sky'. Cf. PAN(Dy) *qajaw 'sun'.

*ʔíbuŋ: IBL ʔíboŋ; KEH ʔíbuŋ 'to throw away'.

*buŋʔág: IBL boŋʔágan, boʔŋágan; KEH buŋʔágan 'anus'. Cf. BON bóŋag 'to be bottom up' and BLW baŋʔúg 'buttocks'.

*d[ɨu]ŋpíl: Iʙʟ čoŋpíl, šɨŋpíl; Keʜ daŋpíl 'to hit, box'. Cf. Bon doŋpól 'to bang against something'.

*kala?ít: Iʙʟ ḳala?ít; Keʜ kala?ít 'to climb'.

*kalyáp: Iʙʟ ḳaljáp, ?onḳaljáp, manḳaljáp; Dky ?onkaliyáp 'to float'. Cf. KnkS kalyáp 'to float'.

*ka?wáŋ: Iʙʟ ḳa?bʷáŋ, ḳa?gʷáŋ, ḳa?váŋ; Keʜ ka?wáŋ 'handspan'. Cf. Isg nakawkawáŋ 'very roomy'.

*lɨgá: Iʙʟ mandɨḳá, dɨg?ɨn, dag?ɨn; Keʜ lagá?ɨn 'to make, to do'.

*l[ɨi]spág: Iʙʟ dɨspág, dɨspág 'below'; Keʜ lahpág 'low'.

*lan?áwa: Iʙʟ na?idaŋ?áwan; Keʜ na?ilan?áwa 'happiness, well-being'. Cf. PPʜ(Ch) *R(ae)hinawa 'happiness'.

*pa?pá: Iʙʟ pa?pá, ?ompa?pá; Dky ?onpa?pá? 'to hit (with an object)'.

*pítuy: Iʙʟ pítoy; Keʜ pítuy 'mud'.

*púkɨl: Iʙʟ (Tri) póhɨl; Dky púkɨl 'seed'. Cf. PWSC *púkɨl 'bone'.

*sɨdú: Iʙʟ sɨčó, nasčó; Keʜ náhadú 'thirst(y)'.

*sun: Iʙʟ son; Dky sun 'oblique marker'.

*tupda: Iʙʟ topča, topšá 'to spit, spittle'; Keʜ tupdá 'spittle'.

Also suspicious are three items that occur in Kʟɴ and, in Iʙʟ, only in I-wak, which is surrounded by Kʟɴ.

*kinlum: I-wak ḳindóm; Kʟɴ killúm 'pig'. There is nasal assimilation to the lateral in Kʟɴ. Cf. Ifg kolúm 'newborn pig', kinlúm 'small pig'.

*ku?líp: I-wak ḳo?díp; Kʟɴ (Keʜ) ku?líp 'raincloud'; Kʟɴ (Kay) ku?líp 'cloud'.

*tádaw: I-wak táraw; Kʟɴ tádaw 'monkey'. Cf. PPʜN *?adáw 'monkey'.

5.4 PROTO IBALOY. Innovations that are shared exclusively among the dialects of Iʙʟ are assigned to the level of PIʙʟ. Those that are widespread, occurring in many communities, or in at least two communities that are not contiguous, are more likely to be inherited from the proto language. They are cited here in their Pre-Ibaloy form for the purpose of comparison.

*?aŋl[ɨí]l: Tʙa ?aŋdɨl, ItoT, Kʙy, Atk ?aŋdíl 'bamboo'.

*?ápag: Sʙɴ, TrɪB, ItoT, ItoD ?áfag, Tʙa, Bok, Kʙy, Atk, Ntʙ ?ápag 'meat'. Cf. Png apág, Ilk ?apág 'share', Isg ?appág 'to be satiated', KnkN ?a:pag 'to serve out, distribute'.

*?ɨbás: TrɪP, Bok ?ɨbás, Kʙy ?abás 'echo'. Cf. PC *?ebás 'to subside, return'.

*?ɨlít: Tuʙ, TrɪP, Tʙa ?ɨddɨt, Sʙɴ, TrɪP, TrɪB, Bok ?ɨdɨt 'grass'. Cf. Isg ?allát 'strip of uncleared ground between two rice fields'.

*?ɨsíl: ItoT, Kʙy man?asíl, Iwk ?asíl, Bok ?assíl 'to play'.

*ʔitán: Iwk ʔatán, Bok, Kby ʔitán, Kby ʔonʔatán, Ntb ʔonʔittán 'to stand'.

*ʔuwáp: Sbn, Tba, TriB, ItoT, ItoD, Bok, Kby, Atk manʔoʔowáp 'to lie (untruth)'.

*bútig: Tba, ItoD, Bok, Kby bótig 'testicles'. Cf. PPh(Z) *butiR 'wart'; Bon, Knk boːtig, Ifg buːtig 'wart'. The CC forms must have been borrowed from Ilk or some language in which *g* is the regular reflex of *R.

*dadsák: Tba, Bok ʔišadsáḳ, ItoD mašadsáḳ, ItoT, Iwk šadsáḳ 'happy'. Cf. PC *ragsák 'happy'.

*dɨpíg: ItoD šɨpíg, Kby ʔičɨpíg, 'to throw, toss'.

*duwál: Tub, Sbn, Iwk šowál, Kby čowál, 'outside'. Cf. PAn(Dy) *luwar 'outside'.

*g[ai]máyu: Tub ḳimájo, Sbn ʔaḳimájo, Tba, Atk, ḳamájo, Kby ḳamáyo 'chicken louse'. Cf. PSCC *gayamú 'chicken louse'.

*káma: TriP, TriB mɨŋɨmá, Tub maŋamá; Ntb kamáʔɨn 'to weave (mat)'; Ntb kamáʔɨn 'to weave (cloth)'. This item has diffused from Ibl to Dky maŋammá and to KnkS kaːma 'to weave (cloth)'.

*kúmud: Sbn, Tba, Iwk ḳómod 'heel'. Cf. PC *muːkud 'heel'.

*kúpit: Tba ʔaḳófit, Kby ʔaḳópit 'narrow'. Cf. Ilk kuppít 'flattened', Bon koːpit 'crumpled', Kla naʔpít 'skinny'.

*law: Sbn, Tba ʔɨndáw, Iwk daw, Bok ʔondáw, Atk ʔondɨw 'to come'; Tba mɨŋidáw 'to bring'.

*láyat: Tub, Tba, TriB ʔɨndáyat, Sbn, TriP, ItoT, ItoD dáyat, Kby, Atk ʔondáyat 'to stand'.

*lɨpúk: Sbn, TriB, Tba dɨpóḳ, TriP dɨppóḳ 'ashes'. Cf. PC *lapúk 'dust'.

*líbit: TriB, Tba, Atk dívit 'skirt'.

*lúpVt: Tub ʔɨndófit, Sbn ʔɨndófɨt, Kby ʔandópat 'soft'.

*pɨsíŋ: TriP tóway pɨsíŋto, Ntb pasíŋto 'how?'.

*taʔbúy: ItoT, Kby taʔbóy 'to throw, toss'. Cf. Tag tabóy 'to drive away'.

*tɨníŋ: Tub, TriP, TriB, Bok, Atk tɨníŋ, Sbn, Tba, ItoT ʔitɨníŋ, ItoD tɨtnín, ItoT, Iwk, Atk ʔitníŋ, Kby tiŋíŋ, Kby maytɨtníŋ, Ntb ʔitɨnníŋ 'to hear'.

*tubdá: Sbn, TriP, TriB tobšá 'spittle'; Sbn ʔitobšá, TriB, ItoT tobšá, Tba ʔɨntobšá 'to spit'. Cf. PNuSC *tupdá 'to spit'.

*tuŋkál: Tba, ItoT, Atk mɨnoŋḳál, Kby tomḳál, manomḳál 'to buy'. Cf. PNuSC *tuŋgál 'to buy'.

*tuytúy: Tba, Bok, Kby, Atk ʔɨtoytóy, Kby ʔatoytóy 'rotten'. Cf. KnkN toytóy 'to break, damage, cut accidentally'.

*yuksús: Tub, ItoT manjoḳjoḳsós, Sbn, TriB, Tba manjoḳsós 'sad, lonely'.

Items that occur in only two or three sites that are in contiguous municipalities are shared innovations, but they are more properly considered local developments rather than terms inherited from PIBL.

*ʔalíbay: TRIB, TBA ʔadíbay 'to play'. Cf. Old TAG ʔalibay 'exchange of gifts as a token of friendship'.

*ʔánib: SBN, TBA ʔanʔánib 'shadow'.

*ʔasuwá: ITOD ʔasová, ITOT ʔasovʷá, BOK ʔasogʷá 'spouse'. Cf. PAN(Dy) *[qʔ]a[cs]áwaʔ 'spouse'.

*ʔɨdíw: ITOD naʔšíw, ITOT naʔɨšów, IWK, BOK na:šuw: 'thirst(y)'.

*bɨyíŋ: ITOT bɨjíŋ, BOK bɨdjíŋ 'pond, lake'. Cf. BON bɨyík 'to be flooded'.

*dakdák: TRIP, TBA šakšáhan 'bridge'. Cf. BON, KNK dakdák 'to step into water'.

*daliwáta: KBY čalibʷáta, ATK čalivʷáta 'pimple'. Cf. PC *-Riwa:ʔat 'pimple'.

*diʔtík: SBN, TBA šiʔtík 'stream'. Cf. PKnk *dVtík 'stream'.

*kablúŋ: TRIP k̠abdóŋ, Ito T mank̠abdóŋ 'to swim'. Cf. BLW ʔabʔabbóŋ 'to swim'.

*kákab: ITOD, ITOT káhab 'turtle'. Cf. PNUSC *ká[kt]ɨb 'turtle'.

*kɨdpíl: SBN k̠ɨdpíl, TRIP, TBA k̠adpíl 'to hit, box'.

*k[ɨi]lʔás: BOK, KBY k̠ilʔás, KBY k̠ilʔás, IWK k̠alʔís 'bark (of tree)'. With metathesis of the vowels in IWK.

*kɨltíŋ: KBY mak̠ɨltíŋ, ATK mahɨltíŋ 'pretty'.

*kɨsúp: SBN, TBA nayk̠ɨsóp 'near'. Cf. PSCC *ʔ[aɨ]súp 'near'.

*kíyɨt: ITOD, ITOT k̠éyɨt 'ghost'.

*kuláŋat: TRIB, TBA k̠odáŋat 'earthworm'.

*ludiyán: ITOD, ITOT doriyán 'bird'.

*lúnat: BOK, dodónat, KBY dónat 'earthworm'.

*munimúl: SBN ʔɨmonimól, TRIP, ITOD ʔɨnmonimól 'round'. Cf. PSCC muli:mul 'round'.

*nalamnám: SBN ʔɨnnalamnám, TBA nalamnám 'sweet'.

*ŋíyaw: TRIB, TBA ŋíyaw 'ghost'. Cf. IFG ŋiyáw 'word used to frighten children'.

*payugpúg: TBA payogpóg, ATK paǰogpóg 'waterfall'. Cf. PSCC *payukpúk 'waterfall'.

*pigpíg: SBN ʔɨpigpik̠án, TRIB ʔɨpigpígan, TBA ʔapigpígan 'skinny'. Cf. IFG pigpíg 'heart palpitation'.

*púkiŋ: Tᴜʙ, Aᴛᴋ poḳpokḭ́ŋ 'ankle'. Cf. PSCC *muklíŋ, Kʟɴ múkiŋ 'ankle'.

*púsi: Tᴜʙ ʔɨgampósi, Kʙʏ ʔagʔonpósi 'slow'. Cf. Bᴏɴ pósi 'poor', Iꜰɢ púhi 'bad'.

*sídaw: Tᴜʙ, Tʀɪʙ sidsíraw 'dream'. Cf. Iʟᴋ sidáw 'brief visit'.

*sudsúd: Sʙɴ, Tʙᴀ sodsód 'ladle'. Cf. Iʟᴋ sudsúd 'pointed stick used as a dibble'.

*tɨlyád: Iᴡᴋ, Bᴏᴋ tɨljád 'calf of leg'.

*túʔɨy: IᴛoT, Iᴡᴋ tóʔɨy 'where?'.

*túmuy: Tʀɪʙ ʔɨtómoyan, IᴛoT matomóy, Bᴏᴋ matamóy 'sharp'.

*túpu: Tʙᴀ totópo, Bᴏᴋ ʔɨtópo 'shallow'.

*túʔud: Tʙᴀ tóʔodman, IᴛoD tódman 'where?'.

*tuwáy: Tʀɪᴘ, Tʀɪʙ towáy 'how?'.

*wánɨs: Kʙʏ bʷánɨs, Aᴛᴋ vʷánɨs 'anus'. Cf. KɴᴋS wa:nɨs 'anus'.

5.5 PROTO KALANGUYA. Any item exclusively shared by two or more Kʟɴ communities is a candidate for inclusion in the level of PKʟɴ. Those with representatives in both northeastern and southern Kʟɴ are those that are most likely to be descended from an ancestral form. They are cited here in Pre-Kʟɴ form for comparative purposes.

*ʔaŋʔáŋ: Kᴇʟ, Kᴀʏ ʔaŋʔáŋ, Kᴇʟ ʔaŋʔáŋen, Hɴɢ ʔaŋʔáŋon, Kᴀʏ ʔiʔʔaŋʔáŋ 'to see'. Cf. Iꜰɢ ʔaŋʔáŋ 'to look, observe'. Cf. also Iʟᴋ ʔaŋʔáŋ 'one who gapes'.

*buwíl: Aʜɴ nebwél, Kᴇʟ bewél, nabwél, Hɴɢ nabwól, Kᴀʏ buwśl, nabwśl 'rotten'. Cf. Bᴏɴ bowíl 'for rice beer to fail to ferment properly'.

*kus[ɨ]yáw: Aʜɴ, Kᴀʏ kuhiyáw, Kᴇʟ kuheyáw, Hɴɢ kuhoyáw 'blood'.

*sɨnúp: Aʜɴ nehnúp, Kᴇʟ henúp, neʔihnúp, Hɴɢ noʔiʔnúp, Kᴀʏ hənúp, naʔihnúp, Dᴋʏ nasnúp 'near'.

*-ya: Kᴇʟ nunyáʔ, Hɴɢ nuyyáʔ, Kᴀʏ, Kᴇʜ ni hayyá 'today'. Cf. PWSC *ya 'this, here'.

Items that appear only in the northern dialect of Aʜɴ and in the northeastern communities are:

*ʔádu: Aʜɴ ʔádu, Kᴇʟ, Hɴɢ ʔindúʔ 'ladle, scoop for rice'. Cf. Iꜰɢ ʔina:du, ʔinʔa:do 'ladle'.

*ʔaspát: Aʜɴ, Kᴇʟ ʔahpát 'above'. Cf. PNᴜSC *saʔpát 'above'.

*ʔɨspín: Aʜɴ ʔehpéntu, Kᴇʟ ʔehpéntuʔ 'below'.

*ʔinaʔnú: Aʜɴ ʔinaʔnú, Kᴇʟ, Hɴɢ ʔinnaʔnúʔ, Kᴇʟ ʔinnahnúʔ 'how?'. Cf. Iꜰɢ ʔinaʔnú 'conveying the idea of "possibility."' Cf. PPʜ(Z) *[ ]anu[ ], PPʜR *ʔenu 'what?'.

*báwaŋ: Aʜɴ báwaŋtu, Kᴇʟ, Hɴɢ báwaŋ 'inside'. Cf. Iғɢ bawáŋ 'interior of a house'.

*dɨlí(s): Aʜɴ dalíh, Kᴇʟ delíʔ, Hɴɢ dolíʔ 'eel'. Cf. PCC *dalít 'eel'.

*d[ɨu]wíŋ: Aʜɴ duwéŋ, Kᴇʟ dewéŋ, mandedwéŋ, Hɴɢ mandodwóŋ 'to hunt'.

*tɨwík: Aʜɴ, Kᴇʟ tewík, Kᴇʟ ʔumtewík, Hɴɢ totwíkon 'to stab'. Cf. Iғɢ tuwík 'to stab', Bᴏɴ tɨwík 'to prick'.

Items that appear only in the northern dialect of Aʜɴ and in the southern communities are:

*ʔígɨl: Aʜɴ ʔiggél, Kᴇʜ ʔigʔígɨl 'few, small'; Kᴀʏ ʔigʔígəl, 'small'.

*búkis: Aʜɴ, Kᴇʜ bukbúkih 'meat'. Cf. PNuSC *búki 'meat'.

*lɨdáŋ: Aʜɴ maldáŋ, Kᴀʏ lədáŋ, malmaldáŋ 'red'. Cf. Iғɢ lodáŋ 'red-hot of an iron blade'.

*linawán: Aʜɴ linawán, Kᴇʜ linnawán, Dᴋʏ nillawán 'honey'. With metathesis of the alveolars in Dᴋʏ. Cf. PNuSC *linuwán 'honey'.

*si-ʔadá(y): Aʜɴ hiʔadá, Kᴀʏ hiʔadáy 'this'.

*siʔgíd: Aʜɴ hiʔgéd, Kᴀʏ manhiʔgə́d 'to hide'.

Those items that have shared forms only in the northeastern Kʟɴ communities include:

*ʔábig: Kᴇʟ, Hɴɢ ʔaʔabbíg 'story'. Cf. Kɴᴋɴ ʔa:big 'superstitious belief, shaman', Iғɢ ʔa:big 'to predict, foretell'.

*ʔagdíŋ: Kᴇʟ ʔagdéŋ, Hɴɢ moʔagdóŋ 'straight'. Cf. PC *gedéŋ 'straight'.

*ʔamayyú: Kᴇʟ ʔemayúʔ, ʔemayyúʔ, Hɴɢ ʔomayyúʔ 'bird'. Cf. Iғɢ ʔamayyú 'quadrupedal animal'; PNuSC *ʔamáyu 'to play'.

*ʔanníl: Kᴇʟ ʔannél, Hɴɢ ʔannól 'body, tree trunk'. Cf. PNuSC *ʔáɲɨl 'body'.

*ʔɨsníŋ: Kᴇʟ ʔumʔehnéŋ, Hɴɢ ʔumʔohnóŋ 'to stand'. Cf. Iғɢ ʔohnóŋ 'to stand still'.

*ʔiŋláy: Kᴇʟ ʔiŋláy 'sad, lonely'; Kᴇʟ meʔiŋláy, Hɴɢ ʔimmiŋláy 'lonely'. Cf. Iғɢ ʔiŋlé 'tired of being in a rut'.

*balláhaŋ: Kᴇʟ balláhaŋ, Hɴɢ ballaʔháŋ 'dragonfly'. Cf. Iғɢ balla:haŋ 'dragonfly'.

*dallíN: Kᴇʟ dallín, Hɴɢ dallím 'outside'.

*gága: Kᴇʟ, Hɴɢ gága 'cooked rice'. Cf. Kɴᴋɴ gagʔá 'salt pork'.

*gɨnít: Kᴇʟ genít, Hɴɢ gonít 'bone'. Cf. Iғɢ gunít 'bone'.

*ginallít: Kᴇʟ, Hɴɢ ginallít 'skirt'. Cf. PC *ga:rit 'striped, multicolored'.

*kúluŋ: KEL kúluŋ, KEL, HNG ʔikkúluŋ 'to bury'. Cf. PSCC *ku:luŋ 'coffin'.

*kumaŋi: KEL kummáŋiʔ, HNG kumaŋŋíʔ 'peanut'.

*lúbay: KEL, HNG lúbay 'needle'. Cf. ILK lu:bay, ISG lo:bay 'earring'; IFG lubé, lubáy 'lead (metal)'.

*lúlaw: KEL, HNG máluláw 'yellow'. Cf. PPH *dulaw 'yellow', IFG lu:law 'yellow (of dyed cotton yarn)'.

*paŋ-ʔuŋa-an: KEL peŋuŋŋáʔan, HNG poŋuŋaʔan 'nephew, niece'. Cf. PPH(Z) *ʔuŋaʔ 'child'.

*piNwáy: KEL pinwáy, KEL, HNG piŋwáy 'bolo'. Cf. IFG pinwáy 'knife'.

*púkɨl: KEL púkel, HNG púkol 'knee'. Cf. PWSC *púkɨl 'bone'. Cf. also DGTC pukɨl 'thigh', PNuCC *pu:kɨl 'shoulder', ISI poʔe: 'calf of leg'.

*púyɨk: KEL púyek, HNG púyok 'land, soil'. Cf. PC *puyek 'mud'.

*sákɨy: KEL hahakkéy, HNG hahhákiʔ 'few'. Cf. PWSC *sákɨy 'one'. This could be a loan translation from IFG ʔoʔohá, ʔohʔohá 'few'.

*sɨbʔúk: KEL hebʔúk, hebʔúkan, HNG hobʔúkan 'to blow'. Cf. PMC(R) *siʔbuk 'to blow'.

*sɨdíN: KEL hedín, HNG hodíŋ 'if'.

*sɨkáŋ: KEL hekáŋ, KEL, HNG mahkáŋ 'wide'. Cf. PAN(B) *sikaŋ 'wide apart (legs)'.

*sɨkít: KEL hekít, KEL, HNG nahkít 'narrow'. Cf. IFG nahkít 'narrow'.

*tápal: KEL, HNG tápal 'garlic'.

*tápi: KEL tápiʔ, ʔittápiʔ, HNG ʔittápiʔ, ʔintápiʔ 'betel nut chew'. Cf. IFG ʔita:pi(h) 'betel chew'; cf. also KNKN tapí 'to add to'.

*tɨŋíd: KEL teŋéd, ʔittetŋéd, HNG toŋód 'to hold'.

*tiŋtíŋ: KEL, HNG tiŋtíŋ 'ring'. Cf. PPH(Z) *ciŋciŋ 'ring'.

*waʔsí: KEL waʔhíʔ 'to pay'; HNG manwaʔhíʔ, panwaʔhíʔon 'to exchange'.

*yaʔsúy: KEL yaʔhúy, HNG yahhúy 'this'.

Items that are shared exclusively by the southern KLN communities include:

*bɨsáw: KEH ʔimpapháw, DKY pabsáw 'south'. In the KEH form the voiced stop assimilates to the voicelessness of the following consonant. Cf. KNKN bɨ:saw 'to go home'.

*múkiŋ: KAY mukmúkiŋ, KEH múkiŋ, DKY mukmúkiŋ, mu:mukiŋ 'ankle'. Cf. PSCC *muklíŋ 'ankle'.

*palʔút: KEH, DKY palʔút 'cogon (grass used for thatching)'. Cf. PNG pa:lut, ILK pa:rut, IFG pa:lut 'to uproot'.

*sɨbúk: KEH habúk 'taro, taro root', DKY sabsabúk 'taro root'.

*súluŋ: KEH ʔɨmpahlúŋ, DKY paslúŋ 'north'. Cf. PC *su:ruŋ 'to go upstream'; cf. also BON (Bayyo) ʔad holoŋ 'east'.

*t[ɨi]kdɨw: KAY tikdɨw, DKY tɨkdɨw 'frog'.

5.6 PROTO KARAW. A large number of innovations are peculiar to KAR. They are cited here in Pre-KAR form for comparative purposes.

*ʔabuʔnan: ʔaboʔnán 'meeting place'. Cf. BON ʔabón 'to group together for a meal, everyone bringing something to be cooked'.

*ʔabúsi: ʔabósi 'ant'.

*ʔá[gk]ɨw: ʔáxow 'yes'.

*ʔags[íi]l: ʔagsʌ́l, ʔagsíl 'to play'.

*ʔakwát: ʔaḳgʷát 'to stand'.

*ʔalɨbúŋ: ʔalʌbóŋ 'thigh'.

*ʔalúʔlun: ʔadúdun 'dragonfly'.

*ʔasaŋáw: ʔásaŋáw 'mosquito'.

*ʔáyaw: ʔáyaw 'to float'.

*ʔɨd[íi]l: ʔʌčʌ́l, ʔʌc*íl 'to delouse'.

*ʔɨŋús: ḳaʔaŋós, ḳaʔʌŋós 'sad, lonely'. Cf. KNK ʔɨ́ŋɨs, IFG ʔoŋó(h) 'haughty, proud'.

*ʔɨtiŋ: ʔʌtíŋ 'dead'.

*ʔúlig: ʔólig 'to lie down'. Cf. BON, KNK ʔo:lig, IFG ʔu:lig 'to put a child to sleep'.

*ʔutíkɨl: ʔotíḳʌl 'small'.

*bánay: bánay 'big'.

*bɨtík: bʌtík 'to go home'. Cf. PSC *bɨtik 'to run'.

*búdɨk: bórɨḳ 'stem, esp. of taro'. Cf. DGTC budék 'flowers'.

*búlan: bólan 'sky'. Cf. PAN(D) *bulan 'moon'.

*buliʔ: ŋís boliʔŋʌ́s 'headcold, fever'. Cf. KNK boliŋít 'name of a spirit that causes sickness'.

*búsak: bosáḳan 'east'.

*díma: číwa, ča 'to, at'.

*dítɨm: maritʌ́m 'sharp'.

*gádaʔgáda: ʔonḳáraʔḳára 'rough'. Cf. KNK gadaʔán 'whetstone'.

*gɨspú: ḳaspó, ḳʌspó 'short (person)'. Cf. ISG xappo 'to cut'.

*káluy: ḳáloy 'mud'. Cf. KNᴋN kaʔóy 'hole in ground made by insects, to dig in the ground'.

*kaʔyat: ḳaʔját 'shallow'. Cf. TᴀG ka:yat 'trickle of liquid', Isɢ kayʔát 'to be gone, disappear', Bᴏɴ kɨyát 'to subside'.

*kɨdpíŋ: ḳʌdpʌ́ŋ 'short (object)'.

*kɨdsú: ḳʌdsó, ḳadsó 'pestle'.

*kɨpíl: ḳʌpíl 'to throw away'.

*kɨtnú: ḳʌtnó 'to cut off'. Cf. Iʙʟ kɨntó 'to cut off'.

*kikkik: ḳiḳḳíxan 'armpit'.

*kupitíŋ: ḳoɸitíŋ 'narrow'.

*kúsaŋ: ḳósaŋ 'charcoal'. Cf. PMC *ʔu:saŋ 'charcoal'.

*lɨpáŋ: dʌpáŋ 'red'.

*liŋmán: diŋmán 'to forget'.

*lukbúŋ: doḳbóŋ 'arrow'.

*luŋbáy: ʔadoŋbáy 'weak'. Cf. TᴀG lumbáy 'loneliness, sadness'.

*múliŋ: móliŋ 'clean'. Cf. NuCC mulíŋ 'smooth pebble'.

*mútɨg: móθʌg 'nose'. Cf. PC *mu:teg 'nasal mucus'.

*núnuŋ: nónoŋ 'pimple'.

*ŋaʔáwɨs: ŋaʔáwʌs 'bad'. Cf. PNuSC *ŋáʔaw 'bad'.

*ŋíti: ʔʌŋíθiʔán, ʔʌŋíθiyán 'dirty'. Cf. KNᴋN ŋíti 'black, dark'.

*pasiŋsíŋ: pasiŋsíŋ 'star'.

*pintúk: pintóḳ 'abaca'.

*piʔtát: piʔtát 'frog'.

*saklúŋ: saḳdóŋ 'earthquake'.

*sɨpsíp: ʔasʌpsʌ́p 'low'.

*sɨʔyɨw: sʌʔjów 'thirst'. Cf. PSCC *sɨyáw 'parched (of plants)'.

*tálu: tálo 'to bury (dead)'. Cf. KNᴋN ta:ʔo 'to set in, insert', Iғɢ talú 'to fill a container'.

*tatabáw: tatabáw 'butterfly'.

*taytáy: taytáy 'tongue'. Cf. KNᴋN taytáy 'to chatter, prate'.

*tɨklíŋ: taḳdíŋ, tʌḳdíŋ 'ankle'. Cf. PSCC *tiklíŋ 'ankle'.

*tɨmí: tʌmí 'mouth'. Cf. TᴀG ta:miʔ, Iʟᴋ tammí 'protruding lower lip'.

*tuntún: tontón 'to push'.

*tuŋkádul: toŋḳárol 'tall, high'.

*yaʔpí: jaʔpí 'to winnow'. Cf. PAN(Dy) *tapi[ʔh] 'to winnow'.

*yuʔgíw: joʔḳów 'to sleep'. Cf. IBL manjuʔḳiw 'sleepy'.

*yuʔwík: joʔgʷʌ̂ḳ 'to sleep'.

5.7 PROTO-ILONGOT. On the basis of lexicostatistics, the four ILT dialects for which data are available fall into two subgroups: KAK-KAW and PAY-GAN. They are referred to here as northern and southern respectively. Items that occur in both of these subgroups are more likely to have been represented in PILT than those that occur only in the one or the other. These reconstructions are listed in Pre-ILT form for ease of comparison with other languages.

*ʔadáŋ: KAW ʔoʔadáŋ, PAY maʔadáŋ, GAN maʔdáŋ 'tall'; PAY ʔoʔadáŋ 'high'. The *a* after a voiced stop is irregular.

*ʔala:kin: KAK, PAY ʔala:kin 'frog'. The occurrence of *l* probably indicates borrowing. Cf. TAG halák 'raspy voiced', ILK ʔalakán 'kind of mollusk'.

*ʔali:ŋa: KAW, PAY ʔali:ŋa 'ear'. The *l* is irregular. Cf. PAN(Dy) *taliŋa 'ear', ILK ʔali:ŋa, ʔalli:ŋa 'echo'.

*ʔanunúl: KAW, PAY ʔanonóɣ 'stream'.

*ʔa:pil: KAK, PAY ʔoʔa:pi 'fat, healthy'.

*ʔapug[áí]n: KAK, KAW, PAY, GAN ʔapogín 'banana'.

*ʔimúl: KAK ʔimmól, KAW ʔimól 'housefly'; PAY ʔammol 'mosquito'. The *l* in this form probably indicates borrowing. Cf. DGTC ʔimól 'chigger'.

*ʔi:bil: KAK, KAW, PAY ʔi:biɣ 'tear'. Cf. PPH *[qʔh]i:bil 'to cry, weep'.

*ʔilab: KAK, KAW, PAY, GAN ʔiáb 'alcoholic drink, sugarcane wine, rice wine'. Cf. TAG hi:lab 'rise, expansion, as of dough'.

*ʔilag: KAK, KAW, PAY, GAN ʔilag 'sun'; PAY ʔiʔilag, GAN ʔinilág 'to dry in the sun'. This item may be a modification of a loan, because of the *l*. Cf. PMP(Z) *bilaj 'to spread out in the sun to dry'.

*ʔilap: KAK, KAW, PAY, GAN ʔiáp 'to see'. Cf. KPM ʔilap 'angry glance'.

*ʔinabúŋ: KAK, PAY, GAN ʔinabóŋ 'spider'. Cf. PPH(Z) *habuŋ 'shelter'.

*ʔiya:la: KAW, PAY, GAN ʔiya:ɣa 'bolo'.

*ʔu:duŋ: KAK, PAY ʔo:doŋ 'thigh'.

*ʔug[iy i]: KAK, PAY naʔogí 'bad'. Cf. BON ʔogáy 'to act thoughtlessly or carelessly'.

*ʔugkák: KAK, PAY ʔogkák, KAW ʔokak 'to vomit'. Cf. PC *ʔukgák 'to vomit'.

*ʔu:gut: KAK, PAY ʔo:got 'boil (n.)'. Cf. KNKN *ʔo:got 'to express a boil'.

*ʔuːla: KAK, KAW, PAY ʔoːla 'sweet potato'. This term may be borrowed from a language that retains *l* in this environment. Cf. PPн *[qʔh]amulaŋ 'taro', KNкN *ʔoːwaŋ 'yam'.

*ʔulál: KAK, PAY ʔoláɣ 'earthworm'. The treatment of *l in this item is certainly unusual. Cf. PAN(D) *hulaR 'snake'.

*ʔuːpu: KAK, KAW, PAY, GAN ʔoːpo 'word, language, to say'. But cf. Proto Polynesian *kupu 'word'.

*ʔuːpug: KAK, PAY ʔoʔoːpog 'narrow'.

*ʔu[st]ap: KAK, KAW, PAY ʔotap 'to spit, spittle'. Cf. IFG ʔuːhap 'dirty foam on boiling water'.

*ʔu[st]up: KAK ʔotop, PAY ʔaŋoʔtóp 'to suck'.

*baːkil: KAK, KAW bɨːkiɣ, GAN bɨːki 'other, spouse'; PAY bɨːkiɣ 'companion'. Cf. KNкN baːkil 'to look for a spouse in a village other than one's own, used only in tales'.

*b[aɨ]laʔ[aɨ]ŋ: KAK bɨaʔɨŋ, KAW ʔobɨaʔɨŋ, PAY, GAN bɨːɣaʔáŋ 'far'. Cf. IFG balaʔúŋ 'voluntary isolation or separation'.

*balaŋɨ[st]: KAK, KAW bɨɣaŋɨt 'old (person)'; KAW bɨɣɨnɨt, PAY bɨɣaŋat dɨːʔɨn 'ancestor'. Cf. PPнN *bakés 'old woman'.

*baʔlás: KAW, GAN bɨʔɣát, PAY ʔamɨʔɣát 'to borrow'. Cf. PAN(D) *bales 'to repay', PPн(C) *beles 'to borrow'.

*b[aɨ]n[st]ad: KAK ʔobɨntad, GAN nambíbɨntád 'straight'. Cf. TAG bintád 'smoothed out, stretched'.

*banuwá: KAK, PAY, GAN bɨːnowá, KAW bɨnɨwa 'path'. Cf. PAN(Dy) *banua[ʔh] 'land'.

*b[aɨ][st][aɨ]ŋ: KAW bɨtɨŋ 'soul, spirit', PAY, GAN bɨtáŋ 'ghost'.

*b[aɨ]ː[st]aŋ: KAK nabɨːtaŋán, KAW bɨtɨŋ, PAY bɨtáŋ, GAN ʔambɨːtaŋ 'shame, ashamed'. Cf. KNкN bɨsáŋ 'to make a mistake'.

*b[aɨ]ːya: KAK, KAW bɨːya, PAY mabɨːya, GAN bɨːyaʔán 'to know (fact or person)'.

*baːyɨk: KAK beːyɨk, GAN bɨːyak 'fish'. Cf. PC *bayék 'water creature'.

*bilág: KAK biág, KAW ʔobiág, PAY, GAN mabiɣág 'wide'. Cf. PC *biːleg 'strong', IFG biːlog 'wide'.

*buːd[aɨ]k: KAK bodɨːk, KAW, PAY, GAN boːdɨk 'white'. Cf. PAN(B) *burak, PHN(B) *budeq 'white'.

*buʔláŋ: KAW ʔoboʔɣáŋ 'smooth'; PAY maboʔɣáŋ 'smooth, clean'.

*bulintáw: KAW kabuintáw, PAY kabuíntaw 'friend'.

*(b)uliŋkíd: KAK, KAW boliŋkíd, PAY, GAN ʔoliŋkíd 'short (object)'.

*buːya: KAW, PAY boːya 'torch'. Cf. ILK buːya, BON boːya 'to watch, view'.

*(d)[aɨ]gnáy: Kᴀᴋ, Kᴀᴡ ʔɨgnáy, Pᴀʏ, Gᴀɴ dɨgnáy 'wind'; Gᴀɴ dɨgnáy 'cold'.

*daʔpát: Kᴀᴡ da:pat 'to work', Pᴀʏ madáʔpat 'to make, to do'. The occurrence of a after a voiced stop may indicate that this item is borrowed. Cf. Tᴀɢ da:pat 'should, ought'; cf. also Pɴɢ da:pat 'attain, reach, arrive at'.

*dapay: Kᴀᴋ dɨpay 'palm of hand'; Kᴀᴋ, Kᴀᴡ, Pᴀʏ dɨpáy 'sole of foot'. Cf. Pᴀɴ(Ch) *DapaN 'sole, palm of hand'.

*diʔlúy: Kᴀᴋ diɣoy, Kᴀᴡ diʔɣóy, Gᴀɴ ʔandiʔɣóy 'to bathe'.

*gila[st]: Kᴀᴡ, Gᴀɴ nagiát 'bad'; Pᴀʏ, Gᴀɴ nagiát 'ugly'. Cf. Tᴀɢ gi:las 'angry stare'.

*gu:lɨ[kp]: Kᴀᴋ, Kᴀᴡ golɨp, Pᴀʏ go:lɨk 'to swim'. The l in this item is irregular.

*ka:lay: Kᴀᴋ, Kᴀᴡ, Pᴀʏ, Gᴀɴ ka:lay 'blanket'. The presence of the lateral indicates that this is most likely a borrowed term; cf. PC *karáy 'turtle's undershell'.

*kanuwán: Kᴀᴡ kanowán, Pᴀʏ kanawán, Gᴀɴ ka:nowán 'cogon (grass used for thatching)'.

*ka[st]úl: Kᴀᴡ, Pᴀʏ, Gᴀɴ katóɣ 'rooster'.

*katuʔú: Kᴀᴋ, Kᴀᴡ, Pᴀʏ, Gᴀɴ katoʔó 'who?'. Cf. PSC *túʔu 'person'.

*kayub: Kᴀᴋ, Kᴀᴡ kayob, Pᴀʏ ʔonkayób, Gᴀɴ ʔaŋka:yob 'to fear'.

*kɨdɨŋ: Kᴀᴡ kɨdɨŋ, Pᴀʏ kɨ:dɨŋ 'pretty'. Cf. PC *kedéŋ 'wish, desirable'.

*kɨdwí(st): Kᴀᴋ kɨdwít, Pᴀʏ kadwí 'paddle'.

*kɨgkíg: Kᴀᴋ ʔokɨgkíg 'strong, hard', Pᴀʏ makɨgkíg 'hard'.

*kɨlá[st]: Kᴀᴋ kɨɣát 'to throw, throw away, to lose'; Kᴀᴡ kɨɣát, Pᴀʏ, Gᴀɴ ʔikɣát 'to throw, to throw away'.

*kuwá: Kᴀᴋ, Kᴀᴡ kowá, Pᴀʏ, Gᴀɴ ʔoŋkowá 'to walk'. Cf. Iғɢ kuwá, kowá 'path', Bᴏɴ makwa 'way, path', kawʔin 'to pass along a path'.

*lanúd: Kᴀᴋ, Pᴀʏ ɣanód 'to fight'. Cf. Isɢ ránud 'to die by accident or violence'.

*laʔnúp: Kᴀᴋ, Pᴀʏ ɣaʔnóp 'face, forehead'; Kᴀᴡ, Gᴀɴ ɣáʔnop 'face'.

*lɨmná: Kᴀᴋ ɣɨmná, Kᴀᴡ, Pᴀʏ ʔoɣɨmna 'cold'. Cf. Kᴘᴍ marimla, Iraya, Alangan, Tadyawan dimla 'cold'.

*lɨn[ɨy í]: Kᴀᴋ, Kᴀᴡ ʔoɣɨni, Pᴀʏ máɣni, Gᴀɴ maɣɨné 'heavy'.

*l[ɨi]:paŋ: Kᴀᴋ ɣɨpaŋ, Pᴀʏ ɣɨ:paŋ 'ginger'.

*(l)ɨpɨd: Kᴀᴡ lɨpɨd 'to slice'; Kᴀᴡ, Gᴀɴ lɨpíd, Pᴀʏ ʔipɨ:dɨn 'to cut off'.

*li:mit: Kᴀᴋ, Kᴀᴡ, Pᴀʏ, Gᴀɴ ɣi:mit, Gᴀɴ ʔAŋɣi:mit 'to steal'. Cf. KɴᴋN li:bit 'to steal'.

*li:mu[st]: KAK, KAW, PAY li:mot, GAN le:mot 'tongue'.

*linawá: KAK, KAW, PAY, GAN ɣi:nawá 'heart'. Cf. PPH(Ch) *R(ae)hinawa 'breath'.

*lu:bun: KAK, KAW, GAN lo:bon, PAY lobo:n 'egg'. Cf. ILK lobbón 'to associate in pairs, two hens in one nest', DGTC lóbun 'bird's nest'.

*ludúŋ: KAK ɣodo:ŋ, KAW, PAY ɣodóŋ 'fish'. Cf. PC *ludúŋ 'kind of fish'.

*lu:kip: KAW, PAY, GAN lo:kip 'fingernail'. Cf. Iraya, Alangan likɨb, Alangan lu:kɨb 'fingernail'; Agta of southern Cagayan ukep 'fingernail'.

*lu:ŋu[st]: KAK, KAW, PAY, GAN ɣo:ŋot 'forest'. This, of course, is the source of the name ʔiɣo:ŋot 'Ilongot, people of the forest'. Cf. TAG lu:ŋos 'cape of land', KNKN lo:ŋos 'round, of a piece of wood'.

*lu:ŋuy: KAK, GAN ɣo:ŋoy 'fire'; KAK, PAY, GAN ɣo:ŋoy, PAY ɣoŋo:yɨn 'to burn'.

*lu:put: KAK, KAW, PAY ɣo:pot 'green'. Cf. PAN(Dy) *lumut 'moss', KNKN lopʔót 'kind of vine'.

*luyáp: KAK, KAW ɣoyap, PAY, GAN ɣinoyáp 'to lie (falsehood)'.

*mad: KAK, KAW, PAY mad 'to, at; marker of distance and time'.

*ma-latʔɨy: KAK, KAW, PAY ma:si, GAN nɨ:ɣasí 'night'; KAW kama:sito 'midnight'. Cf. PSCC *latʔɨy 'sunset'.

*matlɨm: KAK, KAW, PAY, GAN matɣɨm 'blood'. Cf. PC *teRém 'to flow'. This item has diffused into Arta as matləm, maʔləm 'blood'.

*muʔlú: KAW, PAY moʔló 'round'.

*ni:y[aɨ]k: KAW ʔenniyɨk, PAY, GAN ni:yak 'to breathe'.

*nuʔŋú, nuŋʔú: KAK noʔŋó, PAY ʔonnóŋʔo, GAN nóŋʔo 'to sleep'.

*ŋ[ɨi]tu: KAK ŋɨto, KAW ŋito, PAY ʔaŋŋɨtó 'to count'. Cf. PAN(Dy) *hituŋ 'to count'.

*ŋi:pɨl: KAW ne:pɨl, PAY ŋe:pɨl 'lip'. Cf. KNKN ŋi:pɨ 'gums'.

*pa:ʔak: KAK paʔak, PAY napa:ʔak 'thirst'. Cf. PPH *paha[qʔh] 'thirst'.

*paʔd[aɨ][st]: KAK, PAY, GAN paʔdɨt, KAW pa:dɨt 'to wait'.

*pa:dil: KAK napadiɣan, PAY pina:diɣ 'dirty'. Cf. ILK pádil 'to rub off with the hand'.

*pand[áɨ]k: KAK, KAW, PAY, GAN pandɨk 'star'.

*pɨd[aɨ]g: KAK, KAW pɨdɨg, PAY ʔampadɨgɨn 'to live, dwell'.

*(p)ɨg[áɨ][st]: KAW ʔɨgit, PAY pɨgɨt, GAN ʔepgɨt 'to tie (bundle)'.

*pɨknál: KAK, GAN pɨknáɣ 'below'.

*pɨ[st]í[st]: KAK, PAY pɨsít, KAW napɨsít, PAY napsít 'blind'.

*[st]ag[ɨi]w: Kak, Kaw tagiw, Pay ta:gɨw, Gan natagɨ́w 'hunger'.

*san-bilaŋ: Kak, Kaw, Pay, Gan tambián 'five' (literally, 'one' + 'count'). Cf. PPh(Z) *san- 'one unit', PAn(D) *bilaŋ 'to count'.

*san-bukláy: Kak, Pay, Gan tam bokɣáy, Kaw tan bokɣáy 'hundred' (literally, 'one' + 'whole').

*[st]a:puŋ: Kak, Pay ta:poŋ 'shoulder'.

*[st]a:yu[gŋ]: Kak tayuŋ, Pay, Gan ta:yug 'coconut'.

*sɨgɨ́d: Kaw tɨgɨd, Pay, Gan matiʔtɨgɨd 'later'. Cf. PSCC *sɨgɨ́d 'to wait'.

*[st]ɨlá[st]: Kak, Kaw tɨɣát, Pay taɣát, Gan matɣát 'red'.

*[st]ɨlʔuk: Kak, Kaw, Gan tɨ:ʔok Pay, Gan ʔanɨ:ʔok 'to sew'.

*[st]iʔdúy: Kak, Pay siʔdóy, Kaw sitdóy 'urine'. The glottal stop has assimilated to the point of articulation of the following segment in Kaw.

*[st]i:g[aɨ]m: Kak, Kaw, Pay, Gan si:gɨm 'salt'. Cf. Tag tigám 'dehydratedly dry'. This item has diffused into Umiray Dumagat as sigom and into Southern Alta as segom 'salt'.

*si:kɨn: Kak, Kaw ʔosikɨn, Pay masi:kɨn, Gan masi:kan 'big'. Cf. PPhN *sikén 'strong'.

*[st]i:kin: Kak, Kaw, Gan si:kin, Pay, Gan ʔonsi:kin 'to stand'.

*[st]u:kad: Kak, Pay to:kad 'chest'.

*[st]u:ŋɨd: Kak, Kaw, Gan to:ŋɨd, Pay ʔonto:ŋɨd, Gan ʔontoŋɨ́d 'to sit'.

*tawáw: Kak, Kaw, Pay tawáw, Gan ʔontawáw 'to call'. Cf. PPh(Z) *tawaR 'to call'.

*tɨmɨd: Kak, Pay tɨmɨ́d 'chin'. Cf. PAn(B) *timid 'chin'.

*tu:gɨy: Kaw togɨy, Pay to:gɨy 'housepost'. Cf. Isg túxay 'prop (for house)'.

*tuŋúy: Kak, Kaw, Pay toŋóy 'where?'.

*ya:mɨk: Kak ʔoyamɨk 'smooth', Pay maya:mɨk 'soft'.

*ya:mɨw: Kaw, Gan ya:mo, Pay mad ya:mo 'above'; Kaw ya:mo 'summit'.

There are several innovative items that appear to be shared only by the northern communities of Kak and Kaw.

*ʔalup: Kak, Kaw ʔaup 'cloud'.

*ʔaŋim: Kak, Kaw ʔaŋim 'shore'.

*b[aɨ]nɨŋ: Kak, Kaw bɨnɨŋ 'mud'. Cf. Bon, Knk banɨ́ŋ, Ifg banóŋ 'part of a ricefield dike'.

*dulag: Kak, Kaw dulag 'to play'. Cf. Cebuano dulaʔ 'to play'.

*g[aɨ]b[aɨ](l): Kak gɨbɨ 'weak', Kaw ʔogɨbɨ 'soft'.

*kalɨb: KAK kalɨb, KAW kabɨb 'skin'. Cf. PC *kaléb 'cover'.

*lub[áɨ]k: KAK ɣobɨ:k, KAW ɣobɨk 'wall'.

*payaduŋ: KAK, KAW payadoŋ 'to fly'. Cf. PNuSC *páyad 'wing'.

*pu: KAK, KAW po 'already (completion marker)'. Cf. BLW poh 'already'.

*[st]ad[aɨ]k: KAK, KAW tadɨk 'story'. Cf. BON, KNK tadék 'ceremonial dance', IFG ha:dak 'to search, seek'.

*[st]ayap: KAK, KAW tayap 'mouth'.

*[st]iʔpɨ[st]: KAK nasiʔpɨt, KAW ʔosipɨt 'dirty'.

Another group of innovations is shared only by the southern ILT communities of PAY and GAN.

*ʔanɨmnɨm: PAY ʔanamnɨm, GAN ʔanɨmnɨm 'to plant'.

*ʔiyán: PAY, GAN ʔiyán 'taro root'.

*ʔukít: PAY ʔokít, GAN ʔokkít 'small, few'. Cf. PNuSC *ʔútik 'small, few'.

*ba:laŋ: PAY, GAN bɨ:laŋ 'black, blue'. Cf. PPhN *baliŋ 'black'.

*bu:d[aɨ]n: PAY, GAN bo:dɨn 'sand'.

*bVlla: PAY bɨ:lla, GAN bu:lla 'sweet potato'. Cf. ILK bu:ga 'kind of yam', KNKN ba:la 'for rice to sprout', IFG bala:ʔan 'reddish variety of sweet potato'.

*dalan: PAY, GAN dɨlan 'moon, month'. Cf. PAN(Dy) *Zalan 'path'.

*ku[st]íw: PAY koséw, GAN kosséw 'bird'.

*ku:bal: PAY kobí, GAN ko:bɨɣ 'skirt'. Cf. PSCC *kúbal 'bark cloth'.

*ŋu:yub: PAY, GAN ŋo:yob 'mouth'. Cf. Proto North Central Cordilleran *ŋu:lub 'mouth'.

*piyít: PAY, GAN piyít 'body hair'. Cf. ILK pi:yet 'fibers of buri palm stems'.

*[st]i:ŋud: PAY, GAN si:ŋod 'back (of person)'.

*[st]uʔyún: PAY, GAN ʔʔitoʔyón 'to push'.

6. CONCLUDING REMARKS.

6. CONCLUDING REMARKS. The linguistic data support, to a considerable extent, some of the conjectures regarding the ethnohistory of the area proposed by earlier writers. At the time of Spanish contact with the peoples of northern Luzon, Pangasinan, Ibaloi, and Ilongot ethnic identities were already established.

Keesing (1962:325) suggests that the Pangasinan ethnic group may previously have been diverse, but that the introduction of wet rice cultivation and the establishment of external trade, prior to the coming of the Spaniards, would have resulted in a "leveling out of custom and language." Establishment of mission and government control, of course, would have furthered this development and it would have created additional differences between the Pangasinanes and the mountain dwelling speakers of other SC languages.

Basing his impressions on the work of writers from earliest Spanish contact until the beginning of this century, Keesing also hypothesized that the people today called Ilongot are descended from a number of various groups, recorded under a range of local names. Some of these groups were perhaps indigenous to the Caraballo Mountain range to which they migrated from northeast Pangasinan and some of them the "runaways" and "apostates" who fled Spanish control. The four dialects of Ilongot for which data are available are all from locales in Dupax del Norte and Dupax del Sur. Perhaps for this reason they do not display the sort of variation one would expect from the "mixed" population suggested here.

The Ibaloi have an oral tradition that their ancestors migrated northward along the Agno River from Pangasinan to present-day Kabayan, which is considered the cultural homeland. From there, the people radiated out to other parts of Benguet. This tradition is also recorded from early in the American period (Keesing 1962:52). Karaw is not mentioned in the historical records, and the only information on this ethnic group is contained in the oral tradition cited above. Nor is there mention of Kalanguya (or Kallahan) as such. This group appears to be subsumed under the term "Ibaloi" in the early works (Keesing 1962:51, 91, 270, 296). It is possible that Kalanguya speakers migrated northward along the eastern flank of the Cordillera Central after already having separated from their Ibaloi-speaking cousins. It is equally possible, and perhaps more logical, to imagine that a population speaking PNuSC, in an early migration, moved up the Agno valley and eventually split into three linguistically distinct groups. Lexically, Karaw is quite different from both Ibaloi and Kalanguya, perhaps distinct enough to suggest the first population to have moved further on, northward according to the oral history. Kalanguya, then, may have spread to the east into the area of Mt. Pulog, which tradition holds is their ancestral home. From there, groups of people spread sporadically to the south and east. This would account for the lexical gap between the northeastern and the southern dialects of Kalanguya.

Undoubtedly, several SC languages that were spoken in centuries past are extinct. Mention was made earlier of the "Lagawe language," referred to by Lambrecht (1978). Other peoples mentioned in Keesing from documents cited from the seventeenth and eighteenth centuries have apparently been absorbed into other populations or have become extinct: Alegueses (or Alaguetes) (p. 283), Panuypuy (pp. 289-90), and Negritos once widely distributed between the Agno and upper Pampanga Rivers (p. 91). Some or all of these groups may have spoken varieties of SC, records of which could have helped unravel the cultural and linguistic history of the area. But even in the absence of such records, the linguistic evidence affords us a picture of the movements of the early PSC-speaking population and some idea of their cultural inventory.

APPENDIX

The locales providing the data on which this paper is based are listed below. For those data taken solely or partially from the literature, the source is listed.

Pangasinan	PNG		Lingayen and Labrador, Pangasinan [also McFarland (1977) and Benton (1971a, 1971b)]
Ibaloy	IBL		
		ATK	Naguey, Atok, Benguet
		TUB	Tublay, Benguet [McFarland 1977]
		BOK	Daklan, Bokod, Benguet
		ITOD	Dalupirip, Itogon, Benguet
		ITOT	Tinungdan, Itogon, Benguet
		IWK	I-wak of Tubungan, Kayapa, Nueva Vizcaya
		KBY	Gusaran, Kabayan, Benguet [also Reid 1971]
		NTB	Natubleng, Buguias, Benguet
		SBN	Banangan, Sablan, Benguet
		TBA	Tadiangan, Tuba, Benguet
		TRIB	Bahong, La Trinidad, Benguet
		TRIP	Pico, La Trinidad, Benguet
Karaw	KAR		Karaw, Bokod, Benguet
Kalanguya	KLN		
		AHN	Ahin, Tinoc, Ifugao
		DKY	Mandek-ey of Amlimay, Buguias, Benguet
		HNG	Hanglulaw of Amduntog, Asipolo, Ifugao
		KAY	Kayapa Proper, Kayapa, Nueva Vizcaya [Reid 1971]
		KEH	Mankehang of Sitio Tinudan, Poblacion, Kabayan, Benguet
		KEL	Keley-i of Antipolo, Asipolo, Ifugao [also Reid 1971, L. Hohulin 1971, and R. M. Hohulin 1971]
Ilongot	ILT		
		GAN	Ganao, Dupax del Sur, Nueva Vizcaya
		KAK	Kakiduge:n, Dupax del Norte, Nueva Vizcaya [Reid 1971]
		KAW	Kawayan, Dupax del Norte, Nueva Vizcaya
		PAY	Sitio Payo, Belance, Dupax del Norte, Nueva Vizcaya

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