

# Axis Relationships in the Philippines – When Traditional Subgrouping Falls Short<sup>1</sup>

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## ABSTRACT

Most scholars seem to agree that the Malayo-Polynesian expansion left Taiwan around 3,000 BCE and virtually raced south through the Philippines in less than one millenium. From southern Mindanao migrations went westward through Borneo and on to Indonesia, Malaysia, and upwards into the Asian continent (“Malayo”-), and some others went south through Sulawesi also going eastward across the Pacific (-“Polynesian”)<sup>2</sup>.

If this is the case, the Philippine languages are the “left behinds” allowing at least two more millennia for multiple interlanguage contacts within the archipelago. After two proposed major extinctions: archipelago-wide and the Greater Central Philippines (Blust 2019), inter-island associations followed the ebb and flow of dominance, expansion, resettlement, and trade. Little wonder then that “unique” lexemes found on Palawan can appear on Mindoro or Panay; developments throughout the east (Mindanao, the Visayas, and southern Luzon) can appear in Central Luzon, and an unidentified language with the shift of Philippine \*R > y had some influence on Palawan and Panay.

As early as 1972, while writing up my dissertation (Zorc 1975, then 1977), I found INNOVATIONS that did not belong to any specific subgroup, but had crossed linguistic boundaries to form an “axis” [my term, but related to German “SPRACHBUND”, “NETWORK” (Milroy 1985), “LINKAGE”<sup>3</sup> (Ross 1988. Pawley & Ross 1995)].

Normally, INNOVATIONS should be indicative of subgrouping. However, they can arise in an environment where different language communities develop close trade or societal ties. The word *bakál* ‘buy’ replaces PAN \**bəlih* and \**mayád* ‘good’ replaces PMP \**pia* in an upper loop from the Western Visayas, through Ilonggo/Hiligaynon, Masbatenyo, Central Sorsoganon, and

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<sup>2</sup> The initial presupposition behind the term “Malayo-Polynesian” was that the Malay (and Indonesian) languages were “primary” and “prior to” the settlement of the Philippines, and indeed spawned Philippine languages. The truth is that the Philippines was the first area to be settled “out of Taiwan”. This presupposition has prompted some scholars [e.g., Reid (2009)] to prefer a new term “Extra-Formosan”. A revised semantic assignment can still salvage the original.

<sup>3</sup> Blust (p.c. 2021.07.29) has pointed out: “A LINKAGE, as Malcolm has described it, is a collection of languages that show overlapping innovations that do not cover the entire group (i.e. innovation 1 covers languages A-F, while innovation 2 covers languages D-I). It is designed to address modern languages that descend from dialect chains, and that is not what you are doing here, since you clearly recognize the reality of discrete subgroups that show ‘lexical leakage’ into their neighbors, and discrete subgroups (as opposed to linkages) descend from self-contained ancestral language communities, not from dialect chains. And to follow up, dialect chains form because language split is rarely ‘abrupt and complete’ as the Family Tree model implies, but is ‘sticky’ in that communities that separate often continue to be in contact for generations.”

then the Bicol Peninsula. This is theoretically important because we have innovations that do not define a subgroup, e.g., “NORTH BISAYAN” but rather a highly interactive area or axis.

I wrote this note to self [2015.06.08] upon finding evidence for a CENTRAL MINDANAO AXIS: “The Danao, Manobo, Subanen, and Mansakan languages of Mindanao together reflect an etymon *sidan* < \**si/dan* ‘they’, which differs from PMP \**si/da* in having a final *-n*. These same languages also reflect an etymon \**ʔətáw* ‘person’, which differs from PAN \**Cau* in having an innovative prosthesis after reduction of the disyllabic root to a monosyllable. One also discovers that they also share an etymon \**qəbəl* ‘smoke’, but cognates are found in Tboli *kəbəl* as well as Kakanabu *ʔə`əvə* and Proto-Rukai \**əbəl*, so that this represents a SHARED RETENTION of PAN \**qebel*” (Blust and Trussel 2020).

Out of over 6,700 etyma among the Zorc Data Sheets [ZDS] (Zorc. Ongoing), only 361 represent axis relationships. This is around 5%, so they do not undo the overall standing of well-established subgroups, which make up its bulk. However, these illustrate undeniably evident interrelationships among languages which basic subgrouping does not otherwise account for. This paper will discuss fifteen such axis relationships that have arisen throughout the Philippines. While this is certainly not an exhaustive study, it should be sufficient to demonstrate that not all INNOVATIONS are made within clearly established subgroups, and, as such, deserves the attention of Philippine comparative linguists.

## 1. What is an AXIS?

Briefly stated, it consists of any UNIQUE form not found anywhere else (therefore an INNOVATION) which spread across two or more well-established subgroups<sup>4</sup>. Similar or potentially related terms include SPRACHBUND, NETWORK, or LINKAGE). In any such instances, we must rule out if this might represent a MACROGROUP (a higher-order SUBGROUP consisting of several lower-order subgroups, such as Greater Central Philippines which includes Tagalog, Bikol, Bisayan, Mansakan, Manobo, Danaw, Subanen, etc.) or a SELECTIVE INNOVATION [Zorc 1986] (one where geographically-separated languages have replaced an otherwise well-established etymon). PPH \**dagʔun* ‘year’<sup>5</sup> is a good example of a selective innovation [reflected in North Cordilleran (Atta<sup>6</sup>, Central Cagayan Agta<sup>7</sup>, Ibanag, Isnag, Gad, Itw<sup>8</sup>, Malaweg), Mangyan (Iraya, Alangan, Hanunoo), West Bisayan (Aklanon, Bulalakawnon, Kuyonon,

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<sup>4</sup> Let me add at this point that I would appreciate it if the reader (or listener), upon having gone through this paper, wrote his/her own definition of what an <axis> is.

<sup>5</sup> The ACD posits PPH \**dag(ə)qún* ‘year’ but none of the witness languages support either schwa syncope or \*q (see \**dagʔun* in ZDS for more citations than are covered in the ACD).

<sup>6</sup> There are up to four varieties of <Atta> in the Philippines (this is just one cognate variant of PPH \**qaRta* ‘Negrito’, others are *ʔarta*, *ʔalta*, *ʔagta* and *ʔata*, so this term represents a HOMONYM (not a SUBGROUP or macrogroup) including: Atta Faire, Atta Pamplona, Atta Pudtol, and Villa Viciosa Atta [see Wikipedia **Atta language**]. Here and elsewhere in this paper, this label refers exclusively to the language “Atta” Pamplona in Reid (1971).

<sup>7</sup> There are up to eight varieties of <Agta> in the Philippines, so this term represents another HOMONYM cognate with PPH \**qaRta* including: Central Cagayan Agta, Dupanangan Agta, Pahanan Agta, Dinapigue Agta, Casiguran Dumagat Agta, and Nagtipunan Agta. Here and elsewhere in this paper, the label “CCAgtá” refers exclusively to the language “Agta” in Reid (1971) supplied by Roy Mayfield of SIL, spoken in the central Cagayan Valley, and “CDAgtá” refers exclusively to Casiguran Dumagat Agta.

<sup>8</sup> Also spelled or known as Itawis.

Pandan, Semirara/Kaluyanen), Danao (Iranun<sup>9</sup>, Maranao, Maguindanaon), and Central Manobo (Western Bukidnon, Obo, Ilianen)] which replaced PMP *\*taqun* (otherwise well-retained and widespread throughout the Philippines) [Zorc 1986].

## 2. Observing The Complicating Factors of Axis Relationships.

While collating my fieldwork data and writing my dissertation in 1972-74, I was confronted with a number of INNOVATIONS that were spread across various otherwise well-established subgroups, one of the most notable of which was the replacement of PAN *\*bəlīh* ‘to buy’ (retained in Tagalog, Tausug, Mansaka and Bilic) by *\*bakāl* in Aklanon *bakáe* /bakáuʔ<sup>10</sup>, Asi’, Romblomanon *bakáy*, Bulalakawnon, Kinaray-a, Semirara/Kaluyanen, Ilonggo/Hiligaynon, Masbatenyo, Hanunoo, and all Bikol languages *bakāl*. Because this form *\*bakāl* cuts across five separate discrete subgroups (West Bisayan, Asi’, Central Bisayan, Bikol, and South Mangyan), I proposed that forms with this distribution provided evidence of a NORTH BISAYAN “AXIS”.<sup>11</sup> It is clear from evidence in Reid (1971), McFarland (1977) and Zorc [ZDS] that analogous replacements in this meaning have occurred throughout the Philippines supporting other ‘axis’ relationships. Waray, Cebuano, Sur, Mamanwa, Kamayo, Kagayanen, and several Mansakan languages have *palít* {from PPH *\*palít* ‘exchange’ [ACD] (possibly related to Dempwolff’s *\*palit* ‘return gift’)}, suggesting an EASTERN MINDANAO AXIS. Kalamianic and Palawanic have *\*alaŋ*, supporting a PALAWAN-KALAMIAN AXIS. Northern Philippine languages have either *\*gátaŋ* or *\*lákuʔ*, suggesting two NORTHERN LUZON AXES. South Cordilleran has *\*tungal*, which is unique to that subgroup, and the Danao languages, Dibabawon and Western Bukidnon Manobo share *pamasa* ‘buy’ (possibly from Persian *bāzār* ‘market’ via a Sama-Bajaw language (which loses word-final r) *pasa* + *paŋ-*). Each of these replacements represents “leakage” [in the terminology of Blust (2019) for loans that cross genetic boundaries] from one well-established SUBGROUP into other neighboring languages where significant trade or social networks existed. These post-split<sup>12</sup> innovations give the false impression of a genetic subgrouping, whereas what they actually indicate is a significant sociolinguistic replacement phenomenon.

Thus far, I have uncovered evidence for fifteen such relationships. They will be treated in the order that I “discovered” them and from the more pervasive and persuasive etyma to those less so (i.e., they will not be in alphabetical order). Note also that in several instances some languages such as Ilokano, Tagalog, and Hanunoo are included in two or more axes. Although maps are provided herein, the majority of them indicate the current (synchronic) location of speech varieties. Most axis relationships may have a time depth of up to one thousand years, and we just don’t know where most languages were at that time.

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<sup>9</sup> There is also a dialect of Iranun spoken on Sabah, which actually has a much larger corpus of data available.

<sup>10</sup> Aklanons spell the voiced velar semivowel as <e>, whereas its linguistic symbol is [ɯ].

<sup>11</sup> Zorc coined the term “axis” in 1972, since which similar phenomena have been described as “network” by Milroy and Milroy (1985), and as “linkage” by Pawley and Ross (1995) and Ross (1988). Note that this phenomenon could also be accounted for by the German terms “*Sprachbund*” or “*Sprechbund*”.

<sup>12</sup> The term post-split refers to the time after any language or subgroup splits off from a subgroup or “mother” language. This would include when PMP split off from PAN, or when Tagalog split off from Proto-Central-Philippine, or when Proto-Central-Philippine split off from Greater Central Philippine, and so on.

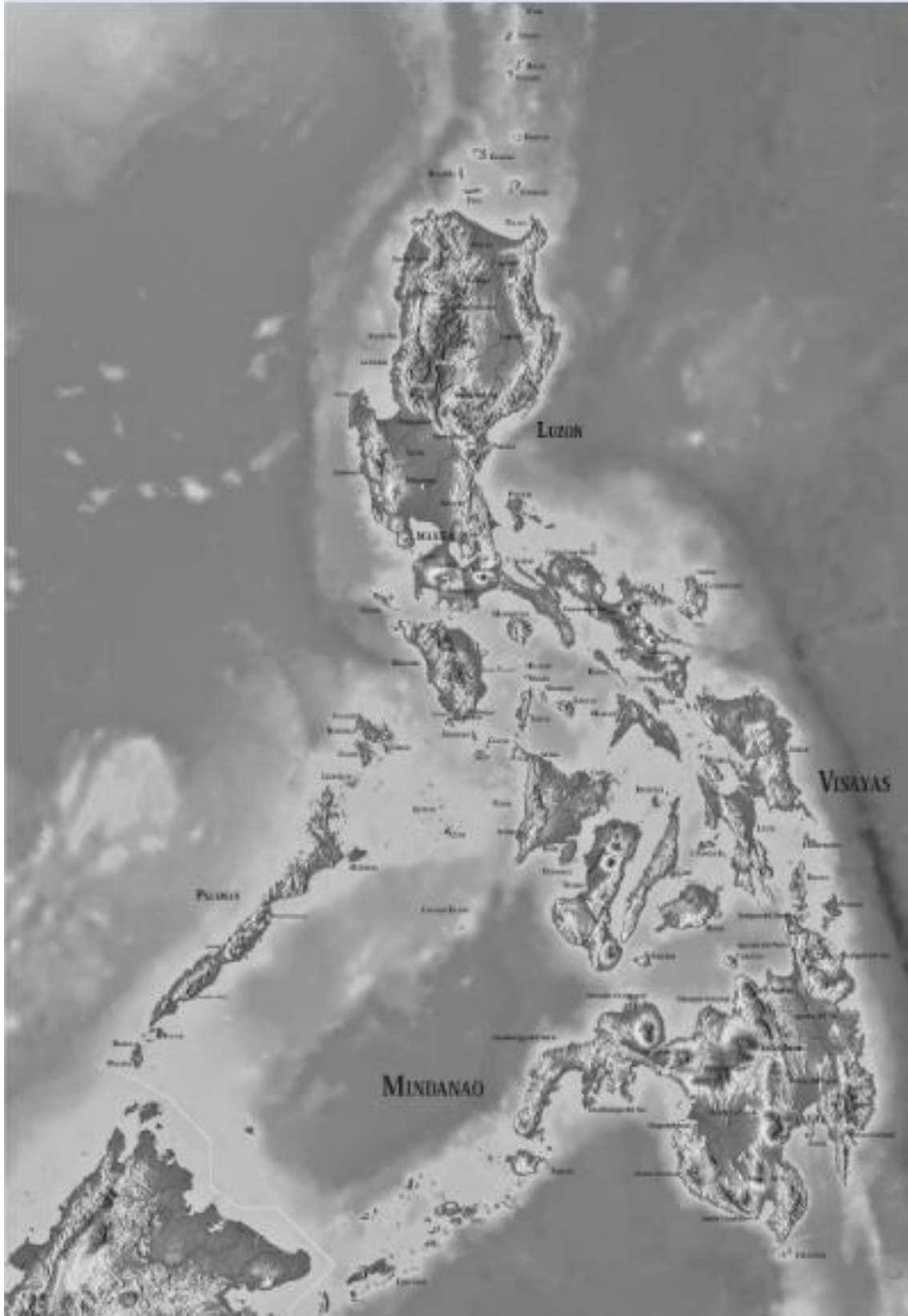
## NAME CHANGES

Coastal Bikol	Northern Bikol	Pandan Bikol	Northern
Inland Bikol	Southern Bikol		Catanduanes
Daraga	Miraya		Bikol
Oas	West Albay	Virac	Viracnon
Bikol		Luba	Northern
Buhi	Buhi-		Kankanaey
non/Buhi'non		Manabo	Masidiit Itneg
Iriga	Rinconada	Sinauna	Remontado/ Hatang-Kayi
Gubat	Southern		Tandaganon
	Sorsoganon	Naturalis	Kaluyanen
Sorsogon	Central	Semirara	
	Sorsoganon		

## ABBREVIATIONS AND SYMBOLS

<p>* [asterisk] a reconstructed etymology or proto-form (based on best evidence)</p> <p>† [dagger] a "maverick" proto-form (Mahdi 1994)</p> <p>Abr Aborlan Tagbanwa</p> <p>ACD Blust &amp; Trussel. 2020.</p> <p>Agy Agutaynen</p> <p>Akl Aklanon (West Bisayan, Northern Panay)</p> <p>Aln Alangan</p> <p>Amg Amganad Ifugao</p> <p>Ata Ata Manobo</p> <p>BamIsi Bambang Isinay</p> <p>Bash-Ilk-axis Bashiic-Ilokano Axis</p> <p>Bis-Bik Bisayan-Bikol axis</p> <p>Bis-Bik-axis Bisayan-Bikol Axis</p> <p>Blk Bulalakawnon (southeastern Mindoro)</p> <p>Blw Balangaw</p> <p>Boh Boholano (Cebuano dialect)</p> <p>Bol Bolinao</p> <p>Bol Bolinao</p> <p>Bot Botolan Sambal</p> <p>Btd Batad Ifugao</p> <p>Buh Buhid</p> <p>Buhi Buhi-non ~ Buhi'non</p> <p>But Butuanon</p> <p>Cap Capiznon</p> <p>Car Caraga (Eastern Mansakan)</p> <p>CCAgtá Central Cagayan Agta</p> <p>CDAgtá Casiguran Dumagat Agta</p> <p>Ceb Cebuano (Cebu &amp; Leyte)</p> <p>Cf compare with (from Latin <i>confer</i>)</p> <p>CLz-axis Central Luzon Axis</p> <p>CMn-axis Central Mindanao Axis</p> <p>CONJ conjunction</p> <p>CSor Central Sorsoganon</p> <p>CSub Central Subanen</p>	<p>CTbw Central Tagbanwa</p> <p>DEIC deictic</p> <p>DP discourse particle</p> <p>Dsp Dispolonon</p> <p>Dtg Datagnon/Ratagnon (West Bisayan, Southern Mindoro)</p> <p>ELz-axis Eastern Luzon Axis</p> <p>EMn-axis Eastern Mindanao Axis</p> <p>Gad Gaddang</p> <p>GCP Greater Central Philippine</p> <p>GEN genitive</p> <p>Han Hanunoo (South Mangyan, Southern Mindoro)</p> <p>Hil Hiligaynon/Ilonggo (Central Bisayan, S. Panay &amp; Negros Occidental)</p> <p>Ibg Ibanag</p> <p>IbgP Pamplona Ibanag</p> <p>IbgT Tuguegarao Ibanag</p> <p>Ibl Inibaloi/Ibaloy/Ibaloi (Reid 1971)</p> <p>Ibt Ibatan</p> <p>Ifg Ifugao</p> <p>Ilk Ilokano</p> <p>Iln Ilianen Manobo</p> <p>Ira Iranun</p> <p>Iry Iraya (North Mangyan, Northern Mindoro)</p> <p>Isg Isnag ~ Isneg (McFarland 1977)</p> <p>Isi Isinay (Reid 1971)</p> <p>Itb Itbayaten</p> <p>Itg Itneg (McFarland 1976)</p> <p>Itw Itawit ~ Itawis (McFarland 1976)</p> <p>Ivt Ivatan</p> <p>Kag Kagayanen</p> <p>Kal Kalamian Tagbanwa</p> <p>Kam Kamayo</p> <p>Kbs Kabasagan (Eastern Mansaka) (Zorc 1977)</p>
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Kia	Kiangan Ifugao (McFarland 1977)	Pan	Panay, a dialect of Kinaray-a)
Kia	Kiangan Ifugao (McFarland 1977)	Pbis	Proto-Bisayan
Kin	Kinaray-a (Antique)	PCP	Proto-Central Philippine
Kla	Kalinga (Reid 1971); (McFarland 1977)	PL	plural
Klg	Kalagan (Reid 1971)	PMP	Proto-Malayo-Polynesian
Kly	Keley-i Kallahan	Png	Pangasinan ~ Pangasinense
Kly	Keley-i Kallahan (Reid 1971)	PNP	Proto-Northern Philippine
Knk	Kankanaey (Reid 1971); (McFarland 1977)	PPH	Proto-Philippine
KnkN	Kankanaey-N (Reid 1971); (McFarland 1977)	PRO	pronoun
KnkS	Kankanaey-S, Southern Kankanaey (McFarland 1977)	PSP	Proto-Southern Philippine
KorBl	Koronadal Bilaan	PWMP	Proto-Western- Malayo-Polynesian
Krm	Karamiananen	QW	question word?
Kuy	Kuyonon	Rd	Reid
Kyp	Kayapa Kallahan (Reid 1971)	Rom	Romblomanon
Leg	Legaspi	SarBl	Sarangani Bilaan
Lok	Looknon	SarMb	Sarangani Manobo
Mar	Maranao	SBik	Southern Bikol
Mas	Masbatenyo	Sbl	Sambal
McF	McFarland	Sem	Semirara (Semirara Island Group)
McF-NP	McFarland 1977	SG	singular
Mgd	Maguindanaon	SLz-axis	Southern Luzon Axis
Mir	Miraya	SMn-axis	Southern Mindanao Axis
MlaTag	Manila Tagalog	Sur	Surigaonon
Mlw	Malaweg (McFarland 1977)	Tag	Tagalog, usually the Manila dialect  or  Tagalic subgroup
NBs-axis	North Bisayan Axis	Tdg	Tandaganon
NCat	Northern Catanduanes	Tdy	Tadyawan
NEG	negativ	Tir	Tiruray ~ Teduray
NLz-axis	Northern Luzon Axis	Tsg	Tausug
NOM	nominative	v	verb
p.c.	personal communication	Vir	Virac Bikol, changed to Viracnon (Southern Catanduanes)
Pal	Palawano	WABik	West Albay Bikol
Pal-Kal-axis	Palawan-Kalamian Axis	WBM	Western Bukidnon Manobo
Pal-Mind-axis	Palawan-Mindoro Axis	Wlz-axis	Western Luzon Axis
PAN	Proto-Austronesian	WSub	Western Subanen
Pan	Pandan Bisayan (northwestern	Yog	Yogad
		ZDS	Zorc. Ongoing.



**THE PHILIPPINES**

## 2.1. North Bisayan axis.

This particular axis affects members of the West Bisayan, Central Bisayan, Asi', Bikol, and Hanunoo (South Mangyan) subgroups as well as Kagayanen.<sup>13</sup> Geographically this includes northern Panay, southern Mindoro, Tablas, Caluya, Sibale, Banton, Masbate, the Bikol peninsula, and Cagayancillo Island



(001) NBs-axis *\*bəʔəl* ‘take, get s.t.’ replaces PAN *\*alap* and/or *\*alaq*, PCP *\*kúha(ʔ)*<sup>14</sup>:

Kin, Pan, Sem *biʔil*, Kuy *bīil*, Akl *buʔóy*, Blk, Dtg *buʔúl*, Asi’ *baʔóy*  
(unexplained *\*ə1 > a*), Rom *buʔóy*, and Han *búʔul*.

(002) NBs-axis *\*hambal* ‘say, speak’ replaces PAN *\*kaRi*: Kin, Pan, Blk, Mas, Hil *hámbal*,  
Sem *ʔámbal*, Kagayanen *ʔámbal*, Akl *hámbauy*, Asi’, Rom *hámbay*.

<sup>13</sup> In Zorc (1974), I pointed out that Kagayanen, before it broke off from the rest of the Manobo languages, had picked up several South Bisayan innovations, and when it settled on Cagayancillo, it picked up West Bisayan ones. However, its Manobo substratum was clearly retained.

<sup>14</sup> This may be descended from PAN *\*kuSa* ‘work’ in the ACD with a semantic reassignment.

- (003) NBS-axis *\*mayád* ‘good’ replaces PMP *\*pia*, PPH *\*ʔupiya*<sup>15</sup>: Akl, Pan, Kin, Blk, Dtg, Kuy, Vir, SSor, CSor *mayád*; Kagayanen *miyád*.<sup>16</sup>
- (004) NBS-axis *\*taʔú* ‘give’ replaces PAN *\*bəRay*: Kin, Pan *taʔú*, Akl, Blk, Sem, Rom, Asi’, NBik, SBik *taʔó*.
- (005) NBS-axis *\*búhin* ‘subtract, deduct, decrease, take away’ replaces PPH *\*báwas*<sup>17</sup>: Akl, Kin, Pan, Blk, Asi’, Hil *búhin*, Sem *búwin*, Kuy *buin*; borrowed by Kagayanen *buwín*.
- (006) NBS-axis *\*ábi(?)*<sup>18</sup> [DP: EXCUSE] ‘well..., because ...’ [no established etymon]: Akl, Lok, Dsp, Hil *ʔábi?*; Kin, Asi’, Rom *ʔábi*; Han *ʔábi* ‘in case’.
- (007) NBS-axis *\*bahál* ‘big’ replaces PAN *\*Raya*, PMP *\*laba*, PPH *\*dakál*: Kin, Pan *bahíl*, Akl *ma-bahóuy*, Blk, Lok, Dtg *bahúl*, Kuy *ma-baíl*, and Rom *ma-bahóy*.
- (008) NBS-axis *\*ʔimáw* ‘thus, like’ replaces PCP *\*ʔámu*: Akl, Pan, Dsp, Blk, Dtg, Sem, Rom, Asi’ *ʔimáw*.
- (009) NBS-axis *\*ʔisará*<sup>19</sup> ‘one’ replaces PAN *\*isa*, *\*əsa*, *\*asa*: Akl *ʔisauyá*, Kin, Pan, Blk, Sem, Kuy *ʔisará*; Han *ʔisaraháy* (in a children’s counting game), and Kgy *ʔisla ~ ʔisya*.
- (010) NBS-axis *\*túbi?* ‘water’ [unexplained ?] replaces PAN *\*daNum*, GCP *\*túbig*<sup>20</sup>: Akl, Pan, Lok, Dsp, Asi’, Rom, Cap, Hil *túbi?*.
- (011) NBS-axis *\*biyáw* ‘toothless’ replaces PAN *\*ɣidaw*: Akl, Blk, Pan, Asi’, Rom, Hil *biyáw*; Han *biyáw* ‘nick in the cutting edge’, Tag *biyáw* ‘notch, dent on cutlery edge’.
- (012) NBS-axis *\*bítəs* ‘stomach worm’ replaces PWMP *\*bituk* (see note in the ACD): Pan, Sem *bítis*, Akl, Rom *bítos*, Blk, Asi’, Hil *bítus*.
- (013) NBS-axis *\*sabón* ‘maybe, perhaps’ [DP] replaces PPH *\*bakáq*<sup>21</sup>: Kin, Pan, Sem, Kuy *sabín*, Akl, Hil, Rom *sabón*.
- (014) NBS-axis *\*dúra?* ‘lose, misplace’ replaces PMP *\*qilaŋ*: Kin, Blk *dúra?*, Kuy *dura?*, Akl *dúuya?*, Rom *dúya?*, Hil *dúla?*.

<sup>15</sup> The ZDS reconstructs PPH *\*ʔupiya* with an initial *ʔu-* which may actually be a frozen common noun topic marker, i.e., ‘the good one’ based on Western Bukidnon, Ilianen & Tigwa Manobo *ʔupiya*, Waray *ma|ʔúpay* (metathesis), Kalamian Tagbanwa *m|upia*, and Ilongot *ʔupiya*. Hsiu-chuan Liao (p.c. 2021.08.03) explains the Ilongot form. “Stative verbs (or “adjectives”) take *ʔu-*, not *ma-* in Ilongot. The use of *ma-* in Ilongot is typically associated with loanwords.”

<sup>16</sup> This is formed from a root *\*ʔáyád* ‘repair, make good’ [ZDS].

<sup>17</sup> The ACD has PPH *\*bawas* ‘reduce, lower (as a price)’ but these semantics are best justified for a later time when monetary commerce set in. The ACD has thus far not allowed for glosses such as ‘subtract’ or ‘deduct’ which are basic mathematical operations that must have been known to the Austronesians.

<sup>18</sup> The final glottal stop in some languages may be pragmatic to intensify the veracity of one’s statement.

<sup>19</sup> This is derived from PAN *\*isa* along with an enclitic discourse particle, either PPH *\*da* ‘already’ or PBS *\*da* ‘also’ [ZDS]. Lobel (p.c. 2021.08.07) mentions a possible relationship to Masbatenyo, Central Sorsoganon *ʔisád* (with loss of the final vowel), which would still be part of this axis. However, the Cebuano phrase *ʔusá ra* is from a different etymon: *\*əsa da*. Meanwhile Zobel (p.c. 2021.08.02) informs me that Nothofer (1994) has corresponding forms in the Sumatra area: Toba-Batak *sada*, Gayo, Simalur, Nias, Menatawai *sara*, which may contain the same enclitic *\*da*.

<sup>20</sup> Dempwolff proposed *\*tubiR* ‘depth of water’ or possibly ‘deep water’, an etymology that seems not to have persisted.

<sup>21</sup> I would suggest PPH *\*baká?* based on the languages cited in the ACD.



- (015) NBs-axis *\*ʔindu* ‘your [2PL.GEN]’ replaces PCP *\*ʔinyu*<sup>22</sup>: Sem, Kuy *ʔindu*, NBik *ʔindú*, Rom *ʔindo*, and Asi’ *ʔinro*.
- (016) NBs-axis *\*kag* ‘and’ [CONJ] replaces PAN *\*maS*, *Na*, PMP *\*mai* ~ *\*may*, PMP *\*agu*: Kin, Blk, Dtg, Hil, Rom, and Mas *kag* | Note also: Akl, Asi’, Han, Baa Rinconada, Buhi *ʔag* covering the same axis area.
- (017) NBs-axis *\*pakaʔisá* ‘cousin’ replaces PWMP *\*pisan*, PPH *\*pinsan*: Kin, Pan, Asi’, Rom, Hil, Mas *pakaʔisá*.
- (018) NBs-axis *\*paŋkaʔ* ‘frog’ replaces PPH *\*bakkak* (or *\*tukák*): Kin, Blk, Sem, Kuy, Kgy *páŋkaʔ*; Han *paŋkáʔ*.<sup>23</sup>
- (019) NBs-axis *\*búsul* ‘seed’ [no established etymon]: Akl *búsou*, Blk, Pan *búsul*, Asi’ *búsuy*; Han *búsul* ‘pith’.
- (020) NBs-axis *\*butíg* ‘lie, deceive’ replaces PMP *\*bali*<sup>24</sup>: Blk, Kin, Kuy, Hil, Rin *butíg*.<sup>25</sup>
- (021) NBs-axis *\*dagəʔəb* ‘thunder’ replaces PAN *\*deRuŋ*, *\*deRdeR*, PMP *\*ru(ŋ)guŋ*, PWMP *\*dələk*, *\*duRduR*: Kin *dagíʔib*, Kgy *dagiʔib*, Kuy *dagíʔb*, Pan *daguʔúb*, Hil *dagúʔub*.
- (022) NBs-axis *\*ʔuyahán* ‘face’<sup>26</sup> replaces PPH *\*ʔáŋas* or *\*waláŋ*: Pan *ʔuyahín*, Akl, Blk, Rom *ʔuyahón*; borrowed by Kalamian Tagbanwa *uyain*.
- (023) NBs-axis *\*baláŋ* ‘drunk’ replaces PAN *\*buSuk*, PMP *\*buhuk*: Kuy *balíŋ*, Rom *bayóŋ*. [Cf. Mansaka *baləŋ*, Dibabawon Manobo *baəŋ* ‘poison’; Itbayaten *mavaəŋ*, Ivatan *mavahəŋ*, Kakiduge:n Ilongot *bi:líŋ*, ‘black’, other Ilongot dialects *balíŋ* (Liao p.c. 2021.08.03).]

<sup>22</sup> Ivatan *ʔinyu* (McF-NP) or *ʔinioʔ* (Reid 1971) is formally cognate, but nominative in function, so probably PPH *\*ʔinyu*.

<sup>23</sup> This ultimately comes from a monosyllabic root PSP *\*pak* [ZDS]:Tboli, Bilaan *fak*, Tíruray *ʔəfak*; Aklanon, Asi’, Romblomanon, Ilongo/Hiligaynon, Masbatenyo *pakáʔ*, Kalamianic *talipakaʔ*, Tagalog, Bikol *palakáʔ*. I agree with Blust’s note under NOISE ‘frog’ for Bashiic *palaka*; neither Itbayaten nor Ivatan have the correct reflex of \*l, plus no northern Philippine language (McF-NP#460) supports any etymon beyond PPH *\*bakkak* in the ACD.

<sup>24</sup> This particular gloss seems to elicit microgroup agreements. Besides this North Bisayan axis and a Bis-Bik axis *\*buwaʔ* in the ZDS there is evidence for Greater-Central-Philippine *\*limbuŋ*, Proto-Bisayan *\*bakak*, Proto-Mansakan *\*galuʔ*, Northern Bikol *\*putik*, Southern Bikol *\*putŋayən*, and Tausug *putiŋ* just within the central Philippines.

<sup>25</sup> Reid (p.c. 2021.07.28) called to my attention Isnag *mag/busid* ‘to lie’. If this is genuinely cognate (and not a loan or accidental resemblance), then this might raise the reconstruction to PPH *\*butig*. However, there is no correspondence between Isnag [-d] and the North-Bisayan axis [-g]. (Lobel p.c. 2021.08.07)

<sup>26</sup> As Blust points out in his note to PPH *\*aŋas*: “The semantic category ‘face’ seems to have been unusually unstable, and was filled by the Sanskrit loanword *rupa* ‘semblance; form; look’ in major lowland languages such as Ilokano (*rúpa* ‘face’), and even in remote mountain languages (e.g. Bontok *lópa*, Ibaloi *dopa*) through the medium of Malay.” This also applies to Tagalog *mukháʔ*, which may be reflected in Cagayan Valley reflexes of *\*mukat*.

## 2.2. Southern Luzon axis.

This axis affects Tagalog and languages in the Central Luzon SUBGROUP which include Sambalic and Kapampangan), Remontado/Hatang-Kayi, Casiguran Dumagat Agta, Bulalakawnon, Bikol, and Hanunoo.



- (024) SLz-axis *\*batá?* ‘stench, bad odor’ replaces PMP *\*bahu?*: Sbl, CSor, Naga, Leg, Mir, Lib, Rin, Buhi *\*batá?*, WABik *bití?*.
- (025) SLz-axis *\*damúlag* ‘carabao’ replaces PAN *\*qaNuaŋ*, or widespread maverick proto-form †*karabáw*: Kpm, Bol, Sbl, Naga *damúlag*, Bot *damuwag*, Mir, WABik, Lib, Rin, Buhi *damulág*.
- (026) SLz-axis *\*ʔalikabúk* ‘dust’ replaces PMP *\*Rabuk*, PWMP *\*qabug* ~ *\*abuR*: Kpm, Bot, Ayta Mag-Indi, CDagta *ʔalikabúk*, Tag, Blk *ʔalikabók*.

- (027) SLz-axis *\*dikút* ‘grass’ replaces PAN *\*udu*, PMP *\*zukunft* ~ *\*dukut*: Kpm, Bot, Sbl *dikút*, Lib, WABik *rikút*.<sup>27</sup>
- (028) SLz-axis *\*salaR* ‘egg’ replaces PAN *\*qiCeluR*: Mir, Lib, WABik *salág*, Bol, Sbl *sálay* [Cf. PMP *\*salaR* ‘nest’ in the ACD].
- (029) SLz-axis *\*ʔabála* ‘delay’ replaces PPH *\*liwag*: Kpm, Tag, Naga *ʔabála* ‘delay’, Han *ʔabála* ‘bother, molest’.
- (030) SLz-axis *\*bəRɲi* ‘night’<sup>28</sup>: Kpm *bɛ:ɲi*, Naga, Leg, Vir *baɲgi*.
- (031) SLz-axis *\*kadáyum* ‘needle’ affixed form replacing PAN *\*zaRum*, PPH *\*dáRum*: Iry *kadáyum*, Bot *karayim\**, Kpm *karáyum* > Tag *karáyom*.
- (032) SLz-axis *\*tiʔris*<sup>29</sup> ‘urine’ replaces PAN *\*iSiq* ~ *\*iSəq*: Naga *tiʔris* (slang), Tdy *tilís*, Png *sírit*; Han *tíʔris* ‘millipede secretion’ [Cf. PPH *\*tiq(e)ris* ‘urine; to urinate’ in the ACD].
- (033) SLz-axis *\*ʔaláp* ‘hungry’ replaces PMP *\*bitil*, PWMP *\*bitin*, PSP *\*Rutəm*: Rin & WABik, CDAgta *ʔalíp*.
- (034) SLz-axis *\*bihíraʔ* ‘seldom’ replaces PWMP *\*zaRaŋ* [ACD], PPH *\*lakáʔ* [ZDS<sup>30</sup>]: Tag, Bikol, Han *bihíraʔ*.<sup>31</sup>
- (035) SLz-axis *\*bilís* ‘fast’ replaces PAN *\*alikas*, PMP *\*bakas*, PPH *\*kaskas*, ROOT *\*kas*: Tag, Kpm, Bot *bilís*.
- (036) SLz-axis *\*búku* ‘young coconut’ [no established etymon]: Isi (Tag loan)<sup>32</sup>, Kpm *búku*, MlaTag *búko*.<sup>33</sup>
- (037) SLz-axis *\*diláw* ‘yellow’ replaces or contrasts with PPH *\*duláw*: Tag, CDAgta, Han *diláw*, Kpm *diló*.<sup>34</sup>

<sup>27</sup> Zobel (p.c. 2021.08.02) points out: “This is similar to PMP *\*zukunft*, and reminds me of the variation in *\*tiduR*/*\*tuduR*.”

<sup>28</sup> Note. ACD PAN *\*Rabiqi* ‘late afternoon, evening’ vs. PMP *\*bəRɲi* ‘night’. From the Philippine point-of-view *\*bəRɲi* is only attested in Bikol languages and in Kapampangan; hence the possibility that this form was innovated in the Southern Luzon area before it spread out of the Philippines and acquired wide representation in Western Indonesia and Oceanic. *\*Rabiʔih* [ZDS] clearly originated in Taiwan and is the most retained item in the meaning ‘night’ throughout the Philippines. Zobel (p.c. 2021.08.02) prefers to think of *\*bəRɲi* “as a PMP innovation that happens only to be retained in the S[outhern] Luzon area.”

<sup>29</sup> The ACD proposes that this is PPH *\*tiq(ə)ris* ‘urine; to urinate’, but the northern languages reflect PNP *\*ʔisbu* (metathesis of *\*siʔbu* in the Palawan languages), while a few retain PPH *\*ʔihəq* along with most languages of the south. This SLz-axis form joins five other innovations throughout the Philippines (NCr *\*pasəg*, Bilic *\*təreʔ*, Danao & Central Manobo *\*tiʔtiʔ*, Botolan *\*dúday*, Bashiic *ʔupis*). [See: ‘urine’ in ZDS.]

<sup>30</sup> It is only Aklanon *uakáʔ* ‘sparse’ and Romblomanon *lakáʔ* ‘few’ that meet the semantics of this etymon; in the northern Philippine languages it tends to mean ‘cheap’

<sup>31</sup> Zobel (p.c. 2021.08.02) notes that this word (a) being trisyllabic, (b) has medial *r*, and (c) ends in glottal stop is likely to be a borrowing, but there are no Spanish, Malay, or Sanskrit candidates thus far.

<sup>32</sup> Reid (p.c. 2021.07.28) notes: “Isinay *búku* is clearly a borrowing from Tagalog, because *\*k* > glottal stop in all versions of Isinay.” There is a PSP *\*bətəŋ* in the ZDS which is an accent pair of the verb ‘pull’ that may offer some etymological precedent, but nothing thus far for any higher level.

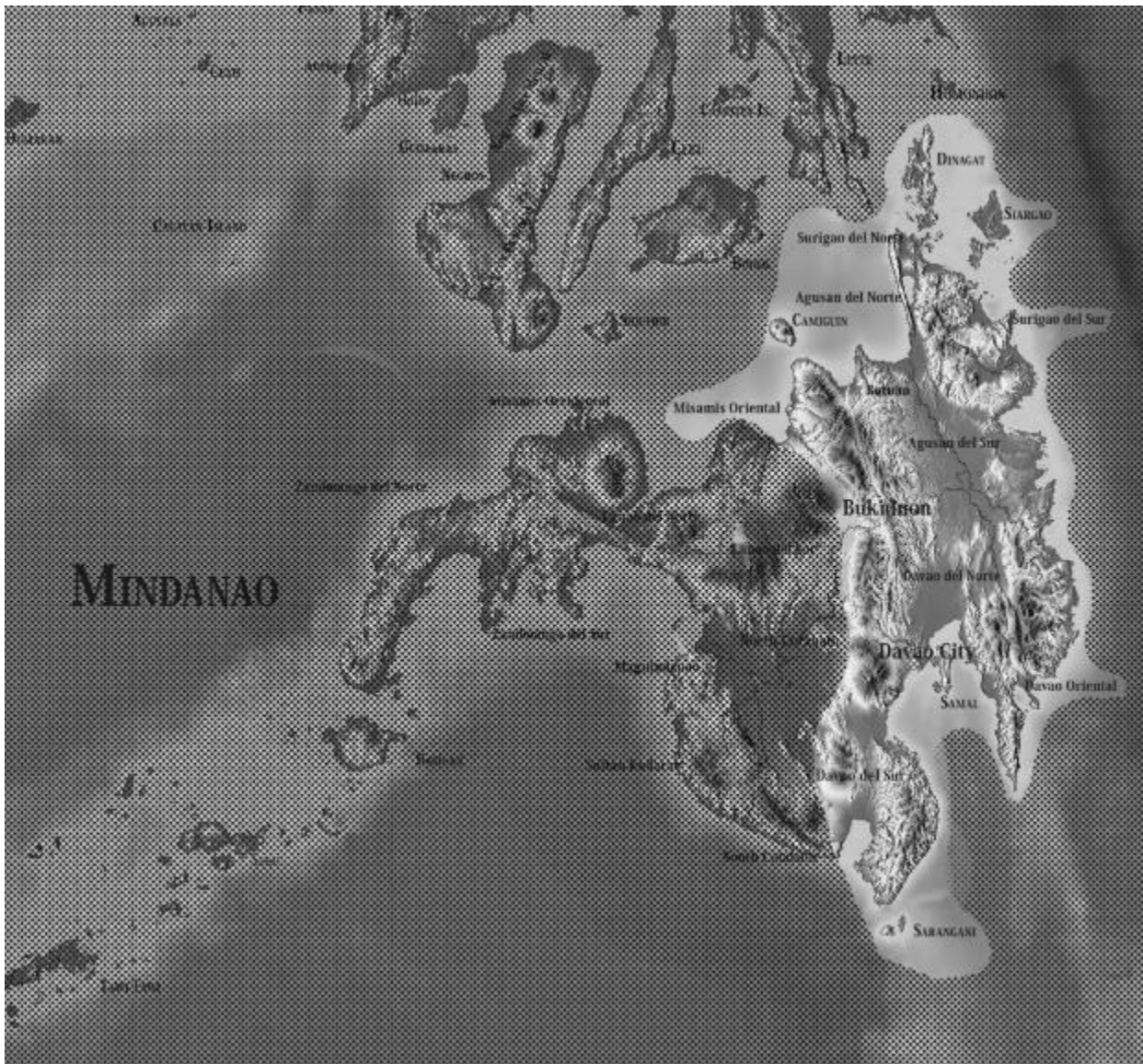
<sup>33</sup> Lobel (p.c. 2021.08.07) points out that outside of Manila Tagalog, *búko* is the ‘coconut spud’ too young to have any water inside, while *múraʔ* is the non-Manila Tagalog form meaning ‘young coconut (old enough to have water inside)’. So it is the semantics of the Manila Tagalog form that has spread.

<sup>34</sup> The ACD proposes PPH *\*diláw* and includes Ilokano *diláw* ‘turmeric’ [which is marked as a Tagalog loan in Rubino (2000)]. So long as Ilokano is a loan, this particular axis relationship remains valid.

- (038) SLz-axis \**saká* ‘and, also’ [no established etymon]: CDAgta, Naga *saká*,  
 Ayta Abellen *haka*, Tag *tsaká?* = *?at saká?* ‘afterwards, and then’. (Posited as  
 “PPH” in the ACD.)
- (039) SLz-axis \**páwəs* ‘sweat’ replaces PMP \**qatiŋ*, PWMP \**liŋ(ə)qət*, PSP \**hulas*:  
 Kpm *páwas*, Tag *páwis* (borrowed by Remontado/Hatang-Kayi & Casiguran  
 Dumagat Agta).

### 2.3. Eastern Mindanao axis

This represents a sequence of unique distributions among South Bisayan, Mamanwa, Mansakan, Danao, Subanen, and various members of Manobo, mostly located in the eastern area of Mindanao (except Subanen which clearly had moved west). It was this axis that led Gallman (1997) to propose a “Proto East Mindanao” (which is demonstrably an axis rather than a subgroup).



- (040) EMn-axis \**dayáw* ‘good’ replaces PMP \**ma/pia*, PPH \**ɽupiya*: Kam, Boso, Tdg *ma/dayáw*, Msk *dáyaw*, Mmw *ma/dazaw*, Klg, Tagakaolo, Car, Kbs, Mandaya, Isamal *ma/dyaw*, Sur, Jaun-Jaun *ma/rajáw*, But *ma/dyáw*, Ata *ma/doyow*, Dbw *ma/diyiw*.<sup>35</sup>
- (041) EMn-axis \**sidan* ‘they’ [3PL.NOM] replaces PMP \**sida* with addition of final nasal: Kam *sirán*, Mmw, Mar *siran*, Msk, Isamal, Boso, Kbs, Mandaya, Klg, Mgd *silan*; Subanen *ilan*.
- (042) EMn-axis \**ɽandaw* ‘day’ phonological change of PPH \**qaljaw* (with nasal cluster introduced): WBM, Ili *ɽandəw*, Ili<sup>36</sup> *ɽəndəw*, CSub *gindaw*, WSub *gondow*, Mar *daondao*.<sup>37</sup>
- (043) EMn-axis \**ɽəság* ‘male, man’ replaces PAN \**Ruqanay*, PMP \**laki*, PWMP \**lalaki*: Msk, Boso, Kbs, Mandaya *ɽisig*, But, Kam, Car *ɽusúg* ‘man, male’; Klg, Isamal, Tagakaolo *ɽisig* (also means) ‘husband’.
- (044) EMn-axis \**ɽallay* ‘slave’ replaces PWMP \**qudipən*: Msk, Mandaya, Kbs, Boso, Tagakaolo, Klg, Dbw, SarMb *ɽallay*.<sup>38</sup>
- (045) EMn-axis \**báŋa?* ‘bite’ replaces PAN \**kaRaC*: Sur, Tdg, Jaun-Jaun, But, Kam *báŋa?*, Mmw, SarMb *baŋa?* ‘bite’, WBM *baŋa?* ‘carry in the mouth’.
- (046) EMn-axis \**buyag* ‘old woman’ [no established etymon]: Msk, Tagakaolo, Klg *buyag*; Ata, Tig *buyag* ‘old person’, Dbw *buyag* ‘female’.
- (047) EMn-axis \**baʔal* ‘make’ replaces PMP \**buhat*: WBM, Mar *baʔal*, Subanen *baal*, and Mgd *bal*.
- (048) EMn-axis \**dagarha* ‘chest’ replaces PAN \**dəbdəb*: Kam *dagarha*, But *dagá:ha*. [Possibly from PAN \**daSdaS* ‘chest’, but with an <ag> infix, i.e., \**dagahdah* (with metathesis of d and h).]

## 2.4. Northern Luzon axis.

This represents innovative intrusions among Ilokano, Cagayan Valley, Central Cordilleran, and Bashiic languages.

- (049) NLz-axis \**gusíŋ* ‘harelip’ replaces PPH \**buní?*: Ilk, Ibg, Gad, Yog, Mlw, Itg<sup>39</sup>, Manabo<sup>40</sup>, Luba<sup>41</sup>, KnkN *gusíŋ*, KnkS *gúsíŋ*, Blw *guheŋ*.

<sup>35</sup> This represents a semantic shift from PPH \**dáyaw* ‘to praise, to honor’ [ZDS] to a generic meaning of ‘good’.

<sup>36</sup> I have an SIL booklet entitled *A Vocabulary of Central Mindanao Manobo* (Elkins & Elkins. 1954) which is available at <https://www.sil.org/resources/archives/24201>. This covers dialects identified within as **Kirinteken** and **Ilianon**, but would now encompass what is currently called **Ilianen**.

<sup>37</sup> This is clearly either PAN \**qajaw* or PMP \**qalejaw* with a nasal increment. This NC form has persisted in Minahasan (Tonsea, Tombulu, Tontemboan, Tonsawang) *əndo*, Ma’anyan *andraw* and Malagasy *andro*, as well as Ngaju Dayak *andau*, and Javanese *andon*.

<sup>38</sup> The phonotactics of some Mansakan languages do allow consonant gemination of apicals (dd, nn, ll), so this instance of gemination may be from a possible \**ɽadlay* or \**ɽanlay* (which is otherwise unattested).

<sup>39</sup> Itneg data in this paper is drawn from either Reid (1971) or McFarland (1977).

<sup>40</sup> The Manabo in McFarland (1977) is actually Masadiit Itneg (Himes, unpublished).

<sup>41</sup> The Luba in McFarland (1977) is actually Northern Kankanaey (Himes, unpublished).



- (050) NLz-axis *\*kímat* ‘eyelashes’ replaces PWMP *\*qizəp*, PPH~PSP *\*pidák*: Isg, Gad, Mlw, Kal, Luba *kímat* [[McF-NP#009], Atta *kima:ʔ*, CCAgta *kiʔmat*, Gad *kimit* [Reid (1971)#97], Itg *kimát* [Reid (1971)#98], Kia *ʔímat*, Blw *ʔémat*.
- (051) NLz-axis *\*ʔayát* ‘love’ [no established etymon]: IbgP, Ilk, Mlw *ʔayát*, Luba *min/ʔayát*, Itw *maŋ|ayát*, Itg *ʔag/ayát*, Manabo *ʔayat/ón*, IbgT *maŋ|ayáʔ*.<sup>42</sup>
- (052) NLz-axis *\*lūmin*<sup>43</sup> ‘cold’ replaces PMP *\*diŋdiŋ* ~ *\*diŋin*, PSP *\*ramíg*<sup>44</sup>: IbgP, Atta *na/lummin*, IbgT, Mlw, Itw *na|limmin*, Manabo *na|lammin*, Isg *na|lmin* (syncope).
- (053) NLz-axis *\*pǎlut* ‘cockfight’ replaces PWMP *\*sabuŋ*: Yog *pəllut*, Gad *məppəllut*, IbgP *pəlluʔ*, Ilk, KnkN&S *pallut*.<sup>45</sup>
- (054) NLz-axis *\*kaRayán* ‘river’ possibly replaces etyma like PAN *\*iluR*, *\*qaluR*, PMP *\*wahiR*: Ilk *karayán*, CCAgta *kaɣayan*, Gad *kayán*, Luba *ka:yan*, Manabo *kayyán*.<sup>46</sup>
- (055) NLz-axis *\*layús* ‘flood’ replaces PMP *\*bahaq*: Ilk, Gad, Manabo, Luba, Itg *layús*.
- (056) NLz-axis *\*sabáli* ‘other, different’ replaces PAN *\*duma*, PWMP *\*laʔin*, PPH *\*ʔibáh*: Ilk, Manabo, Itg, Blw *sabáli*, Isg *saballi*.
- (057) NLz-axis *\*lukmæg* ‘fat’ replaces PAN *\*SimaR*, PWMP *\*tabəq*: Ilk *lukmég*, Luba *lukmíg*, Bontok *lokmiq*, Isg *luʔmíg* [McF], *luʔmág* [Rd]. [McF-NP#201; Reid (1971)#103]
- (058) NLz-axis *\*salʔit* ‘lightning’ replaces PAN *\*likaC*, PMP *\*kilat*: Isg, Ilk *salʔit*; Itg, Kal *silʔit* (assimilation of *a > i*).
- (059) NLz-axis *\*suʔpit* ‘narrow’ replaces PAN *\*kipit*, PMP *\*kiput*: Mlw *su:pit*, Kal *man/su:pit* [Rd], *na/su:pit* [McF], Manabo; Isg *na|tuʔpit* [McF-NP#524; Reid (1971)#190].

## 2.5. Central Luzon axis

This represents cognates mainly drawn from the Central and South Cordilleran subgroups, with encroachments further south into Sambalic, Kapampangan, and Tagalog.

- (060) CLz-axis *\*púkəl* ‘bone’ replaces PAN *\*CuqəlaN*, PMP *\*tuqəlan*, PWMP *\*tuqəlaŋ*: Kia *púkul*, Amg *puʔól*, Btd *púʔal*, Byn *púʔol*, Blw *póʔal*, Bontok *pókil*, Knk *póki* ‘shoulder’; Ibl *pu:Kil*, Kyp *pukil*, Png *pukil* ‘bone’, Kly *pukel* ‘knee’; CDAgta *pukil* ‘thigh’.

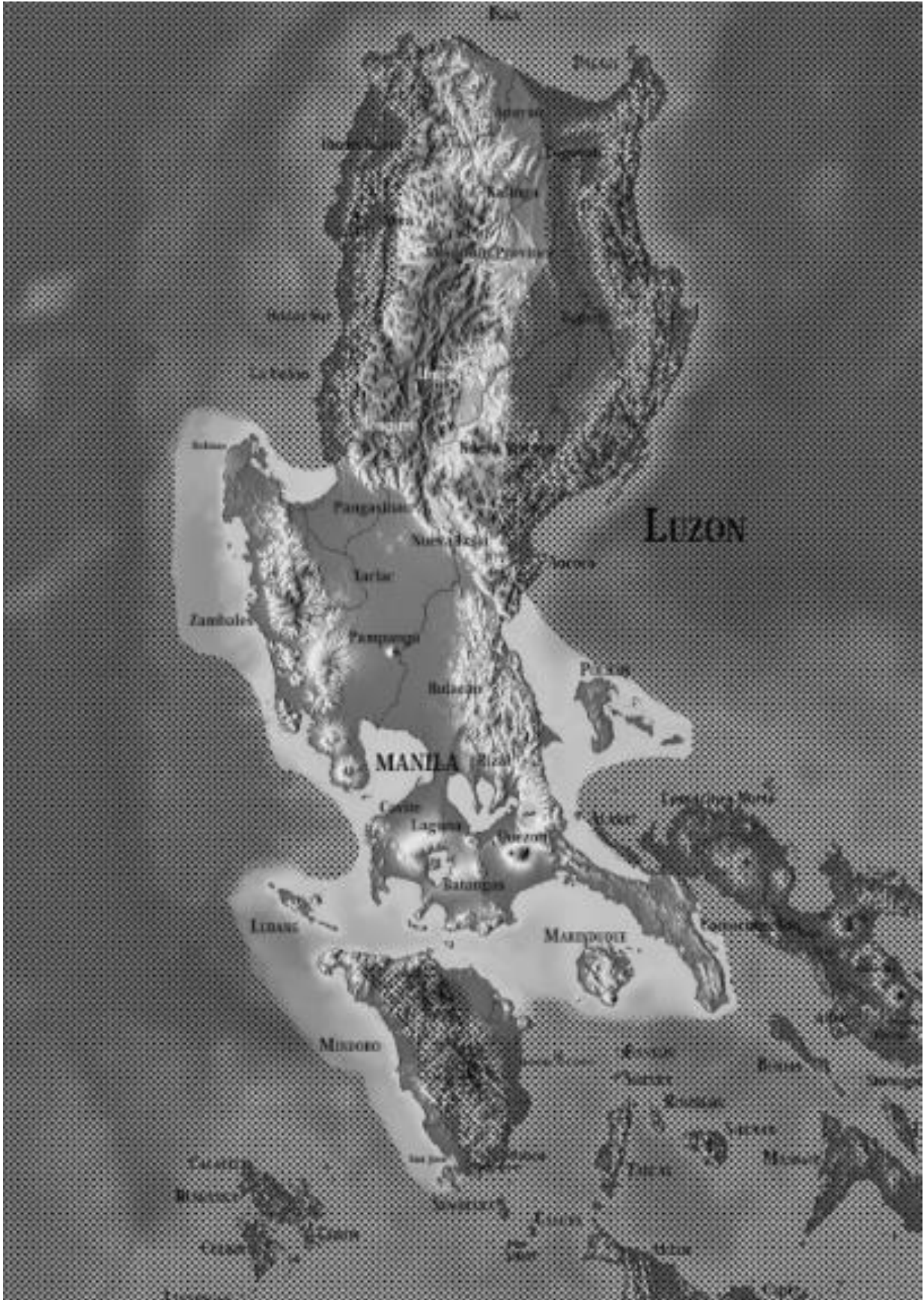
<sup>42</sup> This is a homonym of PWMP *\*ayat* ‘threaten, confront violently’ in the ACD.

<sup>43</sup> The vocalism here is difficult. I assume the short *ũ* found in Atta and Pamplona Ibanag is original, followed by syncope as in Isnag, with insertion of an *a* to echo the vowel of the prefix in Manabo and schwa insertion in Tuguegarao Ibanag, Malaweg, and Itawit.

<sup>44</sup> The ACD has PPH *\*lamíg* ‘cold’ but only cites Tagalog and Casiguran Dumagat Agta. The ZDS has (among others) Kinaray-a, Bulalakawnon, Datagnon, and Hanunoo *ma|ramíg*, and Aborlan Tagbanwa, Batak *ma|ramig*.

<sup>45</sup> It is assumed that the Ilokano and Kankanaey forms are borrowed from or influenced by Ibanag, with the first vowel interpreted as [a]. Ibaloy *paʔdut* is probably connected but cannot be explained; it is not likely that the glottal stop is original.

<sup>46</sup> The appearance of place names in the south such as *Cagayan de Oro*, *Cagayan de Tawi-Tawi*, and *Cagayancillo* complicates the issue, but in none of the languages spoken in these areas does it translate the gloss ‘river’.





- (061) CLz-axis \**tágtag*<sup>47</sup> ‘run’ [no established generic; PAN \**laRiw* ‘run away’]:  
 Isg *tagtag* ~ *managta*:g, Bontok, Itg, Isi *tagtág*, Itg, Luba, KnkS *managtág*,  
 Amganad & Btd *t<um>agtág*, KnkN *mintagtag*. [Cf. Ilokano *tagtag* ‘walk with  
 jerky or heavy gait’.]
- (062) CLz-axis \**ḡagaŋ* ‘hungry’ replaces PMP \**bitil*, PWMP \**bitin*, PSP \**Rutəm*:  
 Amg *maḡ|ḡagaŋ*, Btd *ḡagáŋ|an*, Byn *ḡ<in>ágaŋ*, Kia *na|ḡagáŋ|an*, Kyp *ḡagaŋ*,  
 Ibl *na|ḡagaŋ*, KnkS *da|gágaŋ* (metathesis) [McF-NP#136].
- (063) CLz-axis \**bəlát* ‘skin’ replaces PMP \**kulit*: Kyp *bilat*, Kly *belat*, Ibl *bi:dat*, Kia *bolát*,  
 Kpm> Tag *balát*.
- (064) CLz-axis \**bətík* ‘run’ [no established etymon; PAN \**laRiw* ‘run away’]: Ibl *man|bitík*,  
 Png *ḡon|batík*, Kyp *bitík*, Kly *betik*; Amg, Kia *b<um>tík*.
- (065) CLz-axis \**dagəm* ‘wind’ replaces PMP \**haŋin*: Isi *dakóm*, KnkN&S, Png, Kyp *dagím*,  
 Ibl *ca:gím*.
- (066) CLz-axis \**gawáḡ* ‘do, make’ replaces PMP \**buhat*: Bot, Sbl, Kpm> Tag *gawáḡ*,  
 Png *gawá*; Bol *maŋwaḡ*; Bol *gagawáḡ* ‘farm, field’.
- (067) CLz-axis \**taláw* ‘star’ replaces PAN \**bituqən*: Blw, Bontok, Luba, KnkN&S, Ibl *taláw*,  
 Kyp *talaw*.
- (068) CLz-axis \**bansaR* ‘floor(ing)’ replaces PMP \**saləR*, PPH \**daqtaR*: Manabo, Luba, Kal,  
 Itg *banság* (stereotyped Philippine \*g), Bontok *bansál*; cf. Ilokano *banság*  
 ‘kitchen rack’.
- (069) CLz-axis \**bútəŋ* ‘drunk’ replaces PAN \**buSuk*, PMP \**buhuk*: KnkN&S *na|bútəŋ*,  
 Kia *na|bútoŋ*, Isi *na|bútoŋ*,<sup>48</sup> Ibl *ḡi|bútəŋ*.
- (070) CLz-axis \**duntug* ‘mountain’ replaces PAN \**bukij*, \**buləd*: Batad Ifugaw, KnkS, Kyp,  
 Kly *duntug*, Ibl *contog*.
- (071) CLz-axis \**kəduR* ‘thunder’ replaces PAN \**dəRuŋ*, PMP \**ru(ŋ)guŋ*, PWMP \**dələk*,  
 \**duRduR*: CDAgta *kidúh*, Png *karúl*, Tag *kulúg*; cf. Bolinao *kudúr*, Sbl *kurúl* with  
 reflexes of \*r instead of \*R, indicative of a loan.
- (072) CLz-axis \**latág* ‘straight’: Bontok *litíg*, KnkN *min|litíg* [Rd], *min|li|litíg* [McF], Ibl *na|ltíg*  
 (syncope), Kyp *nan|litíg*. [McF-NP#473; Reid (1971)#290]
- (073) CLz-axis \**ŋidəl* ‘dull’: Kal *na|ŋiddoł* [McF], Isi *na|ŋi:dal*, Ibl *ḡi|ŋiril* [Rd]; cf. Kyp  
*na|ŋilud*, Ilt *ŋilud*. [McF-NP#472] [Reid (1971)#083]
- (074) CLz-axis \**buliŋət* ‘dark’: KnkN *mim|buliŋət*, KnkS *ma|buliŋət*, Ibl *ḡam|buliŋət*;  
 Png *ḡam|biluŋət* (metathesis).
- (075) CLz-axis \**sikyad* ‘kick’: KnkS *sikyád|an*, Kia *hikyád|an*, Ibl *tikjad*, Kallahan *hikyad|an*.
- (076) CLz-axis \**ḡadpal* ‘palm (of hand)’ syllable inversion or metathesis of \**pálad*: Kyp *ḡadpal*,  
 Kal *ḡappał* [McF], Kal *ḡappal* [Rd], Knk *ḡadpa*. [McF-NP#34; Reid (1971)#210]
- (077) CLz-axis \**ḡimúk* ‘mosquito’ replaces PMP \**ñamuk* ~ \**lamuk*: Isi *ḡimúk*, Ibl *ḡi:muk*,  
 Kyp *ḡimuk*.
- (078) CLz-axis \**muyúŋ* ‘forest, woods’: Kia *muyúŋ*, Amg *muyóŋ*, Kly *muyuyŋ*.
- (079) CLz-axis \**tumbuŋ* ‘anus’<sup>49</sup>: Bol, Png *tumbúŋ*, Tag *tumbóŋ*.

<sup>47</sup> *Tágtag* ‘run’ should have (underlying) stress on the first syllable. Suffixed forms have a long vowel in the second syllable. (Reid p.c. 2021.07.28)

<sup>48</sup> Reid (p.c. 2021.07.28) points out that the entry in McFarland (*nabu:tung*) was in error; it should be *bútoŋ*.

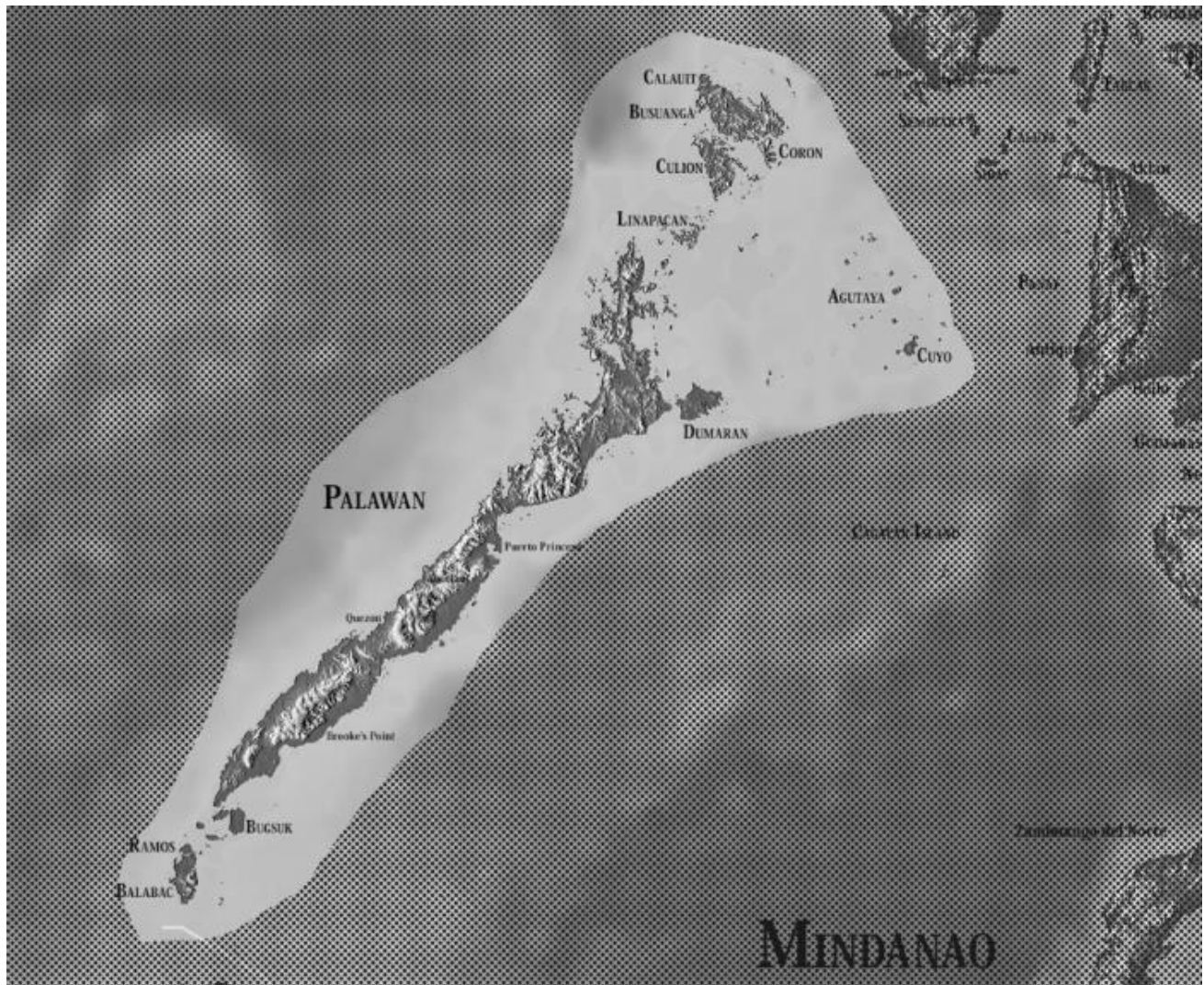
<sup>49</sup> Cf. PWMP \**tumbuŋ*<sub>1</sub> ‘anus’ in the ACD. I suspect this is a loan from Malay, but the distribution in the Philippines suggests an axis relationship based on the loan.

(080) CLz-axis *\*maʔúŋ* ‘good’ replaces PMP *\*pia*: Bol, Png *maʔúŋ*.

(081) CLz-axis *\*rəbrəb* ‘drown’ replaces PMP *\*ləməs*, PPH *\*limás*: Isi *ni/loblob*,  
Bol *maʔi|ribrīb*.

## 2.6. Palawan-Kalamian axis

This is another axis limited to an insular area, Palawan and the Calamian Islands, with the Kalamianic and Palawanic subgroups. Kalamianic is an isolate, but Palawanic may be part of the Greater Central Philippine subgroup proposed by Blust (1991). The co-existence of these two very different language groups in the greater Palawan area appears to have led to these local innovations. Data for the Palawanic languages comes from Thiessen (1980).



- (082) PAL-KAL-AXIS *\*qaʔduŋ* ‘sit’: Abr *ʔaʔduŋ*, Btk<sup>50</sup>, Mlb, Tau’t Bato, Quezon *ʔaduŋ*, Pal *ʔaruŋ* ‘nose’; Kal *karuŋ* ‘pointed nose’.
- (083) Pal-Kal-axis *\*bəlag* ‘not so’[NEG] replaces *\*bəkən*: Agy, Krm, Pal, Mlb *bilag*; Abr *bilag* ‘different’.
- (084) Pal-Kal-axis *\*luak* ‘plant, dibble’ [V]: Kal, Agy, Krm, Btk, Abr, Pal *luak*.
- (085) Pal-Kal-axis *\*dulduR* ‘thunder’ replaces PAN *\*dəRuŋ*, *\*deRdeR*, PMP *\*ru(ŋ)guŋ*, PWMP *\*dələk*, *\*duRduR*: Kal, Agy *duldul*, Abr, Btk, Pal *duldug*.<sup>51</sup>
- (086) Pal-Kal-axis *\*kayəg* ‘harvest’ replaces PAN *\*qaniS*, PMP *\*qanih*, PWMP *\*aRani*: Abr *kayig*, Btk *kayid\**, Pal *kaig*, Kal, Agy *ʔayig*.
- (087) Pal-Kal-axis *\*kumbaʔ* ‘lungs’ replaces PAN *\*baRaŋ*: Kal, Krm, CTbw, Abr *kumbaʔ*.
- (088) Pal-Kal-axis *\*tagək* ‘blood’ replaces PAN *\*daRaŋ*: Kal *tayik*, Krm, Btk, CTbw *tagik*.
- (089) Pal-Kal-axis *\*ʔalaŋ* ‘buy’ replaces PAN *\*bəli*: Kal *alaŋ*, Abr *paŋ|alaŋ*, Btk *ʔalaŋ* [Cf. Pal *ʔələn*].
- (090) Pal-Kal-axis *\*ha-lawid*<sup>52</sup> ‘far’ replaces PMP *\*zauq* [ACD] ~ *\*diauq* [(Zorc 2019b:129-131)], PPH *\*(h)a-dayúq*: Kal, Abr, Btk *ʔalawid*.
- (091) Pal-Kal-axis *\*kuldap* ‘lightning’ replaces PAN *\*likaC*, PMP *\*kilat*: Agy *kuldap*, Kal, Btk *kudlap* (metathesis).
- (092) Pal-Kal-axis *\*binlay* ‘raft’ replaces PMP *\*Rakit*: Kal, Abr *binlay*.
- (093) Pal-Kal-axis *\*diʔput* ‘short’: Kal *diput*, Btk *diʔput*.
- (094) Pal-Kal-axis *\*kaʔi* ‘where?’ [QW]: Btk *kaʔi*, Kal *ʔay|pa*, *ʔay|ra*.
- (095) Pal-Kal-axis *\*kandidiʔsiŋ* ‘little finger ~ toe’: Btk *kandidiʔsiŋ*, Kal *kandirisin|an*.
- (096) Pal-Kal-axis *\*luʔluy* ‘earthworm’: Btk *luʔluy*, Kal *luluy*.
- (097) Pal-Kal-axis *\*paraŋat* ‘housefly’: Kal *palaŋat*, Abr *paraŋat*.

## 2.7. Palawan-Mindoro axis

This axis formed as a result of relations between the peoples of Palawan and Mindoro. It involves the North and South Mangyan, Kalamianic, and Palawanic subgroups.

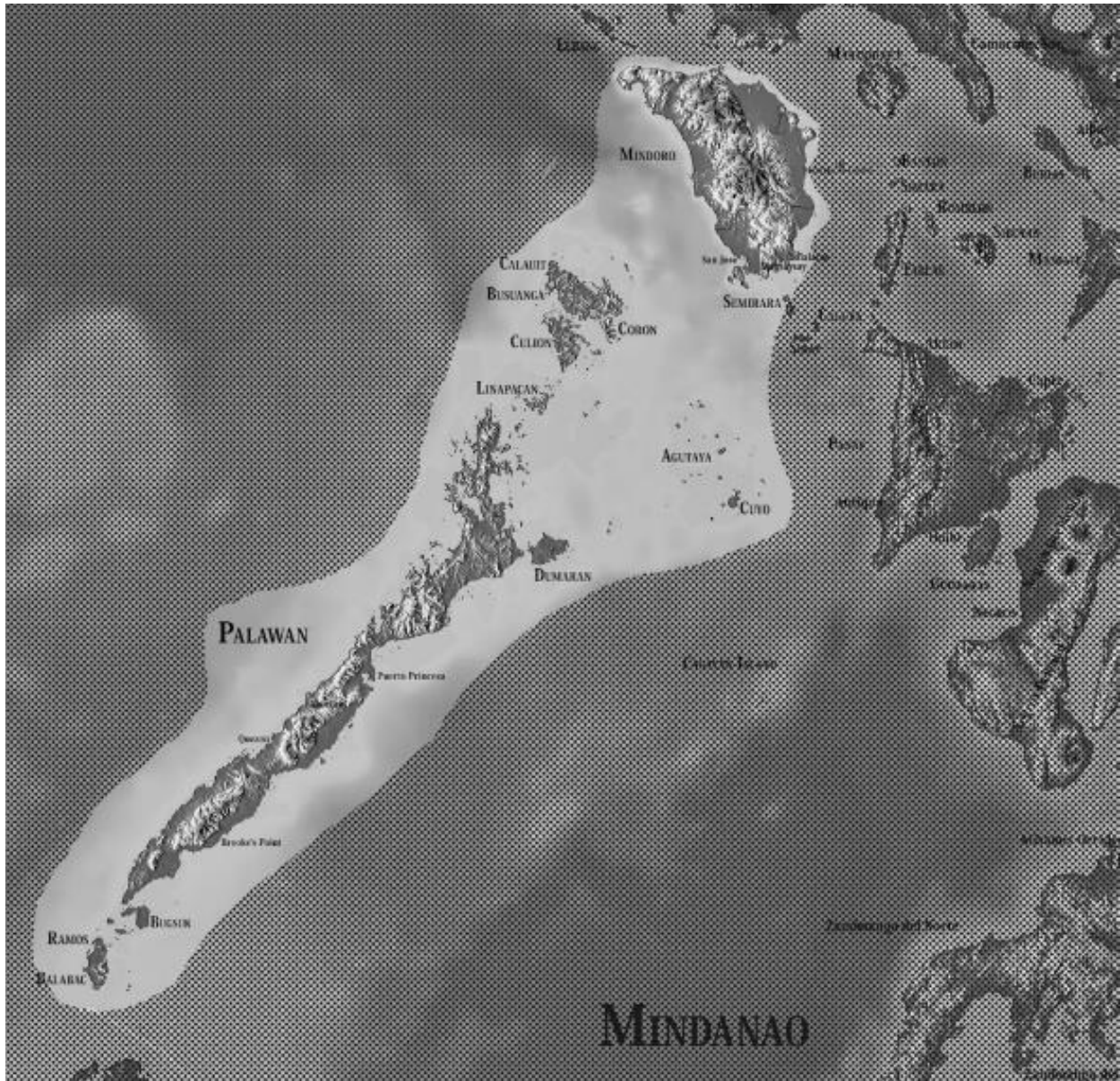
- (098) Pal-Mind-axis *\*ha/buat*<sup>53</sup> ‘long; tall’ replaces PMP *\*(h)anaduq* or its doublets PWMP *\*(h)adaduq* and *\*(h)a(n)duq*: Btk *ʔabuat*, Abr *ʔabuat|ay*, Pal *m|abwat*, Kal, Krm *ʔabwat*, Agy *ma|abwat* ‘long’; Iry, Tdy *ʔabwat*, Aln *ma|abwat*, Buh *abuat*, Han *ʔabwát* ‘tall’.

<sup>50</sup> Although there are other Austronesian languages named “Batak” (Toba Batak, Karo Batak, etc.), this is the only such variant within the Philippines. So within the confines of this paper, “Batak” means “Palawan Batak” or “Batak of Palawan”.

<sup>51</sup> The ACD has PWMP *\*duRduR* ‘thunder’ (in support of which is Kalamian Tagbanwa *duldul*), and PPH *\*duldul* ‘thunder’ (in support of which is Agutaynen *doldol*). The inclusion of the Palawan forms reveals this to be the unique etymon *\*dulduR* proposed here (possibly a composite of two monosyllabic roots *\*dul* and *\*duR*).

<sup>52</sup> Although none of these languages preserve *\*h*, the *\*ha-* (prefix of measure) is well established in Cebuano, Waray, Central and Southern Sorsogon, Naga, Viracnon, and Northern Catanduanes where *ha-* (adjectives of measure) contrast with *ma-* (all other adjectives). The ACD proposes PWMP *\*alawid* with cognates in Ma’anyan, Malagasy, Samihim, and Dusun Witu. Therefore this axis can only be preserved if this word originated from the greater Palawan area and was brought to Borneo later.

<sup>53</sup> This probably has the adjective of measure prefix *ha-*. The ACD has this as PWMP *\*abuat* ‘long (of objects)’ with cognates in several Bornean languages. It is proposed that this word was developed within this axis before it left the Philippines.



- (099) Pal-Mind-axis *\*ti* ‘yon’<sup>54</sup> [DEIC-3-ROOT]: Abr, Btk, Pal *?i|ti*, Kal *a|ti|?i*, Agy *a|si|i?*, Han *?á|ti, ti|da, si|ti*, Buh *ti/ya*, Aln, Tdy *?a|tí*.
- (100) Pal-Mind-axis *\*bilug* ‘body’: Btk, Abr, Pal *bilug*, Han *bilug*, Buh *ha|bilug/an*, Tdy *bilug|án*, Aln *bilúg|an*.<sup>55</sup>
- (101) Pal-Mind-axis *\*busli?* ‘lie, deceive’: Kal *bukli?*, Agy, Krm *tu?li?* (dissimilation), Iry *busli?en*, Aln *busliyon*.

<sup>54</sup> The ACD has PAN *\*ti* and PAN *\*i-ti* as a first-person or proximate deictic (as in Bunun *iti*, Botolan *ba-yti*), so it is the shift to the distal sense that makes this unique. I assume that the Kenyah (Long Dunin) and Kayan (Uma Juman) cognates were exported to Borneo. Ilokano has *?iti* as a case-marking particle (which probably developed from the deictic). Nevertheless, these problems admittedly weaken the case for this proposal.

<sup>55</sup> This is a semantic shift from PSP *\*bilúg* ‘round’ and GCP *\*bilug* ‘whole; solid’ [ZDS].

- (102) Pal-Mind-axis *\*ʔaŋbəʔ* ‘rat’: Abr, Btk *ʔaŋbiʔ*, Han *ʔaŋbú(ʔ)*, Buh *ʔaŋbo*. An assimilated nasal cognate is also found in the North Bisayan axis: Pan, Sem, Kuy *ʔambiʔ*, Blk *ʔámbuʔ*, Asi’, Rom *ʔámboʔ*.
- (103) Pal-Mind-axis *\*kanya* ‘he/she’ [PRO-3-NOM] replaces PAN *\*ia*, *\*si ia*, PPH *\*siyá*: Abr, Btk, Han *kanya*, Buh *hanya*. (shift from oblique to nominative)
- (104) Pal-Mind-axis *\*tugdaʔ* ‘plant = dibble’ [V]: Kal, Abr, Btk, Aln *tugdaʔ*.<sup>56</sup>
- (105) Pal-Mind-axis *\*hampaŋ* ‘say, speak’: Han *hampaŋ*, Btk, Abr *ʔampaŋ* [Cf. PBIS *\*hampaŋ* ‘play’].
- (106) Pal-Mind-axis *\*kawa* ‘you’ [2SG.NOM]: Kalamianic *\*yawaʔ* (< *\*i-kawa*), CTbw, Tdy *kawa*.
- (107) Pal-Mind-axis *\*ta/mi* ‘we’ [PRO-1&2-NOM]: Abr, Btk *tami*, Buh *tam(i+clitic)*. (Etymologically bimorphemic)
- (108) Pal-Mind-axis *\*karasyaw* ‘deer’: Kal *kalasiaw*, Han *karas(i)yáw*; Bulalakaw *karasyaw* is assumed to be a loan from Hanunoo.
- (109) Pal-Mind-axis *\*bagbag* ‘sink; drown’: Btk *bagbag* ‘sink’; Han *bagbag* ‘drown’.

## 2.8. Southern Mindanao axis.

This axis involves interchanges among the Southwestern Mindanao languages (Tboli, Koranadal and Sarangani Bilaan, Tiruray ~ Teduray), Southeastern Mindanao (Bagobo Klata), and members of the Greater Central Philippine subgroup such as Tagalog (when pre-Tagalog was still this far south)<sup>57</sup>, Danao, and Manobo.

- (110) SMn-axis *\*ʔabas* ‘measles’: Tir, Tbolí *ʔabas* ‘measles’, Mar *abas* ‘chicken pox’
- (111) SMn-axis *\*ʔagit* ‘coconut: unripe’: Ira, Mgd, Tbolí *ʔagit*, Kor *ʔgit*, Ili *ʔahit*.
- (112) SMn-axis *\*ʔamaR* ‘tomorrow’: Mar *amag*, Tir *n/amag* (stereotyped Philippine \*g) [Cf. Kalamian Tagbanwa *andamal*, Batak *ʔindamar*].
- (113) SMn-axis *\*ʔamas* ‘banana sp.’: Tbolí, Tir, WBM *ʔamas*.
- (114) SMn-axis *\*bagakwaŋ* ‘back’ (anatomical): Klg *bagakwaŋ* ‘back’, Kam *bakagwaŋ* ‘hips’, Dbw *bagakwaŋ* ‘spine’, Tbolí *kwaŋ*.
- (115) SMn-axis *\*baluʔ* ‘sell’: Tbolí *h|baluʔ*, Sangir *baʔuʔ*, Sangil *mi|bauʔ* [Cf. PMP *\*baluk* ‘to sell’ [ACD], where Tbolí is noted. This could be a loan with *\*-ʔ* instead of *\*-k* (Zobel p.c. 2021.08.02), but still would not obviate the axis relationship involved].
- (116) SMn-axis *\*galəbək* ‘make, do’: K-C, Mar, Ira, Mgd *galibik*, Ili *gilibik*, Dbw *gi:bik*, Msk *gawbik*, Tir *galbik*.
- (117) SMn-axis *\*kuʔkuʔ* ‘cat’: Dbw *kuʔkuʔ*, Tbolí *kukuʔ*, Msk *koko*.
- (118) SMn-axis *\*lahát* ‘all’: Klata, Tag *lahát*, Bagobo Klata *lahat*, Boso *laat*.<sup>58</sup>

<sup>56</sup> The ACD has PWMP *\*tuzaq* ‘thrust downward with sharp implement’ with Malay and Tae’ witnesses, so this may suggest *\*tuRzaq*. However, the Kalamianic evidence does not support either *\*R* or *\*q*.

<sup>57</sup> At present this must be considered a tentative hypothesis backed up by two SMn-axis forms *\*ma|samáʔ* ‘bad’ and *\*lahát* ‘all’ (see below). While these cannot be considered compelling evidence, further study may bear this out.

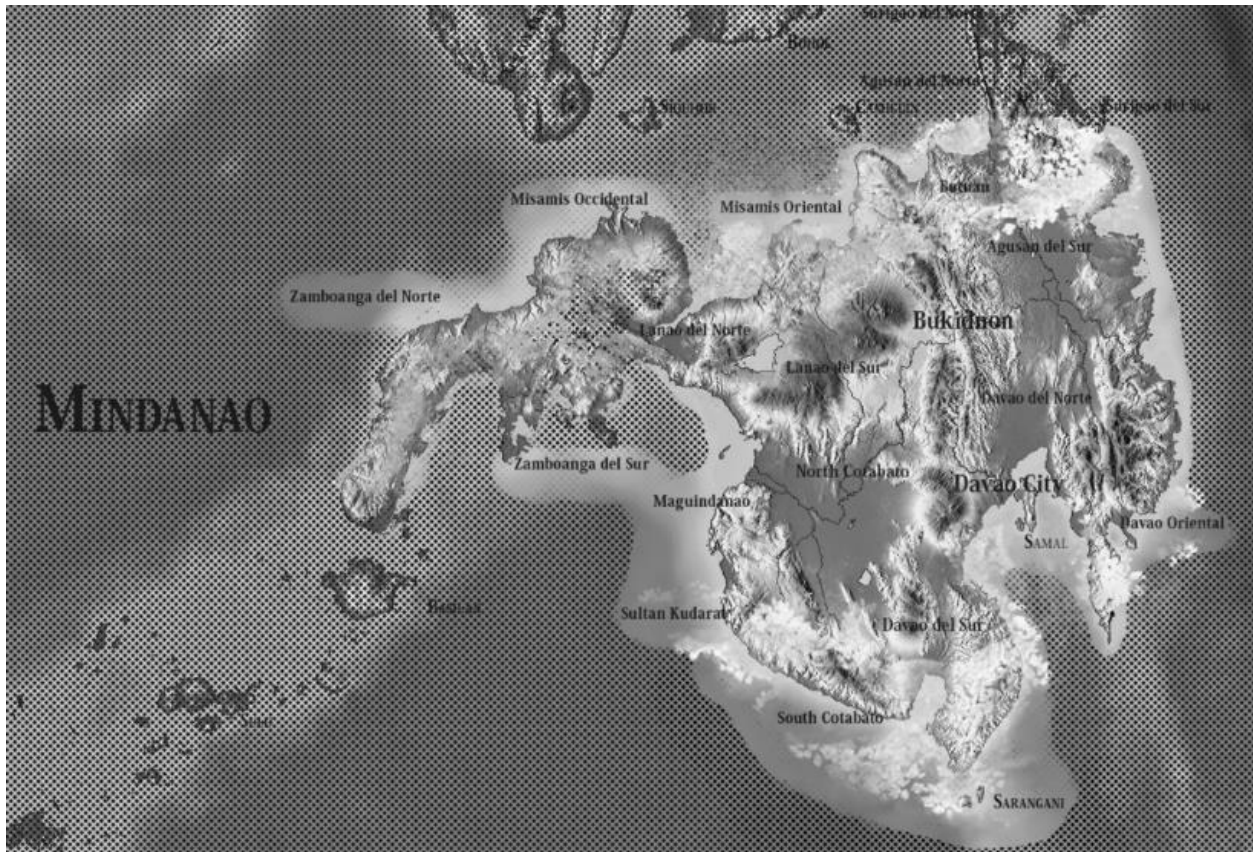
<sup>58</sup> The appearance of this unique word in Tagalog is explained by several cognates in southern Mindanao which are not likely loanwords from Tagalog, but mutually shared when pre-Tagalog was still in this overall area centuries ago.



- (119) SMn-axis *\*lulud* ‘to stalk’: Binukid, WBM, K-C, Tir *lulud* ‘to stalk’, Mar *lolod* ‘to approach’.
- (120) SMn-axis *\*ŋalap* ‘fish; game (meat which is caught)’: Kor & SarBl *nalaf* ‘fish’; Ata, Tig *ŋalap* ‘all game’, Ili *ŋalap* ‘fish; meat’.
- (121) SMn-axis *\*paniŋtiŋ* ‘ankle’: Klg *panagiŋtiŋ*, K-C *ŋiniŋtiŋ*, SarMb *paniŋtiŋ*, SarBl *fnintiŋ*.
- (122) SMn-axis *\*rabiŋ* ‘old (object)’: Tir *rabiŋ*, Ira *rabin*, Mgd *labiŋ*; WBM *raviŋ* ‘worn-out mat’. [Cf. Koronadal Bilaan *lobi*, Tboli, SarBl *labi* (with analogical loss of *ŋ* as if it were the linker)].
- (123) SMn-axis *\*samá?* ‘bad, evil’: Tag *samá?*, Klata *homó?*. Subsequently borrowed from Tagalog by Kapampangan *ma|samá?* ‘bad’ and Bolinao *ka|samá?* ‘dirty’ after the Tagalog migration to southern Luzon.

## 2.9. Central Mindanao axis.

This axis involves intimate connections among the Mindanao members of the Greater Central Philippine subgroup such as Mansakan, Danao, Subanen, and Manobo, but which did not cross over into Bisayan, Bikol, or Tagalog.



- (124) CMn-axis \**ʔandu* ‘pestle’ replaces PAN \**qaSəlu*, PNP \**qahlu*, PSP \**haqlu*: Ata, Tig, Ili, WBM *ʔandu*, Mar, Mgd *ndo*.<sup>59</sup>
- (125) CMn-axis \**balaw* ‘story; talk, tell’: Boso *babalawin*, Car *balaw*, Isamal *baō* ‘story’, Msk *balaw* ‘speak, talk’, Dbw *bau* ‘converse’, SarMb *balaw* ‘discussion’, *balaw-balaw* ‘talk with each other’.
- (126) CMn-axis \**buntud* ‘mountain’ replaces PAN \**bukij*, \**buləd*: WBM, Klḡ *buntud*, SarMb, WSub *bontod*; CSub *bintud*.
- (127) CMn-axis \**galis* ‘wipe’, replaces PMP \**punas*, PWMP \**pahid*: Klḡ, SarMb *galis*, Msk *garis*.
- (128) CMn-axis \**tapayan* ‘spider’ replaces PAN \**lawaq*, PWMP \**kawa*: Dbw, Klḡ *tapayan*.
- (129) CMn-axis \**ʔulunaʔ* ‘pillow’ replaces PMP \**qulun/an*, \**qalunan*, PPH \**puḡan*: Tig, WBM *ʔulunaʔ*, Mar *olonaʔ* [Cf. Binukid Manobo *ʔalunaʔ*].
- (130) CMn axis \**yaktaw* ‘narrow’ replaces PAN \**kipit*, PMP \**kiput*: Klḡ *ma/yaktaw*, SarMb *ma|yaktaw*.

<sup>59</sup> This is one of three etyma where an original \*IC cluster has received the NC “facultative nasal” (proposed by Dempwolff). In the note to his ACD entry, Blust mentions: “Toba Batak *andalu* ‘the heavy pole with which the rice is pounded’”, so the NC persisted as a doublet outside of the Philippines.

## 2.10. Bisayan-Bikol axis

The outreach of this axis includes most Bisayan and Bikol languages. Normally, innovations appearing in Bisayan and Bikol languages would be assigned to their immediate proto-language (Proto Central Philippine). Instead, an axis is proposed when it is clear that their sister languages (Tagalic and Mansakan) also have innovations within the same semantic parameters. Note that there is an informal coinage or portmanteau of “Bisaya” and “Bikol”—Bisakol—which is usually the term for the three Bisayan languages spoken within the Bicol Region [the Central Bisayan speech varieties of Central Sorsoganon (Sorsogon), Masbate (Masbatenyo), and Southern Sorsoganon (Gubat)] which have fallen under the influence of either Northern or Southern Bikol. There is even one Austronesian reconstruction where cognates seem to be limited to just this single axis within the Philippines.<sup>60</sup>



<sup>60</sup> PAN \**NataD* ‘outside’, PMP \**nataD* < sic: \**nataD*> ‘cleared area around house, cleared ground in village’: Naga, Legaspi, Virac, Northern Catanduanes, Buhi-non, Southern Sorsoganon, Central Sorsoganon, Masbatenyo, Cebuano *nátad*, Miraya, Rinconada, Libon, West Albay Bikol *natád*.



- (131) Bis-Bik-axis *\*kaláyuØ* ‘fire’, replaces PAN *\*Sapuy*<sup>61</sup>: Kin, Pan, Blk, Sem, Rom, Mas, CSor, Waray, Naga, Rin *kaláyu*, Akl *kauáyuyØ* (*kauáywi* ‘set fire to’), Asi’ *kayádu*, Ceb, But, Tsg *ka:yu*, Sur *kayáju*, NCat *karáyu*.
- (132) Bis-Bik-axis *\*halnas* ‘slippery’: Naga *ma|halnás*, Leg, Mir, WABik, Lib, Rin *ma|?alnás*, Vir *ma|hánlas*, NCat *ma|hanlás*, Buhi *ma|?aynás*, SSor *ma|hanlás*.
- (133) Bis-Bik-axis *\*háli?* ‘leave, go away’: Naga, CSor, SSor *háli?*, Leg *?áli?*, Vir, NCat *hári?*, WABik *?áli?*, Mas *halí?*.
- (134) Bis-Bik-axis *\*?alpug*<sup>62</sup> ‘dust’ replaces PMP *\*Rabuk*, PWMP *\*qabug* ~ *\*abuR*: Naga, Leg, Mir, WABik, Buhi *?alpúg*, Mas, SSor *?álpug*.
- (135) Bis-Bik-axis *\*?úyam* ‘fed up’: Leg, Mir, CSor, SSor *?úyam*, WABik, Rin, Buhi *?uyám*.
- (136) Bis-Bik-axis *\*huḡá?* ‘ask’: Mas *huḡá?*, Mir, WABik, Lib, Rin, Buhi *?uḡá?*.
- (137) Bis-Bik-axis *\*?igwa* ‘there is; have’ [EXISTENTIAL]: Naga, Leg, Vir, CSor, Mas *?igwa*, Asi’ *?iḡwa*.
- (138) Bis-Bik-axis *\*bíwa?* ‘lie, deceive’: Vir, NCat, CSor, SSor, Mas *bíwa?*.
- (139) Bis-Bik-axis *\*híwag* ‘move’: CSor *híwag*, Mir, WABik, Lib, Rin *?iwág*.
- (140) Bis-Bik-axis *\*?ukáy* ‘monkey’: Naga, Leg, Vir, NCat, Mir, CSor, SSor, Mas *?ukáy*.
- (141) Bis-Bik-axis *\*táḡa* ‘ant’: Naga, Leg, Vir, CSor, SSor *táḡa*.
- (142) Bis-Bik-axis *\*?átab* ‘early’: Leg, CSor, SSor, Mas *?átab*.
- (143) Bis-Bik-axis *\*lúsad* ‘descend, go down’: Leg, CSor, SSor, Mas *lúsad*.
- (144) Bis-Bik-axis *\*si?ḡat*<sup>63</sup> ‘sweat’: Vir *siḡut*, NCat *si?ḡut*, Ceb, Boh *siḡút*.
- (145) Bis-Bik-axis *\*tukdu?* ‘point’: Naga *tukdú?*, SSor, Mas *túkdu?*.
- (146) Bis-Bik-axis *\*?udit* ‘anger; angry’: Rin *?udít*, Mas *?úrit*, CSor *?urít*.
- (147) Bis-Bik-axis *\*bugtak* ‘put, place’ [V]: Naga, CSor *bugták*.
- (148) Bis-Bik-axis *\*labúy* ‘mud’: Naga, CSor *labúy*.
- (149) Bis-Bik-axis *\*?útik* ‘lie, deceive’: Leg *?útik*, Mir *?utik*.

## 2.11. Catanduanes axis

The island of Catanduanes (depicted in the map immediately above and enlarged in the map below) offers the requisite features for an axis relationship. The northern part has Northern Catanduanes (McFarland’s “Pandan”) which is an isolate (a subgroup all by itself) while Viracnon (Southern Catanduanes) is a member of the Northern Bikol subgroup (with Naga and Legaspi across the strait). Despite the genetic distance between these languages, six shared innovations have come to light as a result of investigating a 400-word list<sup>64</sup> developed by

<sup>61</sup> It is clear that the Central Philippine languages replaced PAN *\*Sapuy* ‘fire’ This etymon (*\*kaláyuØ*) affects most Bisayan and Bikol languages. The Mansakan group innovated *\*?atulun* ‘fire’ (see ZDS). This leaves Tagalog’s *?apóy* as suspect of being a re-introduction (a loan from another language on southern Luzon). Since Tagalog is a language that generally preserves PPH \*h (note that \*h is preserved in Itbayaten and in Western Bukidnon Manobo *hapuy*), the status of its being a direct descendant of PAN *\*Sapuy* is open to question.

<sup>62</sup> Liao (p.c. 2021.08.03) points out that these languages all have PAN, PMP, PPH *\*R > g*, so that this (and any other reconstructions with <g>, such as *\*?igwa*, *\*híwag*) could potentially be from *\*R*.

<sup>63</sup> While not justified by these citations, the schwa is inferred from the much more widespread PPH *\*riḡa?at* [ZDS]; cf. PWMP *\*liḡ(a)qet* ‘sweat, perspiration’ in the ACD—for the justification of *\*r*, see Malay *ke|riḡat*, Alangan, Iraya *riḡa?it*.

<sup>64</sup> This was a mimeographed edition which he distributed to colleagues at Yale. It was not numbered. There were actually 399 words and they were presented in alphabetical order by English.

McFarland during his dissertation research in 1972. While there is a possibility that these were borrowed by Viracnon from Northern Catanduanes, the innovations have clearly remained on the island and there is no direct evidence of any dominant relationship. Surely, the replacement of basic vocabulary such as ‘tooth’ and ‘go home’ is significant.



- (150) Catanduanes-axis *\*tiŋú* ‘tooth’ replaces PAN *\*ŋipən*: NCat, Vir *tiŋú*.  
 (151) Catanduanes-axis *\*paribúd* ‘go home’ replaces PMP *\*uliq*: NCat, Vir *paribúd*.  
 (152) Catanduanes-axis *\*maŋúnul* ‘dull (not sharp)’ replaces PMP *\*tumpul*, *\*dumpul*, PWMP *\*ŋazəl*: NCat *maŋúnur*, Vir *maŋúnul*.  
 (153) Catanduanes-axis *\*taʔpug* ‘dust’ replaces PMP *\*Rabuk*, PWMP *\*qabug* ~ *\*abuR*: NCat, Vir *taʔpúg*.  
 (154) Catanduanes-axis *\*hiwás* ‘move’ [no established etymon]: NCat, Vir *hiwás*.  
 (155) Catanduanes-axis *\*ʔabanabán* ‘later (today)’ [no established etymon]: NCat, Vir *ʔabanabán*.

## 2.12. Western Luzon axis

This axis became reasonably clear to me when various entries in McFarland’s magnificent survey of Northern Philippine languages (1977) were primarily on the left side of any given page.

- (156) WLz-axis *\*bulúŋ*<sup>65</sup> ‘leaf’ replaces PMP *\*dahun*: Ilk, Ibl, Kyp, Png, Sbl, Bol, Bot, Kpm *bulúŋ*, Ilt *buŋ*, Itb *vuyuy*, Ivt *vuhuy* [McF-NP#410; Reid (1971)#159]  
 (157) WLz-axis *\*kítəb* ‘bedbug’<sup>66</sup> [no established etymon]: Ilk *kíteb*, Luba, Itg, Knk, Ibl *kítib*, BamIsi *ʔitob*, Manabo, Ifg *kítob* [McF-NP#444]

<sup>65</sup> Note PMP *\*buluy* ‘medicinal herbs’ in the ACD. A look at McFarland’s entry reveals three basic etyma in the meaning ‘leaf’. The western side of Luzon clearly supports *\*bulúŋ*, the center supports *\*túbuq*, while the eastern supports *\*dahun*, which is otherwise well-retained throughout the central and southern Philippines [ZDS]. Meanwhile, *\*buluy* in the southern Philippines has taken on the generic meaning ‘medicine’ [ZDS].

<sup>66</sup> I am grateful to Reid (p.c. 2021.07.28) for correcting data on Ibaloy and Bambang Isinay in this entry.



- (158) WLz-axis *\*púsaʔ* ‘cat’<sup>67</sup> [no established etymon]: Ilk, KnkS *púsa*, Kia *púha*, Bot *púhaʔ*, Bol, Sbl, Kpm > Tag *púsaʔ*, Png *pusá*. [McF-NP#428]
- (159) WLz-axis *\*kútún*<sup>68</sup> ‘ant’ [no established generic]: Ilk, Isg, Luba, Itg, Knk *kutún*, Ibl *Kutun*, Mlw *kəttun*. [McF-NP#441]
- (160) WLz-axis *\*basát* ‘sibling’ [no established etymon]: Ilk *ka/bsát*, Luba, Itg *bisát*, Manabo *basát*, Kal *bosát* [Rd], Bol *busát*. [McF-NP#241; Reid (1971)#262]
- (161) WLz-axis *\*kimát* ‘lightning’, replaces PMP *\*kilat* < PAN *\*likaC* [ACD]: Ilk, Luba, KnkN&S, Bol, Sbl *kimát*; Cf. Pangasinan *kirmat*. [McF-NP#370]
- (162) WLz-axis *\*túyu* ‘rice bran’ replaces PAN *\*qəCah*, PMP *\*qətah*: Bontok<sup>69</sup>, Ilk, Itg, Mlw, Luba, KnkS, Ibl *túyu*. [McF-NP#188]
- (163) WLz-axis *\*bátiʔ* ‘leave behind, stay, remain’ [v] [no established etymon] Cf. PWMP *\*bilin* ‘something left for another’: Ilk *báti*, Itg *ʔi|bati*, Bol, Sbl *ʔi|bátiʔ*. [McF-NP#303]
- (164) WLz-axis *\*tayáb* ‘fly’ replaces PAN *\*layap*, PMP *\*Rəbək*, PWMP *\*layaŋ*: Ilk, Ibl *tayáb*, Itg *ʔag|tayáb*, Isi *man|tayáb*. [McF-NP#467]
- (165) WLz-axis *\*ʔulmug* ‘chicken flea’ replaces PWMP *\*kaRaw*: Ilk (borrowed by Agta), Png, Bol, Sbl *ʔulmúg*. Cf. Bot *kulmúg*. [McF-NP#455; Reid (1971)#164]
- (166) WLz-axis *\*línáʔaw* ‘dew’ replaces PAN *\*ñamuR*, PMP *\*hapun*, PWMP *\*ambun*: Ilk, Itg *linnáʔaw*, Png *linaíw*. [McF-NP#368]
- (167) WLz-axis *\*pasaplak* ‘outrigger’, replaces PMP *\*katiR*: Ilk, Manabo, Sbl *pasaplák*. Cf. Bot *pahuplák*. [McF-NP#272]
- (168) WLz-axis *\*sára* ‘horn’, replaces PAN *\*uRəŋ*, PPH~PSP *\*súŋay*: Ilk, Bol *sára*, Sbl *sála*. [McF-NP#462]
- (169) WLz-axis *\*ʔayáb* ‘call, summon [v]’ replaces PWMP *\*tawaR*: Ilk *ʔayáb*, Bol *maŋayáb*. [McF-NP#287]

### 2.13. North-Central Luzon axis

Similar to the above, this axis became apparent when McFarland’s survey of Northern Philippine languages (1977) had cognate entries primarily on the right side of any given page. Careful examination of the map below illustrates that these do not actually cover “Eastern”, but rather “North-Central” areas of Luzon. These are the only four that have thus far survived scrutiny.

<sup>67</sup> The ACD treats ‘cat’ †*pusa*(ʔ) as a LOAN “It is unclear when domestic cats first reached insular Southeast Asia, and it is possible that this word originally referred to a native animal. If so, however, the word has been transferred almost everywhere to the domestic cat, and it is clearly a loanword in at least Tagalog and Tetun.” The McFarland entry clearly shows a wide distribution of this form all along the west coast of Luzon (perhaps even with influence on Ivatan *pusak*). Note *\*kusa* along the northeast coast.

<sup>68</sup> Reid (p.c. 2021.07.28) considers the etymology to be *\*kətún* (my *\*kə́tún*) with assimilation of the penult vowel to that of the stressed ultima.

<sup>69</sup> Bontok evidence kindly supplied by Reid (p.c. 2021.07.28).



(170) NCLz-axis *\*sākalán*<sup>70</sup> ‘ring’, replaces *\*siŋsiŋ*: CCAgta *saklaŋ*, Atta *sa:kkaka:ŋ*, IbgP, Kal *sakkalán* [McF], IbgT *səklaŋ*, Itw *səkklaŋ*, Mlw, Yog *saklaŋ*, Gad *səkkalán* [McF], *sakalaŋ* [Rd], Kia *takkalán*, Amg *takkálaŋ*. [McF-NP#82a; Reid(1971)#237]

(171) NCLz-axis *\*luniR* ‘earthquake’, metathesis of PAN *\*linuR*: Kal, Mlw, Itw, Blw, IbgT, *lúnig*, CCAgta *lunig*, Atta *lunik*, Gad *ʔa|lu:nig*, IbgP, Yog *luníg*. [McF-NP#406; Reid(1971)#87]

<sup>70</sup> Reid (p.c. 2021.07.28) proposes “initial consonant should be \*t, based on the Ifugao forms. \*t > /s/ was a common change in some of the Cagayan Valley languages you cite. Other languages have borrowed the initial s of the Cagayan Valley languages.” Thus an alternate *\*takalaŋ* is very possible.

- (172) NCLZ-axis \**kúsa* ‘cat’ [no established etymon]: Itg, Manabo, KnkN, Kal *kúsa*, Ibg, Isg<sup>71</sup>, Gad, Yog *kusá*, Itw *kutá*. [McF-NP#428; also found in Leti *kusa* (Zobel p.c. 2021.08.02), possibly a mishearing of \**púsa?*]
- (173) NCLZ-axis \**bidbid* ‘read’, usually a Malay loan †*básah*: Mlw *məb|bidbid*, Itw, Gad, Yog *məb|bibbid*, Kia *mun|bidbid*, Ibg *məb|bibbig*; Cf. Proto-Bikol \**midbid* ‘know someone’. [McF-NP#285]

## 2.14. Bashiic-Ilokano axis

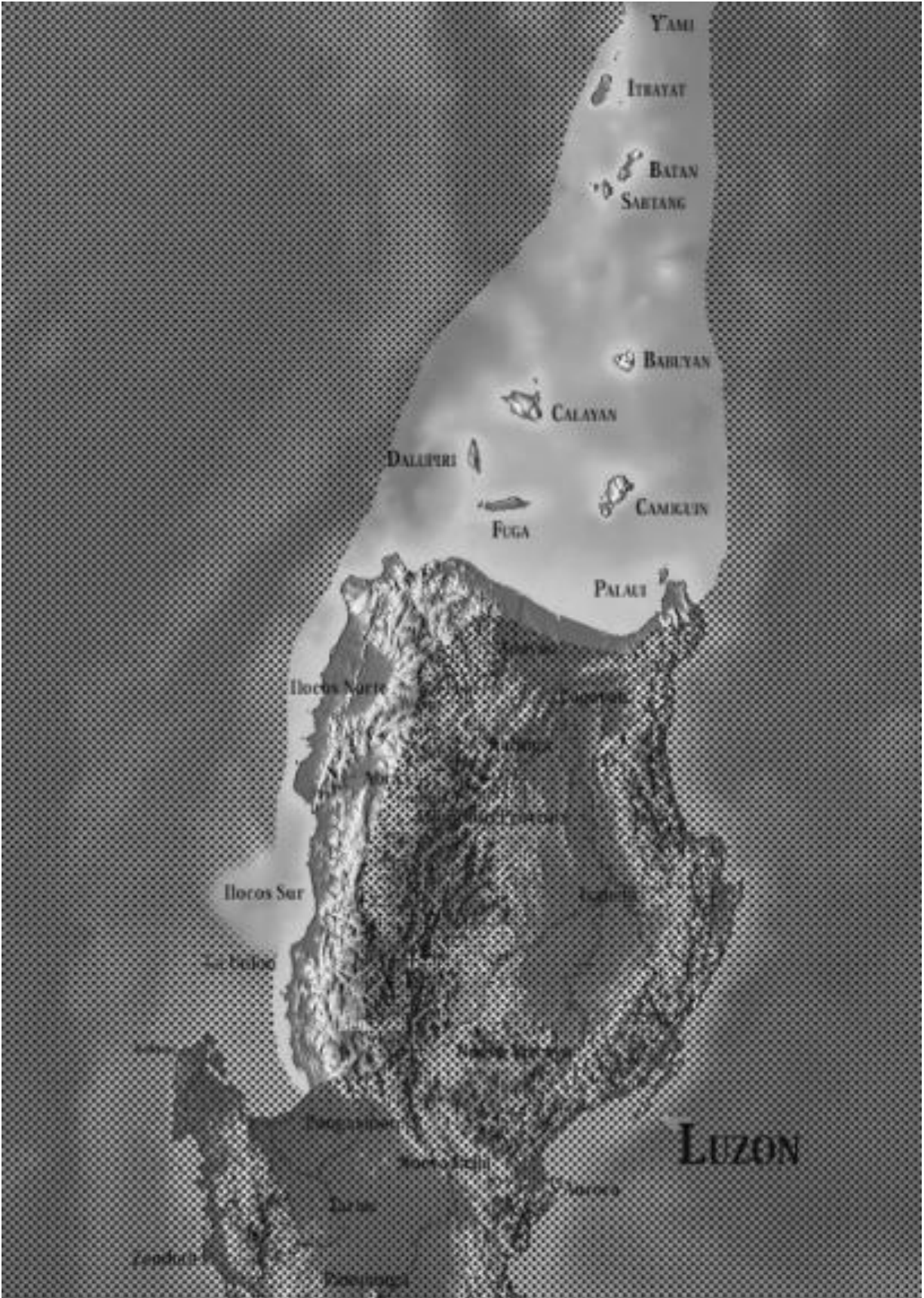
In my review (Zorc 2020) of Blust (2019), I rejected out-of-hand 19 of the reconstructions by Blust (2019) that only had Bashiic (1) and Ilokano (2a) cognates as evidence for a PPH etymon. All of these can be found in the ACD. We do not know the prehistory of the region, but careful consideration of the cognates, reflexes, and distribution indicates that such forms may have been innovated in the northernmost region of the Philippines, but did not take hold and carry on over or down into the Cordilleran and more southerly Philippine languages. I find these reconstructions analogous to the situation of Tagalog *páwis* and Kapampangan *páwas* for ‘sweat’ (discussed above in 2.2.). While several of these have the “right” and differential reflexes (such as for \*R), these etyma should be treated as evidence for an axis relationship until other cognates are discovered to raise these to PNP or PPH.<sup>72</sup>

- (174) Bash-Ilk-axis \**ʔanam* ‘plant species: *Glochidion* sp’: Yami *anam* ‘*Glochidion rubrum*’, Ilk *ʔanáṃ* ‘*Glochidion philippicum*’.
- (175) Bash-Ilk-axis \**bagyat*<sup>73</sup> ‘anklet, ribbon worn around leg’: Yami *vagiát* ‘female anklet’, Ilk *bagiát* ‘a ribbon worn around the calf to prevent cramp or rheumatism’.
- (176) Bash-Ilk-axis \**dulit* ‘smudge, dirty spot’: Ilk *dúlit* ‘remains of a crushed bug’ Yami (Imorod) *lolit*, Ivt *rojít* ‘dirt, grime on person,’ Itb *rolit* ‘rubbish, dirt, stain, skin dirt’.
- (177) Bash-Ilk-axis \**dúyuR* ‘coconut-shell receptacle for food or water’: Ilk *dúyog* ‘a coconut shell, a receptacle for many things; a drinking cup,’ Yami *royoy* ‘coconut pitcher’, Itb *royoy* ‘coconut shell (as vessel)’, Ibt *royoy*, Ivt *duyuy* ‘a coconut shell cup’.
- (178) Bash-Ilk-axis \**hílək* ‘a sea fish, the rudderfish: *Kyphosus cinerascens*’: Yami *ilək* ‘type of fish: snubnose rudderfish (considered the best type of fish)’, Itb *hilik* ‘blackish or smoke-colored fish: *Kyphosus cinerascens*, *Lutianus erythropterus* Forskal’, Ilk *ʔilek* ‘kind of large spotted marine fish with tasty meat, rudder fish, *Kyphosus* sp.’

<sup>71</sup> Also spelled Isneg.

<sup>72</sup> This has happened with PPH \**Rabat* ‘flotsam’ (by the addition of Palawano *gabat* ‘area where many dead branches are lying’) and PPH \**tatus* ‘coconut crab’ (with the discovery of Mapun *tatus* ‘a very large hermit crab’).

<sup>73</sup> This etymon is changed from that within the ACD \**bagiat* and calls for a discussion of “orthographic representation”. The Yami and Ilokano forms are derived from dictionaries listed in the LANGUAGES and REFERENCES section of the ACD. If it were not for a telephone conversation with Dr. Carl Rubino (p.c. 2021.08.21), it would not be possible to know how Ilokano <*bagiát*> [Rubino (2000:77)] is pronounced. Following the standard Philippine orthography it would be [*bagiát*], whereas according to the Spanish orthography it would be [*bagiát*]. It is the latter which is true. Sequences of vowels such as these have phonotactic rules within each language which are often difficult to decipher (much less pronounce correctly) based strictly on the way they are spelled in any given dictionary.



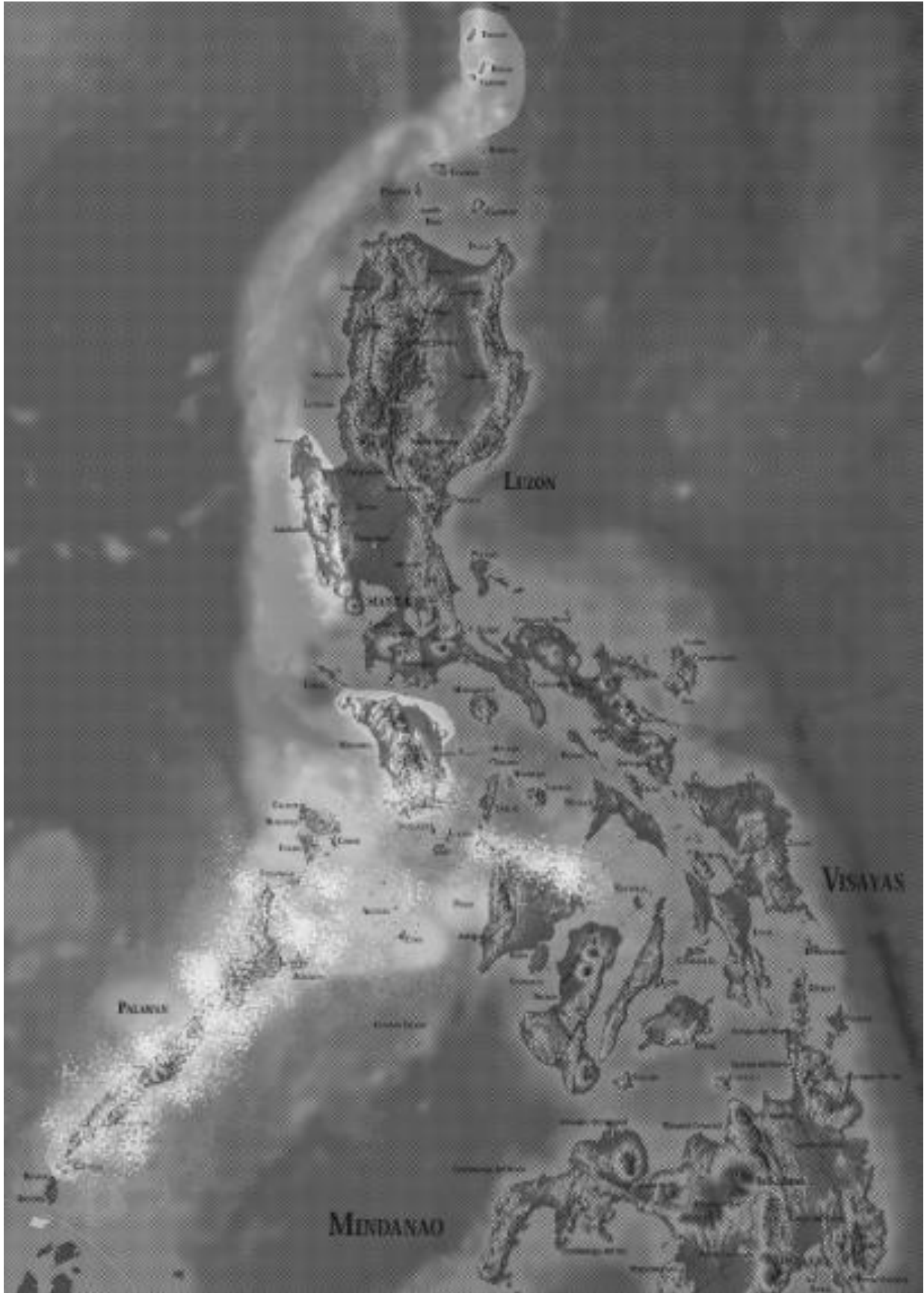
- (179) Bash-Ilk-axis *\*kǎláʔat* ‘sudden, abrupt’: Ilk *kelláʔat* ‘sudden, instantly; abrupt’, Itb *ʔakxat* ‘to do something upon something or someone suddenly and unexpectedly’.
- (180) Bash-Ilk-axis *\*lanlan* ‘eat together as a group’: Ilk *ag-la-lanlan* ‘to sit together at a table’, Itb *xanxan* ‘idea of eating in a group (at least two persons)’, Ibt *hanhan* ‘two people (may) eat together, face to face’.
- (181) Bash-Ilk-axis *\*liktaw* ‘jump over or across’ reshaping of *\*laktaw*: Yami *liktaw* ‘jump over (as in jumping over a ditch)’ | *ma/liktaw* ‘able to jump over’, Ilk *liktáw* ‘jump; leap; stride; to leap over; skip; elude’.
- (182) Bash-Ilk-axis *\*lúbay* ‘earring’: Yami *ovay* ‘gold, gold chest ornaments’, Itb *xovay* ‘earring in general; beads, necklace’, Ivt *hovay*, Ilk *lúbay* ‘earring’.
- (183) Bash-Ilk-axis *\*lúya* ‘blame, accuse’: Ilk *lúya* ‘to scold, berate, chide, rebuke’, Itb *ipa-xoo-xoya* ‘accuse s.o. in court’, *mapa-xoo-xoya* ‘to accuse in court’.
- (184) Bash-Ilk-axis *\*pusín* ‘to wean a baby from breast-feeding’: Ilk *kappusín* ‘baby who has just stopped breast-feeding’, Itb *posiñ* ‘idea of weaning’, Ibt *pusin* ‘to wean a child’.
- (185) Bash-Ilk-axis *\*RaRán* ‘large marine mollusk: *Turbo marmoratus*’: Ilk *rarán* ‘kind of large, elongated mollusk with a pointed shell; mother-of-pearl’, Itb *yayan* ‘seashell with a shutter or lid: *Turbo marmoratus* (larger of the two *Turbo* varieties)’, Ivt *yayan* ‘turbo shell’, Ibt *yayan* ‘kind of large sea snail’.
- (186) Bash-Ilk-axis *\*riák* ‘noisy’: Itb *riak* ‘sound’, *ma/riak* ‘loud, stentorian’, Ilk *riák* ‘clamor, noisy talking’, *r<um>iák* ‘to swagger, talk with noisy violence’.
- (187) Bash-Ilk-axis *\*sáway* ‘in excess, overabundant’: Itb, Ivt *saway* ‘idea of overflow or overload’, Ilk *sáway* ‘excess; surplus in distribution’.
- (188) Bash-Ilk-axis *\*túbuy* ‘send for; allow to go’: Yami *tovoy* ‘ask to leave’, Itb *mipi-tovoy* ‘to send for’, Ibt *toboy* ‘send s.o. on an errand’, Ilk *túboy* ‘to agree, allow, consent to; approve’.
- (189) Bash-Ilk-axis *\*tukal* ‘prop, supporting beam in house’: Itb *tokax* ‘part of roof frame supporting rafters, tie beam’, Ilk *túkal* ‘prop used to keep a window from being able to slide’.
- (190) Bash-Ilk-axis *\*ʔurit* ‘stripe, streak, line’: Itb *ʔorit* ‘stripe, streak, line (vertical)’, Ilk *ʔurít* ‘line, stripe, streak’, *y/urít* ‘to underline; write; mark’.

## 2.15. \*R > Y language axis - “the North Extension”

In my treatment of the Mangyan languages of Mindoro [Zorc (1977:34)], I pointed out the division between the North Mangyan (Iraya, Alangan, and Tadyawan) and South Mangyan (Hanunoo, Buhid, Western and Eastern Tawbuwid, and Bangon) languages, and further suggested the possibility of a “North Extension” containing not only the North Mangyan languages but also Batanic/Bashiic and Central Luzon (i.e., Kapampangan and the Sambali-Ayta languages). This “North Extension” was based on the merger of PAN \*R with \*y, not generally found elsewhere among Philippine languages, as well as a handful of putative lexical innovations, including the following:

- (191) \*R > Y-axis *\*bulkas* ‘morning; tomorrow’ [no established etymon]: Bot *bayum/bu:ka(h)*, Sbl, Bol *buklas*, Ivt *mavokhas* ‘morning’; Bot *nu/bu:kah*, Kpm *bu:kas* ‘tomorrow’; borrowed by Tag *búkas*.





- (192) \*R > Y-axis \**butʔul* ‘bone; seed’ replaces PAN \**CuqəlaN*, PMP \**tuqəlan*, PWMP \**tuqəlaŋ*: Bol, Iraya, Han *butʔul*, Buh *butúul*, Aln *bitul*, Bot *butʔu*, Kpm *bu:tul* ‘bone’, Itb *vutux*, Ivt *vutuh* ‘kernel; pimple’; borrowed as Tag *butó* ~ *butíó*.
- (193) \*R > Y-axis \**dagúl*<sup>74</sup> ‘big’ replaces PAN \**Raya*, PMP \**laba*, PPH \**dakəl*: Itb *rakuy*, Ivt *rakuh*, Iraya *lakul*, Kpm *ma|ragúl* ‘big’; *dágul* ‘to grow’ (Phonologically distinct from PPH \**dakəl*.)
- (194) \*R > Y-axis \**dimlaʔ* ‘cold’ replaces PMP \**diŋdiŋ* ~ *diŋin*, PSP \**ramíg*: Aln, Iry *ma|dimlaʔ*, Kpm *ma|rimla*.
- (195) \*R > Y-axis \**lakay* ‘man, male’ replaces PAN \**Ruqanay*, PMP \**laki*, PWMP \**lalaki*: Itb *ma|yakay*, Ivt *ma|hakay* ‘male’; Bot *lakay* ‘husband’.
- (196) \*R > Y-axis \**taklaʔ* ‘excrement’ replaces PAN \**Caqi*, PPH \**táqih*: Kpm, Iry *takláʔ*, Remontado/Hatang-Kayi *táklaʔ*, Bot, Sbl *takáʔ*.

Neither McFarland (1980:64<sup>75</sup>) nor Blust (1991, 2019) had accepted the inclusion of Batanic/Bashiic in this grouping, but the above data supply a bit more evidence from all of these languages.

Also noteworthy is the presence of forms reflecting \**R* as /y/ instead of a more appropriate /g/ or /l/ in members of the South Mangyan (g), Palawanic (g) and Kalamianic (l) subgroups, which may turn out to be evidence that an ancient member of this North Extension may have once been a prestige language in that area: Consider the following:

- (197) \*R > Y-axis: Kal, Krm, Btk *ikuy* ‘tail’ (< PAN \**ikuR*)
- (198) \*R > Y-axis: Agutaynen *ki-yuy* /kiʔyuy/ ‘egg’ (< PMP \**qitəluR*)
- (199) \*R > Y-axis: Agutaynen *niyuy* ‘coconut’ (< PPH \**niyuR*, PMP \**niur*)
- (200) \*R > Y-axis: Btk, Abr *punyangán* ‘parent-in-law’ (< PMP \**tuRaŋ*)
- (201) \*R > Y-axis: Kalamianic *puyad* ‘nest’ < PPH \**puRad*
- (202) \*R > Y-axis: Akl *tubiʔ* ‘water’ (North-Bisayan axis < PWMP \**tubiR* ‘depth of water’)
- (203) \*R > Y-axis: Kalamianic \**waiʔ* ‘water’ (< PMP \**wahiR*).
- (204) \*R > Y-axis: Agutaynen *yatat* ‘breast milk’ (< PMP \**Ratas*)

<sup>74</sup> Whatever its shape, either \**dagúl* or \**dakúl*, (\**k* ~ \**g* alternations or “SHIMMER” are extremely common) these languages clearly do not share the otherwise wide-spread PPH \**dakəl*, posited by Blust (2019) as an exclusive PPH INNOVATION (which I do accept as legitimate). Both Yami *ráko* and Itbayaten *rakox* appear in the ACD despite their not containing an appropriate reflex of schwa. See Zorc (1977:58) for a more detailed treatment of “shimmer”.

<sup>75</sup> “Internally, the Ivatan languages are very closely related; by some accounts Ivatan and Itbayaten are mutually intelligible. Externally, the Ivatan languages are very different from Tagalog and other Philippine languages. They are most closely related to the Yami language of Taiwan. **They do not belong to any of the three major groups of Philippine languages.**” (emphasis mine) His three major groups are: Northern-, Meso-, and Southern-Philippine.

### 3. CONCLUSIONS

I am happy after all these years of reticent observations to have the opportunity to write about these axis phenomena. I am pleased to see that scholars such as Ross (1988) and Pawley and Ross (1995) first addressed for Austronesian a somewhat analogous situation that I wound up withholding as “too complicated” from my dissertation (Zorc 1975, 1977). Meanwhile, Reid (2019) has proposed this in his paper on the position of Isinay among the Central Cordilleran languages. This area of linguistic inquiry is very welcome and stimulating. This area of linguistic inquiry is very welcome and stimulating. I recently read a paper by one of Hsiu-chuan Liao’s graduate students [Kye Shibata (In progress)] where this kind of solution is proposed for similarities among Western Plains Formosan languages that he proposes do not subgroup together. In it he suggested that the form a Sprachbund.

It is crucial that we be open to adjusting our observations. For example, I was forced to withdraw a proposed NBs-axis item, *\*ʔalwan* ‘easy’, when April Almarines (p.c. 2021.07.30) brought to my attention that it was a Tagalog word (Panganiban 1972:42) and is most probably a loan in Bulalakawnon and Asi’. Similarly, I withdrew what I originally called a “Bisayan-Y axis” involving loans with <y> in Manide [Lobel (2010)] and Inagta Alabat [Lobel et al. (2020)] from a Visayan language that had <y> as its reflex of *\*l*, *\*-d-*, *\*-j-*, or *\*r*.<sup>76</sup> This is simply an instance of a number of loans affecting the lexicon of these two languages. A few etyma within the Bashilk axis have already been raised to PPH. As research grows new axes may come to light, and proposed axis forms may be raised to true etymologies. One exciting but still untreated potential axis is that involving the innovation of *\*matləm* ‘blood’ (replacing PAN *\*daRaʔ*) realized as Ilongot *matyim* who were former enemies of the Arta *ma-ləm* /maʔləm/ and Northern Alta *matləm*. Under what circumstances was such an important innovation coined?

In truth, this is nothing new, as Robert Blust reminded me (p.c. 2021.07.29). Indo-Europeanists have been working on similar phenomena for over 150 years<sup>77</sup>. Nevertheless, this is the first systematic approach to a substantial number of leakage phenomena or loans that cross subgroup boundaries within the Philippines. Finally, in closing, I would dearly love to hear from other Philippine linguists as to the acceptability of the proposals I have made, and if they have either supporting or contradictory evidence as to their validity.

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<sup>76</sup> This phenomenon can also be seen in Tagalog *yuyib* < PCP *\*luyib* ‘cave’ and *súyod* ‘fine tooth comb’ < PPH *\*sújud*. Also, within the Bisayan group, the name of the entire community and language complex seems to have this same change involving a Malay loan (Malay *ʔbicāra* ‘talk’ > Bisayan *bisáyaʔ* ‘Visayas’ (the region), *binisayáʔ* ‘Bisayan language’ [ultimately from Sanskrit *vicāra-* ‘consideration, pondering, discussion’ (Gonda 1973:100)]. Regardless of the status of individual language’s reflexes of *\*l* (< *\*r*), almost all Bisayan lects use this word to identify themselves and their language. For example, while Aklanons identify themselves as *bisáyaʔ*, they have a maverick proto-form *bisáyuʔ* ‘word’ (a single word as opposed to a phrase), and derivations therefrom: *bilisádʔon* ‘maxim, short saying worth remembering’, and *pamisáyuʔa* ‘to speak formally, address, lecture’.

<sup>77</sup> For example, the *centum–satem* division is commonly seen as resulting from innovative changes that spread across Proto-Indo-European dialect-branches over a particular geographical area. (Wikipedia: Indo-European languages).

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