# Axis Relationships in the Philippines: When Traditional Subgrouping Falls Short<sup>1</sup> R. David Zorc

April Almarines<sup>2</sup>

### 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>3</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.

<sup>1</sup> I am deeply indebted to April Almarines, Drs. Robert Blust, Lawrence A. Reid, Erik Zobel, Jason Lobel, Hsiu-chuan Liao, Ronald S. Himes, Carl Rubino, Neil Chadwick, and Alexander "Sasha" Vovin for taking the time to read a draft of this paper and/or sending me extremely valuable comments and corrections. I would also like to thank my wife Nellie for her proofreading, advice, and extreme patience. I assume full responsibility for any and all residual errors or infelicities.—R. David Zorc

<sup>2</sup> Although this paper discusses years of research starting from the time I was struggling with my dissertation (1972) and through over 4 decades working on my ZDS (Zorc Data Sheets) etymologies https://zorc.net/RDZorc/PHILIPPINE-ETYMA/, it is more than obvious to me that April has played such a major role in producing all the maps, as well as the development, accuracy, and statements concerning these axis relationships. She has rightfully critiqued many of my initial proposals, requiring either adjustments or withdrawals. Ever since I took her on as a mentee, she has gained a solid grasp of linguistics in general and Philippine subgrouping in specific, and has noted where problems exist and need clarification. The entirety of Appendix B is authored by her and is the result of her deep interest in the breadth of Philippine subgrouping. Hence I have decided that such enormous effort deserves acknowledgment. Many of my close linguistic friends have dealt with her, and realize that doing anything else would be a serious oversight, if not a travesty. –R.David Zorc.

<sup>3</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.

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>4</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. Several well-established etymologies, among them PAN \*bəlih 'buy', PAN \*qabu 'ash(es)', PAN \*Cau 'person', PMP \*pia 'good', PMP \*sida 'they' will be shown to have been replaced by innovations that are clearly not subgroup-specific, but rather areal phenomena.

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 wellestablished 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>5</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 \*dag?un 'year'<sup>6</sup> is a good example of a selective innovation [reflected in North Cordilleran

<sup>4</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."

<sup>5</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  $\langle axis \rangle$  is.

<sup>6</sup> The ACD posits PPH  $*dag(\partial)qun$  'year' but none of the witness languages support either schwa syncope or \*q (see \*dag2un in ZDS for more citations than are covered in the ACD).

(Atta<sup>7</sup>, Central Cagayan Agta<sup>8</sup>, Ibanag, Isnag, Gad, Itw<sup>9</sup>, Malaweg), Mangyan (Iraya, Alangan, Hanunoo), West Bisayan (Aklanon, Bulalakawnon, Kuyonon, Pandan, Semirara/Kaluyanen), Danao (Iranun<sup>10</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 \*bəlih 'to buy' (retained in Tagalog, Tausug, Mansaka and Bilic) by \*bakál in Aklanon bakáe /bakáu/<sup>/1</sup>, Asi', Romblomanon bakáy, Bulalakawnon, Kinaray-a, Semirara/Kaluyanen, Ilonggo/Hiligaynon, Masbatenyo, Hanunoo, and all Bikol languages bakál. Because this form \*bakál 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>12</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 *palit* {from PPH \*palit '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 \*gátan or \*láku?, 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)  $pasa + pa\eta$ -). 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.

11 Aklanons spell the voiced velar semivowel as <e>, whereas its linguistic symbol is [u<sub>l</sub>].

<sup>7</sup> There are up to four varieties of <Atta> in the Philippines (this is just one cognate variant of PPH \*qaRta 'Negrito', others are ?arta, ?alta, ?agta and ?ata, 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>8</sup> There are up to eight varieties of  $\langle Agta \rangle$  in the Philippines, so this term represents another HOMONYM cognate with PPH \*qaRta including: Central Cagayan Agta, Dupaningan Agta, Pahanan Agta, Dinapigue Agta, Casiguran Dumagat Agta, and Nagtipunan Agta. Here and elsewhere in this paper, the label "CCAgta" refers exclusively to the language "Agta" in Reid (1971) supplied by Roy Mayfield of SIL, spoken in the central Cagayan Valley, and "CDAgta" refers exclusively to Casiguran Dumagat Agta.

<sup>9</sup> Also spelled or known as Itawis.

<sup>10</sup> There is also a dialect of Iranun spoken on Sabah, which actually has a much larger corpus of data available.

<sup>12</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*".

These post-split<sup>13</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.



### THE PHILIPPINES

<sup>13</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, or when Proto-Central-Philippine, and so on.

NAME CH	IANGES
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Coastal Bikol	Northern Bikol
Inland Bikol	Southern Bikol
Daraga	Miraya
Oas	West Albay Bikol
Buhi	Buhi-non/Buhi'non
Iriga	Rinconada
Gubat	Southern Sorsoganon

Sorsogon	Central Sorsoganon
Pandan Bikol	Northern Catanduanes Bikol
Virac	Viracnon
Luba	Northern Kankanaey
Manabo	Masidiit Itneg
Sinauna	Remontado/Hatang-Kayi
Naturalis	Tandaganon
Semirara	Kaluyanen

# ABBREVIATIONS AND SYMBOLS

*	[asterisk] a reconstructed
	etymology or proto-form
	(based on best evidence)
7	[dagger] a "maverick"
	proto-form (Mahdi 1994)
Abr	Aborlan Tagbanwa
ACD	Austronesian Comparative
	Dictionary
	(Blust & Trussel, 2020)
Agy	Agutaynen
Akl	Aklanon (West Bisayan, Northern Panay)
Aln	Alangan
Amg	Amganad Ifugao
Ata	Ata Manobo
Bash-Ilk-axis	Bashiic-Ilokano Axis
Bis-Bik-axis	Bisayan-Bikol Axis
Blk	Bulalakawnon
	(southeastern Mindoro)
Blw	Balangaw
Boh	Boholano (Cebuano dialect)
Bol	Bolinao
Bot	Botolan Sambal
Btd	Batad Ifugao
Buh	Buhid
Buhi	Buhi-non ~ Buhi'non
But	Butuanon
Сар	Capiznon
Car	Caraga (Eastern Mansakan)
CCAgta	Central Cagayan Agta
CDAgta	Casiguran Dumagat Agta
Ceb	Cebuano (Cebu & Leyte)
cf	compare with (from Latin confer)
CLz-axis	Central Luzon Axis
CMn-axis	Central Mindanao Axis
CONJ	conjunction
CSor	Central Sorsoganon

CSub	Central Subanen
CTbw	Central Tagbanwa
DEIC	deictic
DP	discourse particle
Dsp	Dispoholnon
Dtg	Datagnon/Ratagnon (West Bisayan, Southern Mindoro)
ELz-axis	Eastern Luzon Axis
EMn-axis	Eastern Mindanao Axis
Gad	Gaddang
GCP	Greater Central Philippine
GEN	genitive
Han	Hanunoo (South Mangyan, Southern Mindoro)
Hil	Hiligaynon/Ilonggo (Central Bisayan, S. Panay & Negros Occidental)
Ibg	Ibanag
IbgP	Pamplona Ibanag
IbgT	Tuguegarao Ibanag
Ibl	Inibaloi/Ibaloy/Ibaloi (Reid 1971)
Ibt	Ibatan
Ifg	Ifugao
Ilk	Ilokano
Iln	Ilianen Manobo
Ilt	Bugkalot/Ilongot
Ira	Iranun
Iry	Iraya (North Mangyan, Northern Mindoro)
Isg	Isnag - Isneg (McFarland 1977)
Isi	Isinay (Reid 1971)
IsiB	Isinay Bambang
IsiD	Isinay Dupax Del Sur
Itb	Itbayaten
Itg	Itneg (McFarland 1976)
Itw	Itawit - Itawis (McFarland 1976)
Ivt	Ivatan
Kag	Kagayanen

Kal	Kalamian Tagbanwa
Kam	Kamayo
Kbs	Kabasagan (Eastern Mansaka, Zorc 1977)
Kia	Kiangan Ifugao (McFarland 1977)
Kin	Kinaray-a (Antique)
Kla	Kalinga (Reid 1971); (McFarland 1977)
Klg	Kalagan (Reid 1971)
Kly	Keley-i Kallahan (Reid 1971)
Knk	Kankanaey (Reid 1971); (McFarland 1977)
KnkN	Kankanaey-N (Reid 1971); (McFarland 1977)
KnkS	Kankanaey-S, Southern Kankanaey (McFarland 1977)
KorBl	Koronadal Bilaan
Krm	Karamiananen
Kuy	Kuyonon
Кур	Kayapa Kallahan (Reid 1971)
Leg	Legaspi
Lok	Looknon
Mar	Maranao
Mas	Masbatenyo
McF	McFarland
McF-NP	McFarland 1977
Mgd	Maguindanaon
Mir	Miraya
MlaTag	Manila Tagalog
Mlw	Malaweg
NBs-axis	(McFarland 1977) North Bisayan Axis
NCat	Northern Catanduanes
NEG	negative
NLz-axis	Northen Luzon Axis
NOM	nominative
p.c.	personal communication
Pal	Palawano
Pal-Kal-axis	Palawan-Kalamian Axis
Pal-Mind-axis	Palawan-Mindoro Axis
PAN	Proto-Austronesian

Pan	Pandan Bisayan (northwestern
1 411	Panay, a dialect of Kinaray-a)
PBs	Proto-Bisayan
РСР	Proto-Central Philippine
PL	plural
PMP	Proto-Malayo-Polynesian
Png	Pangasinan ~ Pangasinense
PNP	Proto-Northern Philippine
РРн	Proto-Philippine
PRO	pronoun
PSP	Proto-Southern Philippine
PWMP	Proto-Western-Malayo- Polynesian
QW	question
Rd	Reid
Rom	Romblomanon
SarBl	Sarangani Bilaan
SarMb	Sarangani Manobo
SBik	Southern Bikol
Sbl	Sambal
Sem	Semirara/Kaluyanen (Semirara Island Group)
SG	singular
SLz-axis	Southern Luzon Axis
SMn-axis	Southern Mindanao Axis
Sur	Surigaonon
Tag	Tagalog, usually the Manila dialect or Tagalic subgroup
Tig	Tigwa Manobo
Tdg	Tandaganon
Tdy	Tadyawan
Tir	Tiruray ~ Teduray
Tsg	Tausug
v	verb
Vir	Virac Bikol, changed to Viracnon (Southern Catanduanes)
WABik	West Albay Bikol
WBM	Western Bukidnon Manobo
WLz-axis	Western Luzon Axis
WSub	Western Subanen
Yog	Yogad
ZDS	Zorc Data Sheets (Zorc.
	Ongoing)

# Axis Relationships in the Philippines—When Traditional Subgrouping Falls Short 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>14</sup> Geographically this includes northern Panay, southern Mindoro, Tablas, Caluya, Sibale, Banton, Masbate, the Bikol peninsula, and Cagayancillo Island



MAP 01 - North Bisayan Axis

- (001) NBs-axis \*bə?ól 'take, get s.t.' replaces PAN \*alap and/or \*alaq, PCP \*kúha(?)<sup>15</sup>: Kin, Pan, Sem bi?íl, Kuy biil, Akl bu?óu, Blk, Dtg bu?úl, Asi' ba?óy (unexplained \*ə, > a), Rom bu?óy, and Han bú?ul.
- (002) NBs-axis \*hambal 'say, speak' replaces PAN \*kaRi: Kin, Pan, Blk, Mas, Hil hámbal, Sem ?ámbal, Kagayanen ?ámbal, Akl hámbau, Asi', Rom hámbay.

<sup>14</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>15</sup> This may be descended from PAN \*kuSa 'work' in the ACD with a semantic reassignment.

- (003) NBs-axis \*mayád 'good' replaces PMP \*pia, PPн \*?upiya<sup>16</sup>: Akl, Pan, Kin, Blk, Dtg, Kuy, Vir, SSor, CSor *mayád*; Kagayanen *miyád*.<sup>17</sup>
- (004) NBs-axis \*ta?ú 'give' replaces PAN \*bəRay: Kin, Pan *ta?ú*, Akl, Blk, Sem, Rom, Asi', NBik, SBik *ta?ó*.
- (005) NBs-axis \*búhin 'subtract, deduct, decrease, take away' replaces PPн \*báwas<sup>18</sup>: Akl, Kin, Pan, Blk, Asi', Hil *búhin*, Sem *búwin*, Kuy *buin*; borrowed by Kagayanen *buwín*.
- (006) NBs-axis \*ábi(?)<sup>19</sup> [DP: EXCUSE] 'well..., because ...' [no established etymon]: Akl, Lok, Dsp, Hil 2ábi?; Kin, Asi', Rom 2ábi; Han 2ábi 'in case'.
- (007) NBs-axis \*bahśl 'big' replaces PAN \*Raya, PMP \*laba, PPH \*dakśl: Kin, Pan bahíl, Akl ma-bahóų, Blk, Lok, Dtg bahúl, Kuy ma-baíl, and Rom mabahóy.
- (008) NBs-axis \*?imáw 'thus, like' replaces PCP \*?ámu: Akl, Pan, Dsp, Blk, Dtg, Sem, Rom, Asi' *?imáw*.
- (009) NBs-axis \*?isará'' 'one' replaces PAN \*isa, \*əsa, \*asa: Akl ?isauµá, Kin, Pan, Blk, Sem, Kuy ?isará; Han ?isaraháy (in a children's counting game), and Kgy ?ísła ~ ?ísya.
- (010) NBs-axis \*túbi? 'water' [unexplained ?] replaces PAN \*daNum, GCP \*túbig<sup>21</sup>: Akl, Pan, Lok, Dsp, Asi', Rom, Cap, Hil *túbi*?.
- (011) NBs-axis \*biŋáw 'toothless' replaces PAN \*ŋidaw: Akl, Blk, Pan, Asi', Rom, Hil *biŋáw*; Han *biŋaw* 'nick in the cutting edge', Tag *biŋáw* 'notch, dent on cutlery edge'.

18 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>16</sup> The ZDS reconstructs PPH \*?upiya with an initial ?u- which may actually be a frozen common noun topic marker, i.e., 'the good one' based on Western Bukidnon, Ilianen & Tigwa Manobo ?upiya, Waray ma|Pupay (metathesis), Kalamian Tagbanwa m|upia, and Bugkalot/Ilongot ?upiya. Hsiu-chuan Liao (p.c. 2021.08.03) explains the Bugkalot/Ilongot form. "Stative verbs (or "adjectives") take ?u-, not ma- in Bugkalot/Ilongot. The use of ma- in Bugkalot/Ilongot is typically associated with loanwords."

<sup>17</sup> This is formed from a root \*?ăyád 'repair, make good' [ZDS]. Reid (p.c. 2021.07.28) suggests that "this etymon could be related to Ilk *mayát* 'desire' which is related to Ilk ?ayát 'love'." Zorc (1977:58) discussed "SHIMMER" as "forms (which) differ in one segment by one phonological feature." So both NBs-axis \*mayád and Ilk *mayát* may descend from a PPH \*?ayád (with shimmer affecting the final consonant), granting that the semantics of 'love' and 'desire' are sufficiently similar to 'good' and 'repair' to warrant such a union. The important thing to note is that the word for {good} is one of the most changeable (volatile) sememes in the Philippines. Note how it differs in the otherwise cohesive Bisayan group: NBs-axis \*mayád, CBs-axis \*ma-?áyuh, EMn-axis \*ma-dayáw (this includes the SBs group). At the Central Philippine level: Tagalog *ma*|*búti* seems to be UNIQUE, while Bikol has \*ma|raháy.

<sup>19</sup> The final glottal stop in some languages may be pragmatic to intensify the veracity of one's statement.

<sup>20</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 ?*isád* (with loss of the final vowel), which would still be part of this axis. However, the Cebuano phrase ?*usá 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>21</sup> Dempwolff proposed \**tubiR* 'depth of water' or possibly 'deep water', an etymology that seems not to have persisted.

- (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>22</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 dúua?, Rom dúya?, Hil dúla?.
- (015) NBs-axis \*?indu 'your [2PL.GEN]' replaces PCP \*?inyu<sup>23</sup>: Sem, Kuy 2índu, NBik 2indú, Rom 2índo, and Asi' 2ínro.
- (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, Baao Rinconada, Buhi *?ag* covering the same axis area.
- (017) NBs-axis \*paka?isá 'cousin' replaces PWMP \*pisan, PPH \*pinsan: Kin, Pan, Asi', Rom, Hil, Mas *paka?isá*.
- (018) NBs-axis \*paŋka? 'frog' replaces PPH \*bakbak (or \*tukák): Kin, Blk, Sem, Kuy, Kgy páŋka?; Han paŋká?.<sup>24</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>25</sup>: Blk, Kin, Kuy, Hil, Rin *butíg*.<sup>26</sup>
- (021) NBs-axis \*dagə?əb 'thunder' replaces PAN \*deRuŋ, \*deRdeR, PMP \*ru(ŋ) guŋ, PWMP \*dələk, \*duRduR: Kin dagi?ib, Kgy dagi?ib, Kuy dagib, Pan dagu?ub, Hil dagu?ub.
- (022) NBs-axis \*?uyahón 'face'<sup>27</sup> replaces PPH \*?áŋas or \*walóŋ: Pan *?uyahín*, Akl, Blk, Rom *?uyahón*; borrowed by Kalamian Tagbanwa *uyain*.

<sup>22</sup> I would suggest PPH \*baká? based on the languages cited in the ACD.

<sup>23</sup> Ivatan ?inyu (McF-NP) or ?inio? (Reid, 1971) is formally cognate, but nominative in function, so probably PPH \*?inyu.

<sup>24</sup> This ultimately comes from a monosyllabic root PSP \*pak [ZDS]:Tboli, Bilaan *fak*, Tiruray ?əfak; Aklanon, Asi', Romblomanon, Ilonggo/Hiligaynon, Masbatenyo *paká?*, Kalamianic *talipaka?*, Tagalog, Bikol *palaká?*. 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 \*bakbak in the ACD.

<sup>25</sup> This particular gloss seems to elicit microgroup agreements. Besides this North Bisayan axis and a Bis-Bik axis \*buwa? in the ZDS there is evidence for Greater-Central-Philippine \**limbuy*, Proto-Bisayan \*bakak, Proto-Mansakan \*galu?, Northern Bikol \*putik, Southern Bikol \*putŋayən, and Tausug *putiŋ* just within the central Philippines.

<sup>26</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>27</sup> As Blust points out in his note to PPH \**a*ŋ*a*s: "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 *mukhá*?. which may be reflected in Cagayan Valley reflexes of \**mukat*.

(023) NBs-axis \*balóŋ '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:liŋ, 'black', other Bugkalot/Ilongot dialects baliŋ (Liao p.c. 2021.08.03).]

# 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 *biti*?.
- (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 \*?alikabúk 'dust' replaces PMP \*Rabuk, PWMP \*qabug ~ \*abu*R*: Kpm, Bot, Ayta Mag-Indi, CDAgta *?alikabúk*, Tag, Blk *?alikabók*.
- (027) SLz-axis \*dikút 'grass' replaces PAN \*udu, PMP \*zukut ~ \*dukut: Kpm, Bot, Sbl *dikút*, Lib, WABik *rikút*.<sup>28</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 \*?abála 'delay' replaces РРн \*liwag: Крт, Tag, Naga ?abála 'delay', Han ?abála 'bother, molest'.
- (030) SLz-axis \*bəRŋi 'night'29: Kpm bɛ:ŋi, Naga, Leg, Vir baŋgi.
- (031) SLz-axis \*kadáyum 'needle' affixed form replacing PAN \*zaRum, PPH \*dáRum: Iry *kadáyum*, Bot karayim\*, Kpm *karáyum* > Tag *karáyom*.
- (032) SLz-axis \*ti?ris<sup>30</sup> 'urine' replaces PAN \*iSiq ~ \*iSəq: Naga *ti?rís* (slang), Tdy *tilís*, Png *sírit*; Han *tí?ris* 'millipede secretion' [Cf. PPH \*tiq(e)ris 'urine; to urinate' in the ACD].

<sup>28</sup> Zobel (p.c. 2021.08.02) points out: "This is similar to PMP \*zukut, and reminds me of the variation in \*tiduR/\*tuduR."

<sup>29</sup> PAN \*Rabiqi [ACD], PPH \*Rabi?ih [ZDS] vs. PMP \*bəRŋi 'night'. From the Philippine point-of-view \*bəRŋi 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. \*Rabi?ih [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 \*bəRŋi "as a PMP innovation that happens only to be retained in the S[outhern] Luzon area."

<sup>30</sup> The ACD proposes that this is PPH  $*tiq(\partial)ris$  'urine; to urinate', but the northern languages reflect PNP \*?isbu (metathesis of \*si?bu in the Palawanic languages), while a few retain PPH \*?ihaq along with most languages of the south. This SLz-axis form joins five other innovations throughout the Philippines (NCr \*pasag, Bilic \*tare?, Danao & Central Manobo \*ti?ti?, Botolan \*duday, Bashiic ?upis). [See: 'urine' in ZDS.]



MAP 02 - Southern Luzon Axis

- (033) SLz-axis \*?alóp 'hungry' replaces PMP \*bitil, PWMP \*bitin, PSP \*Rutəm: Rin & WABik, CDAgta ?alíp.
- (034) SLz-axis \*bihíra? 'seldom' replaces PWMP \*zaRaŋ [ACD], PPн \*laká? [ZDS<sup>31</sup>]: Tag, Bikol, Han *bihíra?*.<sup>32</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>33</sup>, Kpm *búku*, MlaTag *búko*.<sup>34</sup>

<sup>31</sup> It is only Aklanon uaká? 'sparse' and Romblomanon *laká?* 'few' that meet the semantics of this etymon; in the northern Philippine langauges it tends to mean 'cheap'

<sup>32</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>33</sup> Reid (p.c. 2021.07.28) notes: "Isinay *búku* is clearly a borrowing from Tagalog, because  $k \ge 1$  glottal stop in all versions of Isinay." There is a PSP \*bětéŋ 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>34</sup> Lobel (p.c. 2021.08.07) points out that outside of Manila Tagalog,  $b\dot{u}ko$  is the 'coconut spud' too young to have any water inside, while  $m\dot{u}ra$ ? 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.

- (037) SLz-axis \*diláw 'yellow' replaces or contrasts with РРн \*duláw: Tag, CDAgta, Han *diláw*, Kpm *diló*.<sup>35</sup>
- (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 \*?upiya: Kam, Boso, Tdg ma|dayáw, Msk dăyaw, 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>36</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 \*?andaw 'day' phonological change of PPH \*qaljaw (with nasal cluster introduced): WBM, Ili ?andəw, Ili37 ?əndəw, CSub gindaw, WSub gondow, Mar daondao.<sup>38</sup>
- (043) EMn-axis \*?əsə́g 'male, man' replaces PAN \*Ruqanay, PMP \*laki, PWMP \*laki: Msk, Boso, Kbs, Mandaya ?isig, But, Kam, Car ?usúg 'man, male'; Klg, Isamal, Tagakaolo ?isig (also means) 'husband'.

<sup>35</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.

<sup>36</sup> This represents a semantic shift from PPH \*dáyaw 'to praise, to honor' [ZDS] to a generic meaning of 'good'.

<sup>37</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>38</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) ando, Ma'anyan *andraw* and Malagasy *andro*, as well as Ngaju Dayak *andau*, and Javanese *andon*.



### MAP 03 - Eastern Mindanao Axis

- (044) EMn-axis \*?allaŋ 'slave' replaces PWMP \*qudipən: Msk, Mandaya, Kbs, Boso, Tagakaolo, Klg, Dbw, SarMb ?allaŋ.<sup>39</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'.

<sup>39</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 \*?adlaŋ or \*?anlaŋ (which is otherwise unattested).

- (047) EMn-axis \*ba?al 'make' replaces PMP \*buhat: WBM, Mar *ba?al*, 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 PPн \*buŋí?: Ilk, Ibg, Gad, Yog, Mlw, Itg<sup>40</sup>, Manabo<sup>41</sup>,Luba<sup>42</sup>, KnkN *gusíŋ*, KnkS *gúsiŋ*, Blw *guhɛŋ*.
- (050) NLz-axis \*kímat 'eyelashes' replaces PWMP \*qizəp, PPH~PSP \*pidék: Isg, Gad, Mlw, Kal, Luba kímat [McF-NP#009], Atta kima: ?, CCAgta ki?mat, Gad kimit [Reid (1971)#97], Itg kimát [Reid (1971)#98], Kia ?ímat, Blw ?émat.
- (051) NLz-axis \*?ayát 'love' [no established etymon]: IbgP, Ilk, Mlw ?ayát, Luba min|?ayát, Itw man|ayát, Itg ?ag|ayát, Manabo ?ayat|ón, IbgT man|ayá?.<sup>43</sup>
- (052) NLz-axis \*lŭmin<sup>44</sup> 'cold' replaces PMP \*diŋdiŋ ~ \*diŋin, PSP \*ramíg<sup>45</sup>: IbgP, Atta *na*|*lummin*, IbgT, Mlw, Itw *na*|*limmin*, Manabo *na*|*lammin*, Isg *na*|*lmin* (syncope).
- (053) NLz-axis \*põlut 'cockfight' replaces PWMP \*sabuŋ: Yog pollut, Gad moppollut, IbgP pollu?, Ilk, KnkN&S pallut.<sup>46</sup>
- (054) NLz-axis \*kaRayán 'river' possibly replaces etyma like PAN \*iluR, \*qaluR, PMP \*wahiR: Ilk *karayán*, CCAgta *kлhлyan*, Gad *kayán*, Luba *ka:yan*, Manabo *kayyán*.<sup>47</sup>
- (055) NLz-axis \*layús 'flood' replaces PMP \*bahaq: Ilk, Gad, Manabo, Luba, Itg layús.

43 This is a homonym of PWMP \*ayat 'threaten, confront violently' in the ACD.

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

47 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'.

<sup>40</sup> Itneg data in this paper is drawn from either Reid (1971) or McFarland (1977).

<sup>41</sup> The Manabo in McFarland (1977) is actually Masadiit Itneg (Himes, unpublished).

<sup>42</sup> The Luba in McFarland (1977) is actually Northern Kankanaey (Himes, unpublished).

<sup>44</sup> The vocalism here is difficult and suggests a FORMULAIC reconstruction. I assume the short u (ŭ) 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>45</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*.



MAP 04 - Northern Luzon Axis

- (056) NLz-axis \*sabáli 'other, different' replaces PAN \*duma, PWMP \*la?in, PPн \*?ibáh: Ilk, Manabo, Itg, Blw *sabáli*, Isg *saballi*.
- (057) NLz-axis \*lukməg 'fat' replaces PAN \*SimaR, PWMP \*tabəq: Ilk lukmég, Luba lukmíg, Bontok lokmíg, Isg lu?míg [McF], lu?mág [Rd]. [McF-NP#201; Reid (1971)#103]
- (058) NLz-axis \*sal?it 'lightning' replaces PAN \*likaC, PMP \*kilat: Isg, Ilk *sal?it*; Itg, Kal *sil?it* (assimilation of a > i).
- (059) NLz-axis \*su?pit 'narrow' replaces PAN \*kipit, PMP \*kiput: Mlw su:pit, Kal man|su:pit [Rd], na|su:pit [McF], Manabo; Isg na|tu?pit [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 pu2ól, Btd pú2al, Byn pú2ol, Blw pó2al, Bontok pókil, Knk póki 'shoulder'; Ibl pukil, Kyp pukil, Png pukil 'bone', Kly pukel 'knee'; CDAgta pukil 'thigh'.
- (061) CLz-axis \*tágtag<sup>48</sup> 'run' [no established generic; PAN \*laRiw 'run <u>away</u>']: 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 \*?ágaŋ 'hungry' replaces PMP \*bitil, PWMP \*bitin, PSP \*Rutəm: Amg ma?|?ágaŋ, Btd ?agáŋ|an, Byn ?<in>ágaŋ, Kia na|?agáŋ|an, Kyp ?agaŋ, Ibl na|?ágaŋ, KnkS da|gá?aŋ (metathesis) [McF-NP#136].
- (063) CLz-axis \*bəlát 'skin' replaces PMP \*kulit: Kyp bilat, Kly bɛlat, Ibl bidat, Kia bolát, Kpm> Tag balát.
- (064) CLz-axis \*bətík 'run' [no established etymon; PAN \*laRiw 'run <u>away</u>']: Ibl man|bitík, Png ?on|batík, Kyp bitik, Kly bɛtik; Amg, Kia b<um>tik.
- (065) CLz-axis \*dagóm 'wind' replaces PMP \*haŋin: IsiB *dakóm*, KnkN&S, Png, Kyp *dagím*, Ibl *ca:gím*.
- (066) CLz-axis \*gawá? 'do, make' replaces PMP \*buhat: Bot, Sbl, Kpm> Tag gawá?, Png gawá; Bol maŋwa?; Bol gagawá? 'farm, field'.

<sup>48</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)

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- (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|bútiŋ, Kia na|bútoŋ, Isi na|bútoŋ,<sup>49</sup> Ibl ?i|bútiŋ.
- (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 \*lətə́g '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 *?i*|*ŋiril* [Rd]; cf. Kyp *na*|*ŋilud*, Ilt *ŋilud*. [McF-NP#472] [Reid (1971)#083]
- (074) CLz-axis \*buliŋət 'dark': KnkN mɨm|buliŋɨt, KnkS ma|buliŋɨt, Ibl ?am|buliŋɨt; Png ?am|biluŋɨt (metathesis).
- (075) CLz-axis \*sikyad 'kick': KnkS *sikyád*|*an*, Kia *hikyád*|*an*, Ibl *tikjad*, Kallahan *hikyad*|*an*.
- (076) CLz-axis \*?adpal 'palm (of hand)' syllable inversion or metathesis of \*pálad: Kyp *?adpal*, Kal *?agpal* [McF], Kal *?appal* [Rd], Knk *?adpa*. [McF-NP#34; Reid (1971)#210]
- (077) CLz-axis \*?imúk 'mosquito' replaces PMP \*ñamuk ~ \*lamuk: IsiB ?imúk, IsiD ?imu?, Ibl ?imuk, Kyp ?imuk.
- (078) CLz-axis \*muyúŋ 'forest, woods': Kia muyúŋ, Amg muyóŋ, Kly muyuŋ.
- (079) CLz-axis \*tumbuŋ 'anus'<sup>50</sup> : Bol, Png tumbúŋ, Tag tumbóŋ.
- (080) CLz-axis \*ma?úŋ 'good' replaces PMP \*pia: Bol, Png ma?úŋ.
- (081) CLz-axis \*rəbrəb 'drown' replaces PMP \*ləməs, PPн \*limə́s: Isi ni|loblob, Bol ma?i|ribrib.

<sup>49</sup> Reid (p.c. 2021.07.28) points out that the entry in McFarland (*nabu:tung*) was in error; it should be *bútoŋ*.

<sup>50</sup> Cf. PWMP \*tumbuŋ<sup>1</sup> '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.

# Axis Relationships in the Philippines—When Traditional Subgrouping Falls Short **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



MAP 06 - Palawan-Kalamian Axis

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 \*qa?duŋ 'sit': Abr *?a?duŋ*, Btk<sup>51</sup>, Mlb, Tau't Bato, Quezon *?aduŋ*, Pal *?aruŋ* 'nose'; Kal *karuŋ* 'pointed nose'.
- (083) Pal-Kal-axis \*bəlag 'not so'[NEG] replaces \*bəkə́n: Agy, Krm, Pal, Mlb *bilag*; Abr *bilag* 'different'.
- (084) Pal-Kal-axis \*luak 'plant, dibble' [v]: Kal, Agy, Krm, Btk, Abr, Pal luak.

<sup>51</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".

- (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>52</sup>
- (086) Pal-Kal-axis \*kayəg 'harvest' replaces PAN \*qaniS, PMP \*qanih, PWMP \*aRani: Abr *kayig*, Btk *kayid*\*, Pal *k\lambda ig*, Kal, Agy *?ayig*.
- (087) Pal-Kal-axis \*kumba? 'lungs' replaces PAN \*baRaq: Kal, Krm, CTbw, Abr *kumba*?.
- (088) Pal-Kal-axis \*tagək 'blood' replaces PAN \*daRaq: Kal *tayik*, Krm, Btk, CTbw *tagik*.
- (089) Pal-Kal-axis \*?alaŋ 'buy' replaces PAN \*bəli: Kal alaŋ, Abr paŋ|alaŋ, Btk ?alaŋ [Cf. Pal ?ələn].
- (090) Pal-Kal-axis \*ha-lawid53 'far' replaces PMP \*zauq [ACD] ~ \*diauq [(Zorc 2019b:129-131)], PPн \*(h)a-dayúq: Kal, Abr, Btk *?alawid*.
- (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 \*di?put 'short': Kal diput, Btk di?put.
- (094) Pal-Kal-axis \*ka?i 'where?' [Qw]: Btk ka?i, Kal ?ay|pa, ?ay|ra.
- (095) Pal-Kal-axis \*kandidi?siŋ 'little finger ~ toe': Btk kandidi?siŋ, Kal kandirisiŋ|an.
- (096) Pal-Kal-axis \*lu?luy 'earthworm': Btk lu?luy, 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>54</sup> 'long; tall' replaces PMP \*(h)anaduq or its doublets PWMP \*(h)adaduq and \*(h)a(n)duq: Btk *?abuat*, Abr *?abuat*|*ay*, Pal *m*|*Abwat*, Kal, Krm *?abwat*, Agy *ma*|*abwat* 'long'; Iry, Tdy *?abwat*, Aln *ma*|*abwat*, Buh *abuat*, Han *?abwát* 'tall'.

<sup>52</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 Palawanic forms reveals this to be the unique etymon \*dulduR proposed here (possibly a composite of two monosyllabic roots \*dul and \*duR).

<sup>53</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 brough to Borneo later.

<sup>54</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.



MAP 07 - Palawan-Mindoro axis

- (099) Pal-Mind-axis \*ti 'yon that, those (at a distance), over there'<sup>55</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*|*ti*.
- (100) Pal-Mind-axis \*bílug 'body': Btk, Abr, Pal *bilug*, Han *bílug*, Buh *ha*|*bilug*|*an*, Tdy *bilug*|*án*, Aln *bilúg*|*an*.<sup>56</sup>
- (101) Pal-Mind-axis \*busli? 'lie, deceive': Kal *bukli*?, Agy, Krm *tu?li*? (dissimilation), Iry *busli?en*, Aln *busliyon*.
- (102) Pal-Mind-axis \*?aŋbə? 'rat': Abr, Btk ?aŋbi?, Han ?aŋbú(?), Buh ?aŋbo. An assimilated nasal cognate is also found in the North Bisayan axis: Pan, Sem, Kuy ?ambi?, Blk ?ámbu?, Asi', Rom ?ámbo?.
- (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 \*tugda? 'plant = dibble' [v]: Kal, Abr, Btk, Aln tugda?.<sup>57</sup>
- (105) Pal-Mind-axis \*hampaŋ 'say, speak': Han hampaŋ, Btk, Abr ?ampaŋ [Cf. PBs \*hampaŋ 'play'].
- (106) Pal-Mind-axis \*kawa 'you' [2sg.nom]: Kalamianic \*yawa? (< \*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>58</sup>, Danao, and Manobo.

<sup>55</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>56</sup> This is a semantic shift from PSP \*bilúg 'round' and GCP \*bílug 'whole; solid' [ZDS].

<sup>57</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>58</sup> At present this must be considered a tentative hypothesis backed up by two SMn-axis forms \*ma|samá? 'bad' and \*lahát 'all' (see below). While these cannot be considered compelling evidence, further study may bear this out.



MAP 08 - Southern Mindanao Axis

- (110) SMn-axis \*?abas 'measles': Tir, Tboli ?abas 'measles', Mar abas 'chicken pox'
- (111) SMn-axis \*?agit 'coconut: unripe': Ira, Mgd, Tboli ?agit, Kor ?>git, Ili ?ahit.
- (112) SMn-axis \*?amaR 'tomorrow': Mar *amag*, Tir *n*|*amag* (stereotyped Philippine \*g) [Cf. Kalamian Tagbanwa *andamal*, Batak *?indamar*].
- (113) SMn-axis \*?amas 'banana sp.': Tboli, Tir, WBM ?amas.
- (114) SMn-axis \*bagakwaŋ 'back' (anatomical): Klg bagakwaŋ 'back', Kam bakagwaŋ 'hips', Dbw bagakwaŋ 'spine', Tboli kwaŋ.
- (115) SMn-axis \*balu? 'sell': Tboli halalu?, Sangir balu?, Sangil milbau? [Cf. PMP \*baluk 'to sell' [ACD], where Tboli is noted. This could be a loan with \*-? 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 \*ku?ku? 'cat': Dbw ku?ku?, Tboli kuku?, Msk koko.
- (118) SMn-axis \*lahát 'all': Klata, Tag lahát, Bagobo Klata lahat, Boso laat.<sup>59</sup>
- (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)': KorBl & SarBl *nalaf* 'fish'; Ata, Tig *ŋalap* 'all game', Ili *ŋalap* 'fish; meat'.
- (121) SMn-axis \*panintin 'ankle': Klg *panagintin*, K-C *φinintin*, SarMb *pΛnintin*, SarBl *fnintin*.
- (122) SMn-axis \*rabiŋ 'old (object)': Tir *rabiŋ*, Ira *rabin*, Mgd *labiŋ*; WBM *raviŋ* 'worn-out mat'. [Cf. Koronadal Bilaan *ləbi*, Tboli, Sarangani Bilaan *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 \*?andu 'pestle' replaces PAN \*qaSəlu, PNP \*qahlu, PSP \*haqlu: Ata, Tig, Ili, WBM *?andu*, Mar, Mgd *ndo*.<sup>60</sup>
- (125) CMn-axis \*balaw 'story; talk, tell': Boso babaλawin, Car baλaw, Isamal bao '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, Klg *buntud*, SarMb, WSub *bontod*; CSub *bintud*.
- (127) CMn-axis \*galis 'wipe', replaces PMP \*punas, PWMP \*pahid: Klg, SarMb *galis*, Msk *garis*.

<sup>59</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.

<sup>60</sup> This is one of three etyma where an original \*lC 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.



MAP 09 - Central Mindanao Axis

- (128) CMn-axis \*tapayan 'spider' replaces PAN \*lawaq, PWMP \*kawa: Dbw, Klg *tapayan*.
- (129) CMn-axis \*?uluna? 'pillow' replaces PMP \*qulun|an, \*qalunan, PPH \*puŋan: Tig, WBM *?uluna?*, Mar *olona?* [Cf. Binukid *?aluna?*].
- (130) CMn axis \*yaktaw 'narrow' replaces PAN \*kipit, PMP \*kiput: Klg *ma*|*yaktaw*, SarMb *m*<sub>Λ</sub>|*yaktaw*.

### 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>61</sup>

- (131) Bis-Bik-axis \*kaláyuØ 'fire', replaces PAN \*Sapuy<sup>62</sup>: Kin, Pan, Blk, Sem, Rom, Mas, CSor, Waray, Naga, Rin kaláyu, Akl kaujáyuØ (kaujáywi '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|2alnás, Vir ma|háŋlas, NCat ma|hanlás, Buhi ma|2aynás, SSor ma|hanlás.
- (133) Bis-Bik-axis \*hálî? 'leave, go away': Naga, CSor, SSor háli?, Leg ?áli?, Vir, NCat hári?, WABik ?alí?, Mas halí?.
- (134) Bis-Bik-axis \*?alpug<sup>63</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*.

<sup>61</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*.

<sup>62</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 descandant of PAN \*Sapuy is open to question.

<sup>63</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  $\leq g >$ , such as \*?igwa, \*hiwag) could potentially be from \*R.



Axis Relationships in the Philippines—When Traditional Subgrouping Falls Short

MAP 10 - Bisayan-Bisakol Axis

- (136) Bis-Bik-axis \*huŋá? 'ask': Mas huŋá?, Mir, WABik, Lib, Rin, Buhi ?uŋá?.
- (137) Bis-Bik-axis \*?igwa 'there is; have' [EXISTENTIAL]: Naga, Leg, Vir, CSor, Mas *Pigwa*, Asi' *Pingwa*.
- (138) Bis-Bik-axis \*búwa? 'lie, deceive': Vir, NCat, CSor, SSor, Mas búwa?.
- (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 *Pukáy*.
- (141) Bis-Bik-axis \*táŋa 'ant': Naga, Leg, Vir, CSor, SSor táŋa.
- (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?ŋət<sup>64</sup> 'sweat': Vir siŋ?ut, NCat si?ŋut, Ceb, Boh siŋút.
- (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 *?utík*.

### 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>65</sup> developed by 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.

<sup>64</sup> While not justified by these citations, the schwa is inferred from the much more widespread PPH \*rina?ət [ZDS]; cf. PWMP \*lin( $\Rightarrow$ )qet 'sweat, perspiration' in the ACD)—for the justification of \*r, see Malay ke|rinat, Alangan, Iraya rina?it.

<sup>65</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.

- (152) Catanduanes-axis \*maŋúnul 'dull (not sharp)' replaces PMP \*tumpul,
   \*dumpul, PWMP \*ŋazəl: NCat maŋúnur, Vir maŋúnuλ.
- (153) Catanduanes-axis \*ta?pug 'dust' replaces PMP \*Rabuk, PWMP \*qabug ~
   \*abuR: NCat, Vir *ta?púg*.





- (154) Catanduanes-axis \*hiwás 'move' [no established etymon]: NCat, Vir hiwás.
- (155) Catanduanes-axis \*?abanabán 'later (today)' [no established etymon]: NCat, Vir *?abanabán*.

# 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>66</sup> 'leaf' replaces PMP \*dahun: Ilk, Ibl, Kyp, Png, Sbl, Bol, Bot, Kpm *bulúŋ*, Ilt *buŋ*, Itb *vuyuŋ*, Ivt *vuhuŋ* [McF-NP#410; Reid (1971)#159]
- (157) WLz-axis \*kítəb 'bedbug'<sup>67</sup> [no established etymon]: Ilk *kítɛb*, Luba, Itg, Knk, Ibl *kítɨb*, IsiB *2ítob*, IsiD *2ítov*, Manabo, Ifg *kítob* [McF-NP#444]
- (158) WLz-axis \*púsa? 'cat'<sup>68</sup> [no established etymon]: Ilk, KnkS púsa, Kia púha, Bot púha?, Bol, Sbl, Kpm> Tag púsa?, Png pusá. [McF-NP#428]
- (159) WLz-axis \*kŭtún<sup>69</sup> 'ant' [no established generic]: Ilk, Isg, Luba, Itg, Knk *kutún*, Ibl *kutun*, Mlw *kəttun*. [McF-NP#441]
- (160) WLz-axis \*bəsát '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>70</sup>, Ilk, Itg, Mlw, Luba, KnkS, Ibl *túyu*. [McF-NP#188]
- (163) WLz-axis \*báti? 'leave behind, stay, remain' [v] [no established etymon]
  Cf. PWMP \*bilin 'something left for another': Ilk báti, Itg ?i|bati, Bol, Sbl
  ?i|báti?. [McF-NP#303]

<sup>66</sup> Note PMP \*buluŋ '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 \*dáhun, which is otherwise well-retained throughout the central and southern Philippines [ZDS]. Meanwhile, \*buluŋ in the southern Philippines has taken on the generic meaning 'medicine' [ZDS].

<sup>67</sup> I am grateful to Reid (p.c. 2021.07.28) for correcting data on Ibaloy and Bambang Isinay in this entry.

<sup>68</sup> The ACD treats 'cat' *†pusa(?)* 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>69</sup> Reid (p.c. 2021.07.28) considers the etymology to be \*kətún (my \*kətún) with assimilation of the penult vowel to that of the stressed ultima.

<sup>70</sup> Bontok evidence kindly supplied by Reid (p.c. 2021.07.28).





- (164) WLz-axis \*tayáb 'fly' replaces PAN \*layap, PMP \*Rəbək, PWMP \*layaŋ: Ilk, Ibl *tayáb*, Itg *?ag*|*tayáb*, Isi *man*|*tayáb*. [McF-NP#467]
- (165) WLz-axis \*?ulmug 'chicken flea' replaces PWMP \*kaRaw: Ilk (borrowed by Agta), Png, Bol, Sbl ?ulmúg. Cf. Botolan kulmúg. [McF-NP#455; Reid (1971)#164]
- (166) WLz-axis \*lĭná?aw 'dew' replaces PAN \*ñamuR, PMP \*hapun, PWMP \*ambun: Ilk, Itg *linná?aw*, Png *linai*w. [McF-NP#368]
- (167) WLz-axis \*pasaplak 'outrigger', replaces PMP \*katiR: Ilk, Manabo, Sbl *pasaplák.* Cf. Botolan *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 \*?ayáb 'call, summon [v]' replaces PWMP \*tawaR: Ilk ?ayáb, 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.

- (170) NCLz-axis \*săkaláŋ<sup>71</sup> 'ring', replaces \*siŋsiŋ: CCAgta sʌkʌlaŋ, Atta sa:kkaka:ŋ, IbgP, Kal sakkaláŋ [McF], IbgT səklaŋ, Itw səkklaŋ, Mlw, Yog saklaŋ, Gad səkkaláŋ [McF], sakalaŋ [Rd], Kia takkaláŋ, 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 *?a*|*lu:nig*, IbgP, Yog *lunig*. [McF-NP#406; Reid(1971)#87]
- (172) NCLz-axis \*kúsa 'cat' [no established etymon]: Itg, Manabo, KnkN, Kal kúsa, Ibg, Isg<sup>72</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]

<sup>71</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.

<sup>72</sup> Also spelled Isneg.



MAP 13 - North Central Luzon Axis

# The Archive 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 <u>only</u> 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>73</sup>

- (174) Bash-Ilk-axis \*?anam 'plant species: *Glochidion* sp': Yami anam '*Glochidion rubrum*', Ilk ?anám 'Glochidion philippicum'.
- (175) Bash-Ilk-axis \*bagyat<sup>74</sup> 'anklet, ribbon worn around leg': Yami *vagiat* '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 *rojit* '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 *?ilɛk* 'kind of large spotted marine fish with tasty meat, rudder fish, *Kyphosus* sp.'
- (179) Bash-Ilk-axis \*kəlá?at 'sudden, abrupt': Ilk *kellá?at* 'sudden, instantly; abrupt', Itb *?akxat* 'to do something upon something or someone suddenly and unexpectedly'.

<sup>73</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>74</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 <br/> < bagiát > (Rubino, 2000 p. 77) is pronounced. Following the standard Philippine orthography it would be [bagi?át], whereas according to the Spanish orthography it would be [bagyát]. 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.

Axis Relationships in the Philippines—When Traditional Subgrouping Falls Short



MAP 14 - Bashiic-Ilokano Axis

- (180) Bash-Ilk-axis \*laŋlaŋ 'eat together as a group': Ilk *ag-la-laŋláŋ* 'to sit together at a table', Itb *xaŋxaŋ* 'idea of eating in a group (at least two persons)', Ibt *haŋhaŋ* '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 \*pusíŋ 'to wean a baby from breast-feeding': Ilk *kappusíŋ* 'baby who has just stopped breast-feeding', Itb *posiñ* 'idea of weaning', Ibt *pusin* 'to wean a child'.
- (185) Bash-Ilk-axis \*RaRáŋ 'large marine mollusk: *Turbo marmoratus*': Ilk *raráŋ* 'kind of large, elongated mollusk with a pointed shell; mother-of-pearl', Itb *yayaŋ* 'seashell with a shutter or lid: *Turbo marmoratus* (larger of the two *Turbo* varieties)', Ivt *yayaŋ* 'turbo shell', Ibt *yayaŋ* '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 \*?urit 'stripe, streak, line': Itb *?orit* 'stripe, streak, line (vertical)', Ilk *?urit* 'line, stripe, streak', *y*|*urit* 'to underline; write; mark'.

# 2.15. \*R > Y language axis: "the North Extension"

In my treatment of the Mangyan languages of Mindoro (Zorc, 1977 p. 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


MAP 15 - R>y Axis

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 \*but?ul 'bone; seed' replaces PAN \*CuqəlaN, PMP \*tuqəlan, PWMP \*tuqəlaŋ: Bol, Iraya, Han but?ul, Buh butúl, Aln bitul, Bot but?u, Kpm bu:tul 'bone', Itb vutux, Ivt vutuh 'kernel; pimple'; borrowed as Tag butó ~ but?ó.
- (193) \*R > Y-axis \*dagúl<sup>75</sup> 'big' replaces PAN \*Raya, PMP \*laba, PPH \*dakál: Itb *rakuy*, Ivt *rakuh*, Iraya *lakul*, Kpm *ma*|*ragúl* 'big'; *dágul* 'to grow' (Phonologically distinct from PPH \*dakál.)
- (194) \*R > Y-axis \*dimla? 'cold' replaces PMP \*diŋdiŋ ~ diŋin, PSP \*ramíg: Aln, Iry *ma*|*dimla*?, Kpm *ma*|*rimla*.
- (195) \*R > Y-axis \*lakay 'man, male' replaces PAN \*Ruqanay, PMP \*laki, PWMP \*laki: Itb *ma*|*yakay*, Ivt *ma*|*hakay* 'male'; Bot *lakay* 'husband'.
- (196) \*R > Y-axis \*takla? 'excrement' replaces PAN \*Caqi, PPH \*táqih: Kpm, Iry *taklá?*, Remontado/Hatang-Kayi *tákla?*, Bot, Sbl *taká?*.

Neither McFarland (1980, p. 64<sup>76</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 /ki?yuy/* 'egg' (< PMP \*qitəluR)

(199) \*R > Y-axis: Agutaynen *niyuy* 'coconut' (< PPн \*niyuR, PMP \*niur)

(200) \*R > Y-axis: Btk, Abr *punyangan* 'parent-in-law' (< PMP \*tuRaŋ)

<sup>75</sup> Whatever its shape, either \*dagúl *or* \*dakúl, (\* $k \sim g$  alternations or "SHIMMER" are extremely common) these languages clearly do not share the otherwise wide-spread PPH \*dakál, 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, p.58) for a more detailed treatment of "shimmer".

<sup>&</sup>lt;sup>76</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.

(201) \*R > Y-axis: Kalamianic *puyad* 'nest' < PPн \*puRad

(202) \*R > Y-axis: Akl *tubi?* 'water' (North-Bisayan axis < PWMP \*tubiR 'depth of water')

(203) \*R > Y-axis: Kalamianic \*wai? 'water' (< PMP \*wahiR)

(204) \*R > Y-axis: Agutaynen *yatat* 'breast milk' ( < PMP \*Ratas)

# 3. CONCLUSIONS

I am happy after all these years of reticent observations to have the opportunity to write about these axis phenomena.

It appears that my coining of the term AXIS may have had a precedent that stuck in my subconsious. Note the following quote from an article by Tweddell (1970, p. 202):

To date it has been generally assumed that the Mangyan languages formed a separable group of languages, and this may be so in spite of the seeming divergent associations with Tagalic and Visayan of the northern and southern ternaries respectively. There is always in the author's mind the possibility of a grouping of the tribal languages in the <u>Mindoro-Cuyo-Calamian-Palawan axis</u>, to which will probably need to be added at least Kiniraya <sic>, and possibly other languages in the Visayas. Something of this same possibility might be deduced from Conklin's remarks regarding the heavy Cuyonon and Visayan content of the Hanunoo urukai, in which inferentially he ties Agutaynon and Ratagnon with Hanunoo. [underlining mine]

Our paper has indeed justified a PALAWAN-MINDORO AXIS and a few others where Hanunoo became a member.

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. 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 they 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, \*?alwan '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>77</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 \*daRaq) realized as Bugkalot/ Ilongot *mat*yim who were former enemies of the Arta *ma-lèm* /ma?ləm/ 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>78</sup>. Nevertheless, this is the first systematic approach to a substantial number of leakage phenomena or loans that cross subgroup boundaries within the Philippines. Discussions at the end of the presentation of this paper at the 14<sup>th</sup> Philippine Linguistics Congress (14PLC) brought up a probable "Tausug-Sama" axis. Research on this has yet to be conducted, but appears to be extremely promising.

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. I would also like to thank the nearly one-thousand participants in the August 24, 2021 presentation for all of their supportive comments and excellent questions.

<sup>77</sup> This phenomenon can also be seen in Tagalog yunib < PCP \*lunib '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 †bicára 'talk' > Bisayan bisáya? 'Visayas' (the region), binisayá? '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 bisáya?, they have a maverick proto-form bisáua@ 'word' (a single word as opposed to a phrase), and derivations therefrom: bilisád?on 'maxim, short saying worth remembering', and pamisáuaa 'to speak formally, address, lecture'.

<sup>78</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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# Appendix A Table of Philippine Language Descendancies R.David Zorc

In general, Philippine languages can have up to a "10 step" descent pattern consisting of the following:

01 AN = Austronesian including Formosan languages.

**02 MP** = Malayo-Polynesian including Oceanic languages.

**03 WMP =** Western-Malayo-Polynesian includes the Philippines, Borneo, Indonesia, Sulawesi, etc.

**04 Ph** = Philippines (including all languages native to the Philippines (except for Sama-Bajaw).

**05** NPh vs SPh = Northern Philippines vs Southern Philippines, distinguishes broadly between most languages of Luzon north of Manila (NPh) vs. the Visayas, Mindanao, Palawan, and Northern Sulawesi in Indonesia (SPh).

**06 Macrogroup =** first branch off of either Northern or Southern Philippines.

**07 Microgroup** = first branch off of a macrogroup.

**08** Group = first branch off of a microgroup (there are around 20 major Philippine language groups).

**09 Subgroup =** these are the 50 branches off of the approximately 20 major Philippine language groups.

**10** Language = the extent of any native Philippine language (which may include dialects).

For example, the "descendancy" of two different Bisayan languages would be:

An	MP	WMP	Рн	SPн	GCP	СРн	Bisayan	West	Aklanon
An	MP	WMP	Рн	SPн	GCP	СРн	Bisayan	Central	Bantayanon
01	02	03	04	05	06	07	08	09	10

Beneath this would be an eleventh "step", the dialect or regional variant; for example, Aklanon has a Kalibonhon variety (in Kalibo town), an Ibajaynon variety (in Ibajay town), and a Madalagnon variety (in Madalag town), and so on.

However, these ten steps are only true for subgroups which exhibit multiple language splits over a wide geographical area like Bisayan and Manobo. Only 60 out of the 200 or so Philippine languages have all ten. Others, possibly because of the two extinctions proposed by Blust (2005), have fewer nodes.

Note the situation of the Southwest Mindanao languages (Blaan, Tboli, and Teduray)

AN	MP	WMP	Рн	SPн	SWMin	-	Teduray (with 7 steps)
AN	MP	WMP	Рн	SPн	SWMin	Bilic	Tboli (with 8 steps)

This is somewhat expanded by looking at the two Blaan lects which have nine steps

AN	MP	WMP	Рн	SPн	SWMIN	Bilic	Blaan	Koronadal
An	MP	WMP	Рн	SPн	SWMIN	Bilic	Blaan	Sarangani

It is possible, however, that Klata and the Bilic languages share a node under SPh which can be called PSMin (Proto-Southern Mindanao). One possible piece of evidence being a shared prefix \*s*∂*- which covers reciprocal, comitative, and relational functions (Edward Estrera, p.c. 2021.07.29). This would then result in the following revised descendancies:

An	MP	WMP	Рн	SPн	SMin	SWMin	Bilic	Blaan	Koronadal (10 steps)
An	MP	WMP	Рн	SPн	SMin	SWMin	Bilic	Blaan	Sarangani (10 steps)
An	MP	WMP	Рн	SPн	SMin	SWMin	Bilic	-	Tboli (9 steps)
An	MP	WMP	Рн	SPн	SMin	SWMin	1	1	Teduray (8 steps)
An	MP	WMP	Рн	SPн	SMin	SEMin	-	-	Klata (8 steps)

# Appendix B Philippine Languages: Tree Diagrams and Subgroupings<sup>1</sup> April Almarines

# INTRODUCTION

This supplement belongs to a publication regarding Axis relationships originally presented via an online platform on the 24<sup>th</sup> of August 2021 for the 14<sup>th</sup> Philippine Linguistics Congress. Amongst others, the presentation was attended by high school students and their teachers, linguists, language conservationists and interested people with no particular linguistic background. The interest in Philippine languages was positively overwhelming. It is due to the variety of the audience that both authors decided that they should supplement the publication presented with additional information in order to help not only the enthusiastic audience who attended the presentation, but also other readers who would like to understand the significance of the data presented.

Understanding Axis relationships needs a full understanding of how the Philippine languages are related to each other.

Subgrouping helps determine how languages are related to each other internally (within the same subgroup) and externally (to other subgroups) and it is able to shed light on the historical relationships and common origins of the languages being analyzed. It is done based on the occurrence of common *lexical innovations, phonological innovations, morphological innovations, semantic innovations* and *functor or function word analysis*.

<sup>1</sup> I would like to acknowledge Ron Himes, Dan Kaufman, Jason Lobel and Laure Reid and for assistance they gave which led to the completion of this supplement. To "Sir David" Zorc, thank you for all the time you've invested in me, for putting up with all my questions and with more questions to come. My heartfelt gratitude also goes to Florence Belvis, Joey Tolentino and their staff; thank you for giving me the opportunity to hear the sounds of the different languages that I only used to read or hear about, for all the care, answering all my questions and most importantly giving me a safe space to work from. Special acknowledgement goes to Sander Adelaar for invaluable editorial suggestions, for patiently going through several versions of this supplement and most importantly for the encouragements to keep on going. Last but not the least, to Bob Blust, who sparked my interest in linguistics, for having enough patience to go through several of your publications before they go to press, and for never treating me as if I were just another random person who asks annoying questions. I am forever grateful that our paths crossed. Any errors which remain in this work are mine alone.

The tree diagrams are taken from existing sources. In some instances additional changes were made. In these cases, the authors were involved unless stated otherwise, so that the rendition of the tree diagrams could be presented as faithful to the reference work as possible.

It is hoped that this work will be of use to the readers not only for a better understanding "Axis relationships", but also for any future research involving Philippine and related languages.



The tree diagram above is based on Blust (1977) and Smith (2017). The Austronesian language family has 9 Formosan branches (F1-F9) comprising languages which are all spoken in Taiwan, and Malayo-Polynesian, from which all other Austronesian languages are descended, including the Philippine languages as well as Proto-Philippines.



The different Philippine subgroups as they appear from left to right in the above tree diagram are as follows:

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- 1 BASHIIC/BATANIC
- 2 NORTHERN LUZON
- **3** UMIRAY DUMAGET
- 4 CENTRAL LUZON
- 5 MANIDE-ALABAT
- 6 NORTH MANGYAN
- 7 GREATER CENTRAL PHILIPPINES

INETE/INATI Southeast Mindanao Southwest Mindanao Sangiric Minahasan

**KALAMIANIC** 

The above tree diagram is based on Zorc, Lobel and Hall (in press). The first to have mentioned the existence of a Proto-Philippine language was Mathew Charles, in his paper *Problems in the reconstruction of Proto-Philippine phonology and the subgrouping of the Philippine languages* (1974). Proto-Philippines is the proposed ancestor of all Philippine languages, an idea which is disputed by some scholars. No diagrams were made for Umiray Dumaget (3), Inete/Inati (9) and Southeast Mindanao (10) as these are isolates and have no branchings.



The above tree diagram is from Gallego (2014). Other works dealing with this subgroup are the following:

1908	The Batan Dialect as a member of the Philippine Group of Languages by Otto Scheerer and
	Carlos Everett Conant
1926	Ivatan als 'Test-Sprache' fur uraustronesisches *l. by Otto Dempwolff
1987	Lists of selected words of Batanic languages by Shigeru Tsuchida, Yukihiro Yamada and
	Tsunekazu Moriguchi
2002	Subgrouping and Reconstruction of Batanic Languages by Doris Hsiao-Fang Yang
2005	The Batanic languages in relation to the early history of the Malayo-Polynesian subgroup of
	Austronesian by Malcolm D. Ross
2017	Regular Metathesis in Batanic (Northern Philippines) by Robert A. Blust
2019	The resurrection of Proto-Philippines by Robert A. Blust

**DIAGRAM 2** 



**ALTN** Northern Alta **ALTS** Southern Alta KLA Ibaloi/Ibaloy IBL ITG **KLN** Kalanguya ILK KAR Karaw/Karao ART **PNG** Pangasinan ISG ISI Isinay ATT IFG Ifugao IBG Ilongot/Bugkalot ILT Balangaw BLW BON Bontok

KNK Kankanaey Kalinga Itneg Ilokano Arta Isneg Atta Ibanag MAL Malaweg ADA Addasen AGTCC Central Cagayan Agta

ITW Itawit/Itawis YOG Yogad Gaddang GAD Dupaningan Agta DUP PAH Pahanan Agta Paranan Agta PAR DIN Dinapigue Agta Casiguran Dumagat Agta CAS NAG Nagtipunan Agta

### NOTES ON THE NORTHERN LUZON TREE DIAGRAM:

The above tree diagram is based on Reid (1974), Himes (1997, 1998, 2005 and 2006) and Lobel (2013). At the terminal ends of the above tree diagram are distinct languages belonging to this subgroup (represented by abbreviations).



The data on Ifugao is from Ethnologue (2020). To date, there is no comprehensive dialectological study of the Ifugao language.



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## NOTES ON THE BONTOK TREE DIAGRAMS:

The above tree diagrams were drawn in consultation with Lawrence A. Reid (p.c. 2021.08.11) and derived data in the introduction to the Talking Dictionary of Khinina-ang Bontok. (https://htq.minpaku.ac.jp/databases/bontok/aboutIntroduction.jsp)

The Archive



#### NOTES ON THE KALINGA-ITNEG TREE DIAGRAM:

The above tree diagram is derived from Himes (1997). Extensions of the tree diagram (showing dialects and sub-dialects) were made in consultation with Ronald Himes (p.c. 2022.04.06). Further articulation of the above tree diagram, showing dialects and sub-dialects, is as follows. *NOTE: See next page for the dialects and locations corresponding to the abbreviations used in diagrams 2bca through 2bch.* 

**ITNEG:** 



#### KALINGA-ITNEG ABBREVIATIONS AND LOCATIONS:

#### Itneg (ITG)

#### Binongan (BIN):

- (LIC) Nalbuan, Baay-Licuan, Abra
- (BAA) Tumalip, Baay-Licuan, Abra
- (LAC) Poblacion, Lacub, Abra

#### Inlaod (INL):

- (PNR) Dumayco and Poblacion, Peñarrubia, Abra
- (DLS) Caopasan, Danglas, Abra
- (SQN) Tangadan and Poblacion, San Quentin, Abra
- (VIL) Lumaba, Villaviciosa, Abra

#### Kalinga (KLA)

#### Masadiit (MSD):

- (MAN) Poblacion, Manabo, Abra
- (SAL) Subusob, Sal-lapadan, Abra
- (**B**L**Y**) Poblacion, Boliney, Abra
- (**B**UC) Labaan, Bucloc, Abra

#### Northern Kalinga (KlaN)

#### Northwestern Kalinga (KLANW):

(BNWD)	Ibanaw of Poblacion, Daguioman
(BNWM)	Ibanaw of Taripan and Poblacion, Malibcong, both in Abra
(BNWT)	Ibanaw of Talalang, Balbalan, Kalinga
(BNWB)	Ibanaw of Balbalasang in Balbalan, Kalinga
(МвкМ)	Imabaka of Dulao, Malibcong and Gubang of Buanao, Malibcong, Abra
(Амм)	KLANW of Ammacian, Quirino, Kalinga

#### Northeastern Kalinga (KLANE):

(MAG)	Magnao, Tabuk, Kalinga
()	

(Твк) Poblacion, Tabuk, Kalinga

#### Central-Southern Kalinga (KLACS)

#### Central Kalinga (KLAC):

(Gui)	Guinaang, Pasil, Kalinga
(GAL)	Galdang, Pasil, Kalinga
(BLC)	Balenciagao, Pasil, Kalinga
(PUA)	Puapo, Pasil, Manangol, Kalinga
(Lbg)	Poblacion, Lubuagan, Kalinga
(Tlc)	Taloctoc, Tanudan, Kalinga

#### Southern Kalinga (KlaS)

#### Southwestern Kalinga (KlaSW):

- (KOL) Kolayo, Balatoc, Pasil, Kalinga
- (TUL) Tulgao, Tinglayan, Kalinga
- (**B**UT) Ngibat, Butbut in Tinglayan, Kalinga
- (ATI) Amti, Boliney, Abra
- (DNC) Danac, Boliney, Abra

#### Bangad, Tinglayan (Ban)

#### Southeastern Kalinga (KlaSE):

- (MNG) Mangali, Tanudan, Kalinga
- (Lво) Lubo in Tanudan, Kalinga
- (BUN) Bunut in Dalipoy, Paracilis
- (**MDK**) Madukayong in Natonin, Mountain Province



The above tree diagram is based on Wimbish (1986) and Himes (1997) and was drawn in consultation with Ronald Himes (p.c. 2021.06.13).





#### NOTES ON THE CENTRAL PHILIPPINES TREE DIAGRAM:

There are no individual trees for Tagalog and Mamanwa in the literature. Tagalog has several dialects, but up to date, no comprehensive dialectological study of Tagalog exists.



The above tree diagram is a simplified version of the tree diagram in Zorc (1977). Zorc's dissertation is considered the definitive work on Bisayan languages. Lobel's dissertation (2013) had some additional information about the Bisayan languages, so efforts were made to incorporate his data in the following tree diagrams for the Bisayan languages. Modifications to the tree diagrams for each branch of the Bisayan language family were done in consultation(s) with R. David Zorc and Jason Lobel.





# NOTES ON THE WEST BISAYAN TREE DIAGRAM:

**JAMINDANGANON-MAMBUSAONON:** first mention of this speech form in any easily available publication was made by Lobel (2013), who considers it a separate language (pers. comm. with David Zorc, 2021.10.17). Further study of this language is needed in order to determine its position in the West Bisayan branch.

**AKLANON:** at the time of this writing, Philip Rentillo (De La Salle University Manila), was working on a dialectal study of Aklanon, covering the language as spoken in the different barangays of Aklan.

**INUNHAN:** the name of this speech form was not available to Zorc when he wrote his dissertation (1977); however, it corresponds to the NORTH-CENTRAL node of the West Bisayan branch in his tree diagram.

LIBERTADNON: see Lobel (2013).

PANAYANON BINUKIDNON: also known as Sulud, Sugudnon or Suludnon. See Lobel (2013).



## NOTES ON THE ASI'/BANTON TREE DIAGRAM:

The Banton branch of the Bisayan languages (Zorc, 1977) was renamed Asi' in Zorc, Lobel, Hall (in press) as the name Banton does not represent the areas in which the Asi' languages are spoken. Lobel has done additional work on the Bisayan languages (2013) which made it possible to update the Zorc 1977 tree diagram. The above diagram was created by comparing the tree diagram in Zorc (1977) with the data presented in Lobel (2013), and consulting with both scholars as to the correctness of the representation. *Asi' Sibale* is also known as Concepcion or Maestro de Campo.



## NOTES ON THE CENTRAL BISAYAN TREE DIAGRAM:

SOUTHERN SORSOGON: called "Gubat" in McFarland and in Zorc (1977).

BANTAYANON: called Bantayan in Zorc (1977). More information on Bantayanon is available in Allen (2002).

**ILONGGO:** Also known as Hiligaynon.

**POROHANON:** called "Camotes" in Zorc (1977). Work on this speech form was also done by Cruz, Estrera, Pelagio & Santiago (Paper read at the 13th Philippine Linguistics Congress) and Santiago (paper presented at the 2019 Philippine Indigenous Languages Lecture Series).

**BAYBAYANON:** also known as UTUDNON, a name first coined by Carl Rubino in his work *Utudnon, an undescribed language of Leyte* (2005). Lobel (2009) proposed to change it to BAYBAYANON mainly because the name "Utudnon" refers only to a single barangay, while the language is spoken in five or six barangays of Baybay, Leyte. Separately, he also noted that Utudnon was erroneously listed as a dialect of Waray-Waray in Ethnologue. **ILONGGO:** according to Lobel (p.c. with David Zorc 2021.10.18) the Ilonggo language has three dialects: Iloilo, Negros Occidental and Capiz.



#### NOTES ON THE CEBUAN TREE DIAGRAM:

The Cebuan tree diagram was modified from Zorc (1977) and updated after consultation with Jason Lobel, who did further analysis of the Philippine languages (Lobel, 2013).



#### NOTES ON THE SOUTH BISAYAN TREE DIAGRAM:

**SURIGAONON and JAUN-JAUN:** Zorc (1977) made a distinction between "Surigao" and "Jaun-Jaun". The latter is simply a playful exonym-turned endonym based on the fact that the word "jaon", an existential marker meaning "there is, have/has", is unique in having that meaning compared to neighboring languages like Butuanon, Tandaganon, Kamayo, and Cebuano.

**SURIGAO DEL SUR SURIGAONON and KANTILAN:** "Kantilan" is named after Cantilan town in Surigao del Sur in Zorc (1977). It is called Surigao del Sur Surigaonon (Northern Surigao del Sur) in Lobel (2013).

**TAG-ONON/TANDAGANON:** called "Naturalis" in Zorc (1977). Zorc noted that when he asked speakers what they called their language, they gave him the term <naturalis> from Spanish "naturales" 'natural, native', because they wanted to distinguish it from Cebuano which is the prevalent trade language in that area. However, as Zorc learned later on, this is not a term they would normally use (p.c. 2021.12.02). Lobel correctly named the lect "Tandaganon" after the name of the city, Tandag, Surigao del Sur, and "Tag-onon" after the municipality of Tago', Surigao del Sur.



The Bikol tree diagrams are adapted from Lobel (2013) based on further consultation with the author (p.c. with David Zorc, 2021.09.14 and 2021.12.27).





The above tree diagram is based on Lobel (2013).



The above tree diagram is from Elkins (1974).



## NOTES ON THE ABOVE MANOBO TREE DIAGRAM:

The above tree diagram is based on Lobel (2013) after consultation with the author (p.c. with David Zorc, 2021.12.08). Lobel uses triangles for this tree diagrams as a means of grouping together languages for which more detailed analysis remains to be done.



The above tree diagram is taken from Usup (1986).





The above tree diagram is based on Sneddon (1984).

Mindanao



#### NOTES ON THE TALAUD TREE DIAGRAM:

Utsumi (2016) categorized the Talaud dialects into two large groups, with one group further divided into four subgroups. She based the major divisions on phonotactics, while the smaller groups are based on sound correspondences. The *Essang, Niampak, Rainis, Beo, Torohan* dialects are spoken on Karakelang Island; the *Salibabu* and *Moronge* dialects are spoken on Salibabu Island; the *Bulude, Mangeran* and *Pangeran* dialects are spoken on Kabaruan Island.



The above tree diagram is taken from Sneddon (1978).

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	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
1	Aborlan Tagbanwa	Abr	tbw	PALAWANIC	06 PALAWAN- KALAMIAN 07 PALAWAN-
					MINDORO AXIS 15 *R > y-axis
2	Agutaynen	Agy	agn	KALAMIANIC	06 PALAWAN- KALAMIAN 07 PALAWAN-
		07	0		MINDORO AXIS 15 *R > y-axis
3	Aklanon	Akl	akl	WEST BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN-
					BIKOL AXIS 15 *R > y-axis
4	Alangan	Aln	alo	NORTH Mangyan	07 PALAWAN- MINDORO AXIS
				CENTRAL	15 *R > y-axis 05 CENTRAL LUZON AXIS
5	Amganad Ifugao	Amg	ifa	CORDILLERAN	13 EASTERN LUZON AXIS
6	Asi'	no abbreviation	asz	ASI'/BANTON	01 NORTH BISAYAN AXIS
					10 BISAYAN- BIKOL AXIS
		Ata	atd	MANOBO	03 EASTERN MINDANAO AXIS
7	Ata Manobo				08 SOUTHERN MINDANAO AXIS
					09 CENTRAL MINDANAO AXIS
8	Atta	Atta	azt, att, atp	CAGAYAN	04 NORTHERN LUZON AXIS
				VALLEY	13 EASTERN LUZON AXIS
9	Ayta Abellen	no abbreviation	abp	CENTRAL	02 SOUTHERN LUZON AXIS
10	Ayta Mag-Indi	no abbreviation	blx	LUZON	02 SOUTHERN LUZON AXIS
11	Baao Rinconada	no abbreviation	no code	SOUTHERN BIKOL	01 NORTH BISAYAN AXIS
12	Bagobo Klata	no abbreviation	bgi	SOUTHEAST MINDANAO	08 SOUTHERN MINDANAO AXIS
13	Balangaw	Blw	blw	CENTRAL CORDILLERAN	04 NORTHERN LUZON AXIS

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
13	Balangaw	Blw	blw	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS 13 EASTERN LUZON AXIS
14	Bambang Isinay	BamIsi	inn	CENTRAL CORDILLERAN	12 WESTERN LUZON AXIS
15	Batad Ifugao	Btd	ifb	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS
16	Batak	Btk	bya	PALAWANIC	06 PALAWAN- KALAMIAN 07 PALAWAN- MINDORO AXIS 15 *R > y-axis
17	Bayninan Ifugao	Byn	ify	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS
18	Bikol	no abbreviation	bik	BIKOL	02 SOUTHERN LUZON AXIS
19	Binukid	no abbreviation	bkd	MANOBO	08 SOUTHERN MINDANAO Axis
20	Boholano	Boh	no code	CEBUAN	10 BISAYAN- BIKOL AXIS
21	Bolinao	Bol	smk	CENTRAL LUZON	02 SOUTHERN LUZON AXIS 12 WESTERN LUZON AXIS 15 *R > y-axis
22	Bontok	no abbreviation	bnc	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS
23	Boso	no abbreviation	no code	MANSAKAN	03 EASTERN MINDANAO AXIS 08 SOUTHERN MINDANAO AXIS 09 CENTRAL MINDANAO AXIS
24	Botolan	Bot	sbl	CENTRAL LUZON	02 SOUTHERN LUZON AXIS 05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS 15 *R > y-axis
25	Buhid	Buh	no code	SOUTH Mangyan	07 PALAWAN- MINDORO AXIS 15 *R > y-axis
26	Buhi-non	Buhi	ubl	SOUTHERN BIKOL	01 NORTH BISAYAN AXIS

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
26	Buhi-non	Buhi	ubl	SOUTHERN BIKOL	02 SOUTHERN LUZON AXIS 10 BISAYAN-
					BIKOL AXIS
27	Bulalakawnon	Blk	hnn	WEST BISAYAN	01 NORTH BISAYAN AXIS 02 SOUTHERN LUZON AXIS
					10 BISAYAN- BIKOL AXIS
28	Butuanon	But	btw	SOUTH BISAYAN	03 EASTERN MINDANAO AXIS 10 BISAYAN- BIKOL AXIS
29	Capiznon	no abbreviation	cps	WEST BISAYAN	01 NORTH BISAYAN AXIS
				MANSAKAN	03 EASTERN MINDANAO AXIS
30	Caraga	Car	no code		09 CENTRAL MINDANAO AXIS
		CDAgta	no code	NORTHEAST LUZON	02 SOUTHERN LUZON AXIS
31	Casiguran Dumagat Agta				04 NORTHERN LUZON AXIS
					05 CENTRAL LUZON AXIS 13 EASTERN
					LUZON AXIS
32	Cebuano	Ceb	ceb	CEBUAN	BIKOL AXIS
33	Central Mindanao Manobo	no abbreviation	no code	MANOBO	08 SOUTHERN MINDANAO AXIS
					01 NORTH BISAYAN AXIS
34	Central Sorsoganon	C.Sor.	no code	CENTRAL BISAYAN	02 SOUTHERN LUZON AXIS
					10 BISAYAN- BIKOL AXIS
35	Central Subanen	C.Sub.	syb	SUBANEN	09 CENTRAL MINDANAO AXIS
36	Central Tagbanwa	no abbreviation	tgt	PALAWANIC	06 PALAWAN- KALAMIAN
37	Datagnon	Dtg	no code	WEST BISAYAN	01 NORTH BISAYAN AXIS

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
38	Dibabawon Manobo	Dbw	mbd	MANOBO	03 EASTERN MINDANAO AXIS 08 SOUTHERN MINDANAO AXIS
					09 CENTRAL MINDANAO AXIS
39	Dispoholnon	Dsp	no code	WEST BISAYAN	01 NORTH BISAYAN AXIS
40	Gaddang	no abbreviation	gad	CAGAYAN VALLEY	04 NORTHERN LUZON AXIS 13 EASTERN LUZON AXIS
41	Hanunoo	Han	hnn	SOUTH Mangyan	01 NORTH BISAYAN AXIS 02 SOUTHERN LUZON AXIS 07 PALAWAN- MINDORO AXIS 15 *R > y-axis
42	Ibaloi	Ibl	ibl	SOUTHERN CORDILLERAN	05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS
43	Ibanag	Ibg	ibg	CAGAYAN VALLEY	04 NORTHERN LUZON AXIS
44	Ibatan	Ibt	ivb	BASHIIC/ BATANIC	14 BASHIIC- ILOKANO AXIS
45	Ifugao	Ifg	ifb, ify, ifu, ifk	CENTRAL CORDILLERAN	12 WESTERN LUZON AXIS
46	Ilianen Manobo	Iln	mbi	MANOBO	08 SOUTHERN MINDANAO AXIS 09 CENTRAL MINDANAO AXIS
47	Ilokano	Ilk	ilo	ILOKAN	04 NORTHERN LUZON AXIS 12 WESTERN LUZON AXIS 14 BASHIIC- ILOKANO AXIS
48	Ilonggo/Hiligaynon	Hil	hil	CENTRAL BISAYAN	01 NORTH BISAYAN AXIS
49	Ilongot	Ilt	ilk	SOUTHERN Cordilleran	12 WESTERN LUZON AXIS

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP	
50	Iranun	Ira	ilm	DANAO	08 SOUTHERN MINDANAO AXIS	
51	Iraya	Iry	iry	NORTH MANGYAN	02 SOUTHERN LUZON AXIS 07 PALAWAN- MINDORO AXIS	
					15 *R > y-axis	
52	Isamal	no abbreviation	kqe	MANSAKAN	03 EASTERN MINDANAO AXIS 09 CENTRAL	
					MINDANAO AXIS	
					02 SOUTHERN LUZON AXIS	
53	Isinay	Isy	inn	CENTRAL1UZON AXCENTRAL05 CENTRALCORDILLERAN105 CENTRAL12 WESTER12 WESTERLUZON AX12 WESTERLUZON AX12 WESTERLUZON AX12 WESTERVALLEY04 NORTHEL05 CENTRAL05 CENTRAL		LUZON AXIS
					LUZON AXIS	
54	Isnag	Isg	100	04 NORTHERN LUZON AXIS		
					05 CENTRAL LUZON AXIS	
55	Itawit	Itw	itv	CAGAYAN VALLEY	13 EASTERN LUZON AXIS	
			DASUUC	BASHIIC/	12 WESTERN LUZON AXIS	
56	Itbayaten	Itb	ivv	BATANIC	14 BASHIIC- ILOKANO AXIS	
					15 *R > y-axis 04 NORTHERN	
					LUZON AXIS	
57	Itneg	Itg	bjx, itb, iti	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS	
					12 WESTERN LUZON AXIS	
				DAGUNCI	12 WESTERN LUZON AXIS	
58	Ivatan	Ivt	ivv	BASHIIC/ BATANIC	14 BASHIIC- ILOKANO AXIS	
					15 *R > y-axis	
59	Jaun-Jaun	no abbreviation	no code	SOUTH BISAYAN	03 EASTERN MINDANAO AXIS	
60	Kabasagan	Kbs	no code	MANSAKAN	03 EASTERN MINDANAO AXIS	
61	Kagayanen	Kgy	cgc	MANOBO	01 NORTH BISAYAN AXIS	

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
					03 EASTERN MINDANAO AXIS
62	Kalagan	Klg	kll	MANSAKAN	08 SOUTHERN MINDANAO AXIS
					09 CENTRAL MINDANAO AXIS
63	Kalamansig Cotabato Manobo	K-C	mta	MANOBO	08 SOUTHERN MINDANAO AXIS
					06 PALAWAN- KALAMIAN
64	Kalamian Tagbanwa	Kal	tbk	KALAMIANIC	07 PALAWAN- MINDORO AXIS
				MANOBO KALAMIANIC CENTRAL CORDILLERAN CCENTRAL CORDILLERAN CCENTRAL CORDILLERAN CCENTRAL CORDILLERAN	15 *R > y-axis
65	Kalinga	Kla	kkg, kmd, kmk,		04 NORTHERN LUZON AXIS
0)	Kainiga	Kla	kml, knb	CORDILLERAN	13 EASTERN LUZON AXIS
					03 EASTERN MINDANAO AXIS
66	Kamayo	Kam	kyk	MANSAKAN	08 SOUTHERN MINDANAO AXIS
				CENTRAL	05 CENTRAL LUZON AXIS
67	Kankanaey	Knk	kne	CORDILLERAN	12 WESTERN LUZON AXIS
					04 NORTHERN LUZON AXIS
69	Kankanaey-N	KnkN	xnn	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS
					12 WESTERN LUZON AXIS
					04 NORTHERN LUZON AXIS
70	Kankanaey-S	KnkS	no code	CENTRAL CORDILLERAN	05 CENTRAL LUZON AXIS
					12 WESTERN LUZON AXIS
72		Kpm			02 SOUTHERN LUZON AXIS
	Kapampangan		pam	CENTRAL LUZON	12 WESTERN LUZON AXIS
					15 *R > y-axis
73	Karamiananen	Krm	no code	KALAMIANIC	06 PALAWAN- KALAMIAN

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
73	Karamiananen	Krm	no code	KALAMIANIC	07 PALAWAN- MINDORO AXIS 15 *R > y-axis
74	Kayapa Kallahan	Кур	ify	SOUTHERN CORDILLERAN	05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS
75	Keley-i Kallahan	Kly	ify	SOUTHERN Cordilleran	05 CENTRAL LUZON AXIS
76	Kiangan Ifugao	Kia	ifk	CENTRAL CORDILLERAN	04 NORTHERN LUZON AXIS 05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS 13 EASTERN LUZON AXIS
77	Kinaray-a	Kin	krj	WEST BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN- BIKOL AXIS
78	Koronadal Bilaan	KorBl	bpr	SOUTHWEST MINDANAO	08 SOUTHERN MINDANAO AXIS
79	Kuyonon	Kuy	суо	WEST BISAYAN	01 NORTH BISAYAN AXIS 07 PALAWAN- MINDORO AXIS
80	Legaspi	Leg	no code	NORTHERN BIKOL	02 SOUTHERN LUZON AXIS 10 BISAYAN- BIKOL AXIS
81	Libon	Lib	no code	SOUTHERN BIKOL	02 SOUTHERN LUZON AXIS 10 BISAYAN- BIKOL AXIS
82	Looknon	Lok	no code	WEST BISAYAN	01 NORTH BISAYAN AXIS
83	Luba	no abbreviation	xnn	CENTRAL CORDILLERAN	04 NORTHERN LUZON AXIS 05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS
84	Maguindanaon	Mgd	mdh	DANAO	03 EASTERN MINDANAO AXIS 08 SOUTHERN MINDANAO AXIS

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84	Maguindanaon	Mgd	mdh	DANAO	09 CENTRAL MINDANAO AXIS
					04 NORTHERN LUZON AXIS
85	Malaweg	Mlw	itv	CAGAYAN VALLEY	12 WESTERN LUZON AXIS
					13 EASTERN LUZON AXIS
86	Mamanwa	Mmw	mmn	MAMANWA	03 EASTERN MINDANAO AXIS
87	Manabo	no abbreviation	no code	CENTRAL	04 NORTHERN LUZON AXIS
07				CORDILLERAN	12 WESTERN LUZON AXIS
88	Mandaya	no abbreviation	mry	MANSAKAN	03 EASTERN MINDANAO AXIS
89	Manila Tagalog	MlaTag	tgl	TAGALIC	02 SOUTHERN LUZON AXIS
		Msk	msk	MANSAKAN	03 EASTERN MINDANAO AXIS
90	Mansaka				08 SOUTHERN MINDANAO Axis
					09 CENTRAL MINDANAO AXIS
					03 EASTERN MINDANAO AXIS
91	Maranao	Mar	mrw		08 SOUTHERN MINDANAO AXIS
					09 CENTRAL MINDANAO AXIS
22			1	CENTRAL	01 NORTH BISAYAN AXIS
92	Masbatenyo	Mas	msb	BISAYAN	10 BISAYAN- BIKOL AXIS
				SOUTHERN BIKOL	02 SOUTHERN LUZON AXIS
93	Miraya	Mir	no code		10 BISAYAN-
					BIKOL AXIS
94	Molbog	Mlb	pwm	PALAWANIC	06 PALAWAN- KALAMIAN
95	Naga	Naga	no code	NORTHERN BIKOL	02 SOUTHERN LUZON AXIS

	LANGUAGE(S) or DIALECT	ABBREVIATION USED IN THIS PAPER	ISO 639-3 code	SUBGROUP/ BRANCH	AXIS GROUP
95	Naga	Naga	no code	NORTHERN BIKOL	10 BISAYAN- BIKOL AXIS
96	Northern Bikol	NthBik	no code	NORTHERN BIKOL	01 NORTH BISAYAN AXIS
97	Northern Catanduanes	NCat	no code	NORTHERN Catanduanes	10 BISAYAN- BIKOL AXIS 11 CATANDUANES
98	Palawano	Pal	plw	PALAWANIC	AXIS 06 PALAWAN- KALAMIAN 07 PALAWAN- MINDORO AXIS
99	Pamplona Ibanag	Ibg-P	ibg	CAGAYAN VALLEY	04 NORTHERN LUZON AXIS 13 EASTERN LUZON AXIS
100	Pandan	Pan	no code	WEST BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN- BIKOL AXIS
101	Pangasinan	Png	pag	SOUTHERN CORDILLERAN	02 SOUTHERN LUZON AXIS 05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS
102	Quezon	no abbreviation	plc	PALAWANIC	06 PALAWAN- KALAMIAN
103	Remontado/ Hatang-Kayi	no abbreviation	agv	CENTRAL LUZON	02 SOUTHERN LUZON AXIS 15 *R > y-axis
104	Rinconada	Rin	bto	SOUTHERN BIKOL	01 NORTH BISAYAN AXIS 02 SOUTHERN LUZON AXIS 10 BISAYAN- BIKOL AXIS
105	Romblomanon	Rom	rol	CENTRAL BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN- BIKOL AXIS
106	Sambal	Sbl	sbl	CENTRAL LUZON	02 SOUTHERN LUZON AXIS 05 CENTRAL LUZON AXIS 12 WESTERN LUZON AXIS 15 *R > y-axis

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107	Sangil	no abbreviation	snl	SANGIRIC	08 SOUTHERN MINDANAO AXIS
108	Sangir	no abbreviation	sxn	SANGIRIC	08 SOUTHERN MINDANAO AXIS
109	Sarangani Bilaan	SarBl	bps	SOUTHWEST MINDANAO	08 SOUTHERN MINDANAO AXIS
110	Sarangani Manobo	SarMb	mbs	MANOBO	03 EASTERN MINDANAO AXIS 08 SOUTHERN MINDANAO AXIS 09 CENTRAL MINDANAO AXIS
111	Semirara/ Kaluyanen	Sem	no code	WEST BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN- BIKOL AXIS
112	Southern Bikol	Sbik	no code	SOUTHERN BIKOL	01 NORTH Bisayan Axis
113	Southern Sorsoganon	SSor	SIV	CENTRAL BISAYAN	01 NORTH BISAYAN AXIS 10 BISAYAN- BIKOL AXIS
114	Subanen	no abbreviation	laa	SUBANEN	03 EASTERN MINDANAO AXIS
115	Surigaonon	Sur	sgd	SOUTH BISAYAN	03 EASTERN MINDANAO AXIS 10 BISAYAN- BIKOL AXIS
116	Tadyawan	Tdy	tdy	NORTH MANGYAN	02 SOUTHERN LUZON AXIS 07 PALAWAN- MINDORO AXIS
117	Tagakaolo	no abbreviation	klg	SOUTH BISAYAN	03 EASTERN MINDANAO AXIS
118	Tagalog	Tag	tgl	TAGALIC	02 SOUTHERN LUZON AXIS 08 SOUTHERN MINDANAO AXIS
119	Tandaganon	Tdg	tgn	SOUTH BISAYAN	03 EASTERN MINDANAO AXIS

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120	Tausug	Tsg	tsg	SOUTH BISAYAN	10 BISAYAN- BIKOL AXIS
121	Tau't Bato	no abbreviation	plw	PALAWANIC	06 PALAWAN- KALAMIAN
122	Tboli	no abbreviation	tbl	SOUTHWEST MINDANAO	08 SOUTHERN MINDANAO AXIS
123	Tigwa Manobo	Tig	mbt	MANOBO	08 SOUTHERN MINDANAO AXIS 09 CENTRAL
					MINDANAO AXIS
124	Tiruray	no abbreviation	tiy	SOUTHWEST MINDANAO	08 SOUTHERN MINDANAO AXIS
125	Tuguegarao Ibanag	Ibg-T	ibg	CAGAYAN VALLEY	04 NORTHERN LUZON AXIS 13 EASTERN
					LUZON AXIS 01 NORTH
					BISAYAN AXIS
				NORTHERN	02 SOUTHERN LUZON AXIS
126	Viracnon	Vir	no code NORTHERN BIKOL	10 BISAYAN- BIKOL AXIS	
					11 Catanduanes Axis
127	Waray	no abbreviation	war	WEST BISAYAN	10 BISAYAN- BIKOL AXIS
128	West Albay Bikol	WABik	. SOUTHERN	SOUTHERN	02 SOUTHERN LUZON AXIS
120	west Albay bikor	WADIK	no code	BIKOL	10 BISAYAN- BIKOL AXIS
129	Western Bukidnon Manobo	WBM	mbb	MANOBO	08 SOUTHERN MINDANAO AXIS
126	W	W/C 1			03 EASTERN MINDANAO AXIS
130	Western Subanen	WSub	suc	SUBANEN	09 CENTRAL MINDANAO AXIS
131	Yami	no abbreviation	tao	BASHIIC/ Batanic	14 BASHIIC- ILOKANO AXIS
132	Yami (Imorod)	no abbreviation	tao	BASHIIC/ BATANIC	14 BASHIIC- ILOKANO AXIS

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133	Yogad	no abbreviation	yog	CAGAYAN VALLEY	04 NORTHERN LUZON AXIS 13 EASTERN LUZON AXIS