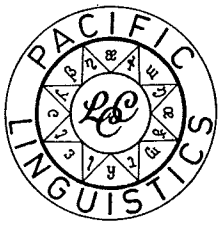
OFFPRINT FROM
PACIFIC LINGUISTICS
Series C - No. 45

SOUTH-EAST ASIAN LINGUISTIC STUDIES
VOL. 3

Nguyen Dang Liem, ed.



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First published 1979.

The editors are indebted to the Australian National University for help in the production of this series.

This publication was made possible by an initial grant from the Hunter Douglas Fund.

National Library of Australia Card Number and ISBN for complete set of volumes: 0 85883 144 9

National Library of Australia Card Number and ISBN for this volume: 0 85883 177 5

ON THE DEVELOPMENT OF CONTRASTIVE WORD ACCENT: PANGASINAN, A CASE IN POINT

R. DAVID ZORC

1. PROTO-PHILIPPINE ACCENT

Contrastive accent, manifested as vowel-length or its absence on the penult, is a phenomenon found in a large number of Philippine languages, e.g. Aklanon (Akl), Balangao (Blw), Bikol (Bik), Cebuano (Ceb), Hanunoo (Han), Ibanag (Ibg), Ifugao (Ifg), Ilokano (Ilk), Isneg (Isg), Kalinga (Kla), Kapampangan (Pam), Sambal (Sbl), and Tagalog (Tag). Research in progress[1] on the status of an impressively large number of cognate forms that agree on the placement of such accent (e.g. penult length as in Tag di:laq [dí:laq] *'tongue'* (example #6 below), or penult shortness as in Tag mata [mătá][2] *'eye'* (example #25 below)) in these genetically diverse languages suggests that the phenomenon may be attributed to their common parent language, herein called Proto-Philippine (PPH).[3]

Forms reconstructable with penult length include:[4]

(1) Akl, Ceb qaba:gah-, Bik, Ilk, Isg qaba:ga, Kla qaba:la *'shoulder'*, Kalamian kabalaq *'arm'* < PPH *qaba:Ra[h].

(2) Akl, Ceb ba:gah-, Tag, Bik, Han ba:ga, Pam, Sbl ba:ya, Ilk ba:ra, Ifg ba:la *'glowing embers'* < PPH *ba:Ra[h].

(3) Ceb, Bik, Ibg, Ilk, Ifg, Isg, Pam ba:lu *'widow'* < PPH *ba:lu.

(4) Isg da:ga, Ilk da:ra, Ifg da:la, Pam, Sbl da:yaq *'blood'* < PPH *da:Raq.

(5) Bik, Ceb, Blw, Han, Ibg, Ilk, Isg, Pam da:lan *'path, trail'* < PPH *da:lan.

(6) Akl, Ceb, Bik, Han, Pam, Tag, Sbl di:laq, Ifg, Ilk, Isg di:la *'tongue'* < PPH *di:laq.

(7) Akl, Ceb, Bik, Han hi:lut, Tag hi:lot, Pam, Sbl, Ilk, Isg qi:lut *'to massage, rub'* < PPH *hi:lut.

(8) Akl, Ceb, Bik, Han qi:kug, Sbl qi:kuy, Kankanay qi:ko *'tail'* < PPH *i:kuR.

(9) Akl, Ceb ku:tuh-, Bik, Han, Isg, Ilk, Pam, Sbl ku:tu, Tag ku:to *'(head) louse'* < PPH *ku:tu[h].

(10) Ceb, Pam, Sbl, Tag la:la, Bik ra:ra, Ifg, Ilk, Isg la:ga *'to weave, braid (mats)'* < PPH *la:ja.

(11) Bik, Ceb, Han, Ilk, Sbl, Tag la:na, Pam la:ña *'coconut oil'* < PPH *la:ña.

(12) Akl, Ceb, Bik, Han ŋi:pun, Tag ŋi:pin, Ibg, Isg ŋi:pan, Ilk, Sbl ŋi:pən *'tooth'* < PPH *ŋi:pən.

(13) Akl, Ceb, Bik, Han pu:sud, Tag pu:sod, Ilk pu:səg, Isg pu:sag, Pam pu:sad *'navel'* < PPH *pu:səj.

(14) Akl, Ceb, Bik, Han, Ilk, Isg, Pam si:ku, Tag si:ko, Ifg hi:qu, Sbl hi:ku *'elbow'* < PPH *si:ku.

(15) Akl, Ceb, Bik, Han, Pam, Sbl tu:buq, Tag tu:boq, Ilk, Isg, Ifg tu:bu, Ibg tu:vu *'to grow, sprout'* < PPH *tu:buq.[5]

Forms reconstructable with a short penult vowel include:

(16) Ceb, Han, Ilk, Pam, Sbl, Tag qanak, Ibg, Isg qanaq ∿ qanak- *'child'* < PPH *anak.

(17) Akl, Ceb qapuh-, Tag qapo, Ilk, Isg qapu, Ibg qafu *'grandchild'* < PPH *apu[h].

(18) Akl, Ceb, Bik, Han, Ibg, Ilk, Isg, Pam, Kla, Tag qasin, Kalamian kasin *'salt'* < PPH *qasin.

(19) Bik, Pam bagaq, Sbl bayaq, Ilk bara, Ifg, Kla bala *'lungs'* < PPH *baRaq. (There is a doublet *ba:Raq among Southern Philippine languages, e.g. Akl, Ceb, Han, Tag, Kalagan ba:gaq *'lungs'*.)

(20) Akl, Ceb, Bik, Pam, Tag basaq, Ilk, Isg basa, Sbl bahaq *'wet'* < PPH *basaq.

(21) Akl, Ceb, Han bugas, Tag bigas, Sbl bəyah, Isg baggat *'husked rice'* < PPH *bəRas.

(22) Han, Ibg, Ilk, Isg, Pam danum, Sbl lanum *'water'* < PPH *danum.

(23) Ilk (da)kayu, Kla (di)qayu, Pam (qi)kayu, Tag kayo *'ye'* < PPH *kayu.

(24) Bik, Ceb, Han, Ilk, Isg, Tag laŋuy *'to swim'* < PPH *laŋuy.

(25) Akl, Ceb, Bik, Han, Ifg, Isg, Ilk, Pam, Sbl, Tag mata *'eye'* < PPH *mata.

(26) Ceb puluq, Bik, Han puruq, Isg puŋu, Ibg fugu *'island'* < PPH *pujuq.[6]

2. THE POSITION OF PANGASINAN

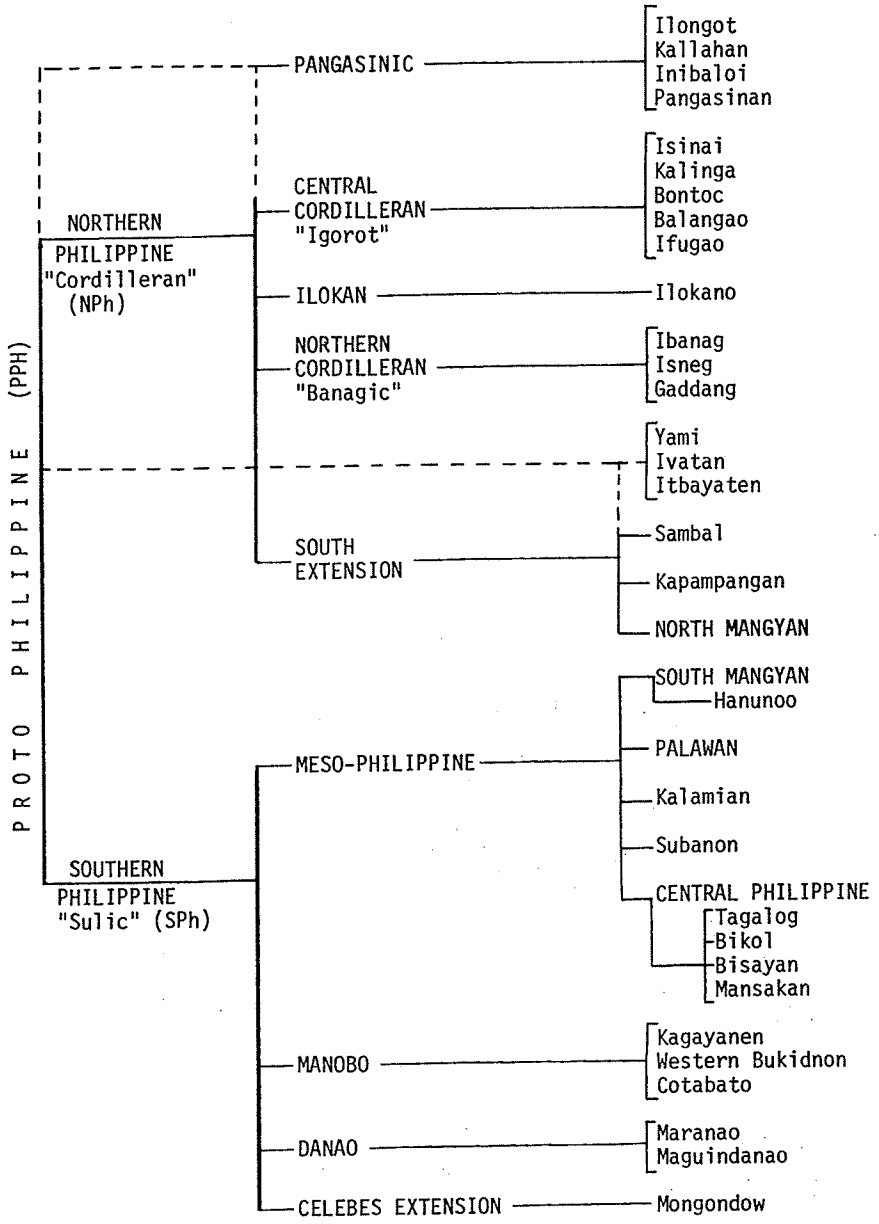
In most instances where forms in Pangasinan (Png) are clearly cognate (and least likely to be borrowings), such forms do not agree in reflecting penult length: Png qabala *'shoulder'* (#1), balu *'widow'* (#3), dala *'blood'* (#4), dalan *'road, path'* (#5), dila *'tongue'* (#6), qilut *'to massage'* (#7), qikul *'tail'* (#8), kutu *'louse'* (#9), laga *'to weave mats'* (#10), lana *'oil'* (#11), ŋipən *'tooth'* (#12), pusəg *'navel'* (#13), siku *'elbow'* (#14), tubu *'to grow, sprout'* (#15). On the other hand, forms cognate with those having a short penult do agree: Png qanak *'child'* (#16), qapu *'grandchild'* (#17), qasin *'salt'* (#18), bala *'lungs'* (#19), basa *'wet'* (#20), bəlas *'husked rice'* (#21), danum *'water'* (#22), kayu *'ye'* (#23), laŋuy *'to swim'* (#24), mata *'eye'* (#25), pugu *'island, islet'* (#26).

That this state of affairs is the result of loss, rather than of retention, can be determined by having a sound hypothesis about the subgrouping of Png in relation to other Philippine languages.

It is now clear that Png is immediately related to Inibaloi, Kallahan (Kayapa and Keley-i), Karaw, and Ilongot;[7] together these languages form a subgroup which is here called Pangasinic.[8] Previous surveys have not agreed on the placement of Pangasinic languages. Thomas and Healey (1962) put Png between the Northern and Southern Philippine families, but group Inibaloi independently as one member of Northern Philippine (NPh). Dyen (1965) puts Inibaloi (the only language of the group used in his study) in the Cordilleran (NPh) Hesion. Llamzon (1974) clearly delineates a Pangasinic subgroup (including Pangasinan, Kallahan, and Inibaloi), but puts it within what Reid (1974) calls the Igorot or Central Cordilleran subgroup of NPh languages. Note that each study identifies Pangasinic (or at least some members of the group) as NPh.

At least three solutions could be offered for the absence of penult length in the first set of words above. (1) If Pangasinic had separated earlier than Ilk, Ifg, Tag, Han, etc., these latter languages together might have developed contrastive word accent after the split with Pangasinic, but before the NPh and SPh languages began to diverge. (2) Since there are other Philippine languages that do not reflect PPH accent, e.g. Kuyonon and Tausug within Bisayan (Zorc 1977), Buhid within South Mangyan, Gaddang within Banagic, etc., it is therefore

plausible that Png independently lost contrastive accent in cognate forms. (3) The development of contrastive accent could have been a dialectal feature of PPH, and languages like Ivatan, Tausug, Pangasinan, and Gaddang are all survivors of dialects in which such contrasts were not made, while Ilokano, Ibanag, Ifugao, Tagalog, and Hanunoo are all survivors of dialects where contrasts were made.



Of these proposals, #3 is the least intuitively satisfying and involves complex reasoning, recourse to which is not necessary in the case of Png (as will be demonstrated below); #1, while plausible, contradicts the present state of our knowledge which unequivocally puts Pangasinic within NPh.

An eclectic view of the subgrouping of a number of Philippine languages is presented in the Tree Diagram (on facing page). The positions of the Pangasinic and Batanic (Ivatan or Bashiic) subgroups have been approximated; the ambivalence is indicated by the broken lines. A large number of known Philippine languages have been excluded here, but those given represent a good sampling of the major Ph groups (excluding Borneo). Data for the grouping of languages within NPh or SPh are drawn from Thomas and Healey (1962), Dyen (1965), and Llamzon (1974); the major subgroup nodes: Pangasinic (Llamzon 1974), Central Cordilleran (Reid 1974), Ilokan and Banagic (Dyen 1965), North Extension and Meso-Philippine (Zorc 1974 and 1977), Manobo (Elkins 1974), Danao (Allison 1974), Celebes Extension (Charles, dissertation in progress).

For the present, #2 is taken to be the most attractive and simple explanation of the status of length in pre-Png, i.e. Pangasinan lost contrastive word accent, but developed or subsequently redeveloped the phenomenon in a unique way.

3. THE LOSS OF PPH ACCENT IN PRE-PANGASINAN

Zorc (1972) treats the provenance of Tagalic (Central Philippine) accent. It was noted that slightly more than half (57.3%) of the Tag and Akl forms from the basic vocabulary (reflected by a modified Swadesh 200-meaning list) were accented on the ultima (i.e. had short penult vowels) when a choice of penult length or shortness on forms with an open penult (CVCV(C)) was potentially available. Several phonological and morphological reasons for this were put forward, a number of which also apply to Png. Other important factors have come to light since that article was written.

Benton (1971b:257-60) gives the Swadesh 200-meaning list for Png. Of the 165 forms with a single consonant after the penult vowel, only 27 have penult length, all of which can be explained as secondary developments, borrowings, or recent innovations (4.-5. below). Of the remaining 138 forms with a short penult, all of those that can be reconstructed for PPH with penult length appear to indicate the loss of such length in pre-Png. A large portion of basic vocabulary (from outside the Swadesh lists) also reflects the loss of PPH penult length:[9]

(27) PPH *qali:ma[h] > Akl, Ceb qali:mah-, Blw li:ma, Ilk, Isg, Kla qi:ma (metanalysed as if it had an *-al- infix), Png lima, Kalamian kalimaq *'hand'*.

(28) PPH *[]a:min *'all'* > Ilk qa:min *'all'*, Akl qa:min *'to use up entirely'*, Png qamin *'all'*.

(29) PPH *qa:ñud > Ilk qa:nud, Pam qa:ñud, Tag qa:nod, Png qanur *'to drift, flow'*.

(30) PPH *qasa:wa > Ilk, Kla, Akl, Ceb qasa:wa, Png qasawa *'spouse'*.

(31) PPH *[]a:su > Ilk, Kla, Pam qa:su, Tag qa:so, Png qasu *'dog'*.

(32) PPH *ha:ŋəs *'to gasp, pant, breathe'* > Ilk qa:ŋəs *'to breathe'*, Akl, Ceb ha:ŋus *'to breathe heavily, gasp'*, Png qaŋəs *'to breathe'*.

(33) PPH *ha:saŋ > Pam, Ilk, Isg qa:saŋ, Akl, Bik, Tag ha:saŋ, Png qasaŋ *'gills'*.

(34) PPH *ba:buy > Ilk, Blw, Akl, Ceb ba:buy, Png babuy *'pig'*.

(35) PPH *ba:ləs > Ilk ba:ləs, Ceb ba:lus, Png balәs *'to revenge, repay'*.

(36) PPH *ba:ŋun > Ilk, Isg, Akl, Ceb, Han ba:ŋun, Png baŋun *'to rise, get up'*.

(37) PPH *bi:laŋ > Ilk, Blw, Isg, Akl, Han, Tag bi:laŋ, Png bilaŋ *'to count'*.

(38) PPH *bu:lan > Ilk, Isg, Han, Ceb, Bik bu:lan, Png bulan *'moon, month'*.

(39) PPH *bu:ŋa[h] > Akl, Ceb bu:ŋah-, Ilk, Isg, Tag bu:ŋa, Png buŋa *'fruit'*.

(40) PPH *da:ləm *'deep'* > Blw da:lɨm, Kla qa-da:lom, Akl ma-da:ɬum *'deep'*, Png dalәm *'inside, depth'*.

(41) PPH *du:ma *'other, different, to accompany'* > Ilk du:ma *'to differ'*, Dibabawon Manobo du:ma *'companion, other'*, Png duma *'different'*.

(42) PPH *[]i:ŋaR *'noise, trouble'* > Pam qi:ŋay- ∿ qi:ŋe, Png qiŋal; note Malay iŋar *'noise'*; possibly cognate is Ilk qi:ŋar *'to defy'*.

(43) PPH *kawa:yan > Ilk, Ibg, Isg, Akl, Ceb, Bik, Tag kawa:yan, Png kawayan *'(spiny) bamboo'*.

(44) PPH *la:ki *'male, man'* > Ilk, Isg, Tag la-la:ki *'man'*, Akl ɬa:ki *'man, male'*, Png laki *'male, boy'*.

(45) PPH *lu:haq > Akl, Ceb, Bik, Tag lu:haq, Ifg, Kla lu:wa, Png lua *'tears (from crying)'*.

(46) PPH *lu:bid > Bik, Ceb, Tag, Ilk, Isg, Kla lu:bid, Png lubir *'string'*.

(47) PPH *lu:jan > Ilk lu:gan, Isg lu:ɡan, Sbl lu:lan, Bik lu:nad (metathesis), Png lugan *'to ride (vehicle, canoe)'*.

(48) PPH *Ru:suk *'rib'* > Ilk ru:suk *'epigastrium'*, Akl, Ceb, Bik gu:suk *'rib'*, Png lusuk *'abdomen'* (for original meaning note Malay rusok *'rib'*).

(49) PPH *lu:tuq > Bik, Ceb lu:tuq, Tag lu:toq, Ilk, Isg lu:tu, Png lutu *'to cook'*.

(50) PPH *mu:Riŋ > Ilk, Itneg mu:giŋ *'forehead'*, Isg mu:ɡiŋ *'face'*, Itbayaten muyiñ *'face'*, Png muliŋ *'forehead'*.

(51) PPH *ŋa:jan > Isg ŋa:gan, Bik, Han ŋa:ran, Png ŋaran *'name'*.

(52) PPH *qu:ban > Ilk, Pam, Akl, Ceb, Bik, Tag qu:ban, Png quban *'grey-hair'*.

(53) PPH *[]u:pak > Akl, Ceb, Tag, Pam, Sbl, Ibg qu:pak *'bark (of tree), peeling'*, with doublet PPH *[]u:bak > Bik, Pam qu:bak, Png qubak.

(54) PPH *qu:ləj *'snake, worm (creeping creature)'* > Ilk qu:ləg, Ifg qu:log, Png quləg *'snake'*, Bik, Ceb qu:lud, Pam qu:lad, Sbl qu:əl *'worm'*.

(55) PPH *qu:lu > Blw, Ilk, Ifg, Isg, Han, Ceb, Sbl qu:lu, Png qulu *'head'*.

(56) PPH *[]u:taq > Blw, Ifg, Ilk, Isg, Kla qu:ta, Png quta *'to vomit'*. The NPh languages give evidence of penult length, while forms like Sangil m-úta, Malay m-untah, attest the antiquity of the form; SPh languages generally reflect a different etymon (innovation?), PSP *su:ka.

(57) PPH *pa:jay > Ilk pa:gay, Ifg pa:ge, Han pa:ray, Ceb, Tag pa:lay, Sbl pa:li, Png pagəy *'unhusked rice, the rice plant'*.

(58) PPH *pi:liq > Akl, Ceb, Bik, Han, Pam, Sbl, Tag pi:liq, Ifg, Ilk, Isg, Kla pi:li, Png pili *'to choose, select'*.

(59) PPH *pu:nas > Ilk, Isg, Tag, Bik pu:nas, Blw, Sbl pu:nah, Png punas *'to wipe (off)'*.

(60) PPH *su:su > Akl, Ceb, Han, Ilk, Kla, Pam su:su, Ifg hu:hu, Png susu *'(female) breast'*.

(61) PPH *ta:[]u[h] > Akl, Ceb ta:wuh-, Bik, Han ta:wu, Tag ta:qo, Ilk, Sbl, Pam ta:(q)u, Png tuqu *'person'* (see note 7 for assimilation of a to u in Png form).

(62) PPH *ta:kut > Bik, Tag, Pam ta:kut, Ifg ta:qot, Png takut *'to fear'*.

(63) PPH *tu:lak > Tag, Pam, Sbl, Ilk (dial) tu:lak, Png tulak *'to push'*.

In addition to the 52 forms cited above (#1-15, 27-63), many more (over a hundred) have thus far been found in Png with short penult vowels, where the etyma reconstructable for PPH have long penult vowels. To save space, we will restrict the citation of forms to those above. The selection is sufficiently large and varied enough to make it difficult to believe that all these instances could have been produced by analogical change. It is thus a simpler hypothesis that the PPH penultimate length was lost in pre-Png.

4. THE DEVELOPMENT OF CONTRASTIVE LENGTH IN PANGASINAN

Although the original PPH length was lost in pre-Png, modern Png clearly has penult and antepenult length: la:ga *'to blanch'* (#66) as opposed to laga *'to braid'* (#10); qanak *'child'* (#16), but qa:nak *'children'* (4.2. below); ka:ruman *'yesterday'* (#70). Each instance observed in the data must be explained as a later development in the history of Pangasinan. Two ways in which length resulted have been found, both involving compensation for the loss of a consonant; the lost consonant was either: (1) preconsonantal glottal stop (*qC), or (2) the first member of a geminate cluster.

4.1. *COMPENSATORY LENGTH DERIVED FROM THE REDUCTION OF *qC CLUSTERS*

Some examples of the loss of *q (also observed in Tag) include:

(64) PPH *baqRu[h] *'new'* > Akl, Ceb bagquh- (metathesis), Bik baqgu, Ilk baru, Isg bagu, Ifg balu, Ivatan vaqyuq, Kalamian bakluq, Tag ba:go, Png ba:lu.

(65) PPH *haqlu *'pestle'* > Akl haɬqu (metathesis), Ilk qalqu, Bik haqlu, Tag ha:lo, Png qa:lu. There is also a doublet, PPH *qahlu > Ceb qalhu (metathesis), Itbayaten qahguq, Kalamian kaluq.

(66) PPH *laqgaq *'to blanch, boil in water'* > Ceb laqgaq, Bik gaqgaq (assimilation), Kalamian lakgak, Tag la:gaq, Png la:ga.

(67) Kallahan guqguq, Ilongot guqgu, Png gu:gu *'to scratch (an itch)'* < PPG *guqguq.

(68) Inibaloi maqcɨm, Kayapa maqdɨm, Ilongot madɨqdɨm, Png ŋa:rəm *'afternoon'* < PPG *maq()dəm (with dissimilation or reanalysis of the

prefix in Png).

(69) Kayapa kuq-kuqgip, Png ku:gip *'to dream'* < PPG *kuqgip.

(70) Inibaloi kaqcɨman, Kayapa kaqdɨman, Png ka:ruman *'yesterday'* < PPG *kaq-dəman. Note antepenult length in Png.

4.2. *COMPENSATORY LENGTH DERIVED FROM THE REDUCTION OF GEMINATE CLUSTERS*

The phonotactics of Png prohibit geminate clusters within a morpheme, but permit other kinds of clusters (e.g. Png qiknul *'egg'*, kətkət *'to bite'*, kəlpa *'fog'*, qamta *'to know'*, bəkləw *'neck'*, nəŋnəŋ *'to see'*, makdəm *'sharp'*, lupda *'to spit'*, etc.). Nevertheless, geminate clusters probably occurred in pre-Png. For example, in the following we find Png -a:l- corresponding to a Kayapa -all-:

(71) Kayapa qa-ballɨg, Inibaloi qɨ-badɨg, Png ba:ləg < PPG *balləg *'big'*.

In one instance, Proto Pangasinic (PPG) appears to have formed a geminate cluster as the result of assimilation; again, Png shows length where Kallahan has a corresponding geminate cluster:

(72) Kayapa qaggɨw, Keley-i qaggew, Png qa:gəw < PPG *qaggəw *'day'*; but Kalamian kaldaw, Ifg qalgo, Bik, Ilk qaldaw, Isg qalgaw, Tag qa:raw < PPH *qaljaw.

Among NPh languages, pluralisation of nouns referring to people, kin, or relationships is accomplished by consonant gemination, sometimes with the addition of CV- or CVC- reduplication. Thus, there is Ilk qubiŋ *'child'* ∿ qubbiŋ or qub-qubbiŋ *'children'*, qa:di *'younger sibling'* ∿ qaddi *'younger siblings'*, qama *'father'* ∿ qamma or qamqamma *'fathers'*, qapu *'grandparent'* ∿ qappu or qapqappu *'grandparents, gentlemen, ladies'*; Ifg quŋa *'child'* ∿ quŋquŋŋa *'children'*. In Png analogous plurals are formed with the addition of penult length: Png qanak *'child, offspring'* ∿ qa:nak *'children'*, qugaw *'child'* ∿ qugu:gaw *'children'*, qagi *'younger sibling'* ∿ qaga:gi *'younger siblings'*, tuqu *'person'* ∿ tutu:qu *'persons'*. These forms can be explained as the result of the loss of the first member of geminate clusters with subsequent compensatory lengthening (as in #71-72 above), i.e. from *qannak, *qug-(q)uggaw, *qag-(q)aggi, *tu-tuqqu respectively. Once introduced, this method of pluralisation then became productive, as in polis *'policeman'* ∿ popo:lis *'policemen'*.

The Png active nonpast prefix man- requires penult length on inflected forms, e.g. tanəm *'to plant'*, but man-ta:nəm *'will plant'*. The length can be explained as compensation for the reduction of the following geminate cluster. Note that an analogous formation in Kayapa

requires gemination of the consonant following the penult vowel, as in Kayapa man-tannɨm *'will plant'* (tanɨm), mam-bayyad *'will pay'* (bayad), man-qabbuŋ *'will dwell'* (qabuŋ), man-taqqi *'will defecate'* (taqi), etc.

The Png future passive suffix -ən yields derivatives with antepenult length, as in Png ta:wag-ən *'will be called'* or pa-u:gip-ən *'will be put to sleep'*, regardless of the accent of the base (ta:wag *'to call'*, pa-ugip *'put to sleep'*). In Kayapa analogous formations also have geminate clusters: qaddal-ɨn *'will be studied'* (qadal), bunnuq-ɨn *'will be killed'* (bunu). Thus, the Png forms again appear to be the result of compensatory lengthening associated with the reduction of a following geminate cluster, i.e. pre-Png *tawwag-ən, *pa-uggip-ən, etc.

4.3. *THE EVIDENCE IN DOUBLETS FOR BORROWING*

With length thus introduced secondarily, forms from other dialects could be borrowed without undergoing assimilation in accent.[10] Dyen (1956:87) notes: "Where doublets are found whose difference cannot be assigned to the effects of analogy, that member is inherited whose correspondences conform to those found in the basic vocabulary. The other member is a borrowing".

(73) Png pugu *'island, islet'* is the inherited form (see #26), while Png pu:lu and Ilk pu:ru are irregular in accent and in the respective reflexes for PPH *pujuq *'island'*, although a PNP *pu:juq is possible (Kalinga pu:gu, Sbl pu:luq). Png pu:lu is clearly a borrowing.

(74) Png qusil *'to run after, pursue'* is regularly derived from PPH *u:siR, note Han, Isg qu:sig *'to pursue'*, Tag qu:sig *'to persecute'*, Ilk qu:sig *'to investigate'*, while Png qu:sig *'to investigate'* is probably a borrowing from Ilk, based on the similarity in semantics and the irregularity in the correspondence for PPH *R.

The two examples illustrate the loss of PPH penult length in pre-Png, but the subsequent development of length as the result of secondary change: first, internal developments (compensatory lengthening), then external influences (borrowing).

5. RESIDUAL PROBLEMS AND CONSIDERATIONS

5.1. *THE PLURAL OF THE WORD FOR 'CARABAO'*

The plural form of duwəg *'carabao'* is dərə:wəg. Since this noun is not readily associable with the class discussed in 4.2. (names of kin and relationships), the length appears to be phonologically irregular. However, the shape of the trisyllabic form suggests strongly that the

dissyllabic form was originally *dəwəg (duwəg being the result of assimilation of *ə̌ to w); the plural dərə:wəg would then arise from internal consonant doubling with CV- reduplication (i.e. from *də-dəwwəg) by regular change. The importance of the *carabao* within the family unit, as a work animal and as a symbol of wealth and importance, does not make its association with the abovementioned noun class an unlikely hypothesis.

5.2. *THE METHATHESIS OF *Cq CLUSTERS*

There are a few forms in Png that have penult length which appear to be irregular when compared with cognate forms in other Philippine languages that have short penult vowels or Cq clusters. If independent metathesis of *q is posited for pre-Png, the length is regularly derived according to the same phenomenon discussed in 4.1.:

(75) Png ta:wən *'sky'* may be derived from PPH *tawqən *'year'* > Blw, Ilk tawən, Ifg tawon, Inibaloi, Kayapa, Kankanay tawqɨn *'year'*, in that various cycles of time or religious events were probably determined by the positions of celestial bodies. Pre-Png *taqwən > Png ta:wən. Cognate forms for *'sky'* are found in other Pangasinic languages (Ilongot tawɨn, Inibaloi tabɨn), but nowhere else in the Philippines.

(76) Png bitə:wən *'star'* derives from PPH *bitəwqən > Tag bituwin, Buhi Bikol bitəqwən, i.e. pre-Png *bitəqwən (with metathesis of *q as in the Buhi Bikol form). The dialectal by-form, Png bitu:wən, is a later development with assimilation of ə to the following w, as posited for *dəwəg above (5.1.).

(77) Png la:bi *'night'* developed from PPH *Rabi[q]i > Ilk rabiqi, Blw, Kla labi, Tag gabi ∿ gabqi, i.e. pre-Png *laqbi.

5.3. *INNOVATIVE DEVELOPMENTS*

The following forms appear to be innovations in Png, in that the penult length in each instance is difficult to explain.

(78) Png ba:ləy *'town'* is somehow associated with PPH *balay > Ceb, Han, Ilk, Isg balay *'house'*, all with a short penult vowel. The original word for *'house'* has been replaced in Pangasinic by an innovation: Png, Ilongot, Kayapa qabuŋ > PPG *qabuŋ. Png ba:ləy is necessarily the result of some secondary change. It is possible that the Png word is analogously formed from a verb such as *man-balləy *'to settle'* : *balləy *'settlement, town'*, thereby explaining the irregular development of penult length. (Bontok, for example, has ba-balləy *'village'*.)

Since resort is here made to analogy, someone might propose that there also was a workable analogy by which non-length or the loss of length was introduced into pre-Png (3.). It is the small number of forms with irregular penult length that justifies recourse to analogical change in forms such as Png ba:ləy; on the other hand, it is the overwhelmingly large number of forms from the basic vocabulary with irregular penult shortness (where PPH had penult length) that rules out analogical change as a likely hypothesis.

(79) Png qasə:wək *'smoke'* clearly involves some unusual development from PNP *[]asuk > Blw, Ilk, Kla qasuk, Ifg qahuq, Sbl qahuk. Its problematic history is regarded as beyond the scope of this paper.

(80) Png da:lin, Ilongot dɨ:gin, Inibaloi cadin (no accent or length indicated) *'earth'* appear only in these Pangasinic languages; no etymon can be assigned outside of this subgroup. Although the length in this form may be the result of secondary changes, e.g. from PPG *dallin, it is nevertheless possible that the innovation took place after length was introduced into pre-Png and could be productively applied in new formations.

5.4. *RECENT BORROWINGS*

The majority of the instances of penult length found in the data of Benton (1971a) and Fernandez Cosgaya (1865) are readily explained as borrowings from surrounding Philippine languages such as Ilk, Pam, or more recently from Pilipino, which is based on Tag. For example:

(81) Png da:yat *'sea'* is from a language in which PPH *R > y, such as Pam da:yat; Akl, Ceb, Bik, Tag da:gat, Sbl la:yat < PPH *da:Rat.

(82) Png pa:lar *'lines in palm of hand'* is probably from Pam or Tag pa:lad *'palm'* (Ceb, Bik pa:lad, Ibg pa:lag < PPH *pa:laj); since the inherited word for *'palm'* is Png dakulap (Ilk, Isg daku:lap, Han dalu:kap < PPH *daku:lap). The indigenous reflex would have yielded Png *palag, and the secondary meaning (also found in Pam and Tag) makes the form suspect.

(83) Png, Pam, Ilk, Ibg, Tag ka:yo *'piece of cloth'* is an item of trade that could pass freely from culture to culture; the source of the form is unknown.

(84) Png ba:sa *'read'* could have been borrowed from any one of a number of languages with words of the same form (cf. Bik, Ilk, Pam, Tag ba:sa). These words could all exemplify a rapid spread of a form throughout the Philippines that is ultimately from Malay baca; its

initial Philippine contact language cannot be determined, although the Tagalog-speaking area is perhaps the most likely one.

(85) Png qa:pu, a term of respect used in address to a priest, has two possible sources: either from Tag qa:poq *'patriarch'*, Pam qa:pu *'grandparent, sir'* term of respect for elders, or from a generalised plural respect form, e.g. Ilk qappu *'grandparents, gentlemen, ladies'*. In the former case, it would be a (relatively) recent borrowing; in the latter, it could be a secondarily developed inherited form (i.e. *qappu > qa:pu). However, its limited use in address to priests favours its historically-recent introduction along with Catholicism.

NOTES

1. This paper is a partial result obtained in the Austronesian Genetic Classification Project directed by Isidore Dyen at Yale University, and supported by the National Science Foundation (Grant #38073X). This paper as well as much of my current research owes much to the advice, efforts, and critiques of Isidore Dyen and Harold Conklin. Errors of judgement, interpretation, and citation are my own responsibility.

2. Stress, taken as a primary feature of accent in Zorc (1972), is here treated as secondary to vowel length or shortness. Long vowels are generally stressed; a short penult vowel is followed by stress on the ultima (as indicated in the phonetic transcriptions given). However, stress is a syntactic feature and may shift in various sentence intonations. Vowel length is a primary feature, and is not lost.

3. Some Indonesianists, such as Blust (personal communication) take issue with the label "Philippine" in that (1) Proto Philippine, as a distinct meso-language of Austronesian, has not been substantiated on qualitative grounds, and (2) Philippine is a political label that excludes Borneo and Celebes, each of which has languages with close genetic affiliations to languages spoken in the Philippine archipelago. The languages discussed herein are clearly in an especially close genetic relationship to one another (see tree diagram), and the second objection is irrelevant here.

4. The following conventions are used in the data and the reconstructions: The spelling of o (where observed arbitrary), has been changed to u; while [o] is a different phoneme from [u] in Tag, and perhaps other languages treated here, it does not affect the reconstructions in any way. Data from languages that do not make contrasts of length are employed only where necessary to establish a particular element of the

reconstruction; such language names, e.g. Kalamian, Kallahan, etc., are spelled in full rather than abbreviated. Morphophonemic final h- in Bisayan (Akl, Ceb) appears to have a high correlation with final PAN *-S and *-H, and is therefore tentatively attributed to PPH (Zorc 1977). Evidence for PPH *q comes from the correspondence Kalamian k, other languages used here q.

5. Over a hundred other reconstructions can be obtained from the cognate forms cited in Reid (1971), e.g. *bu:lan *'moon'*, *la:ŋit *'sky'*, *ba:buy *'pig'*, *bi:laŋ *'count'*, *buqa:ya *'crocodile'*, etc.

6. Over a hundred similar reconstructions can be obtained from the cognate forms cited in Reid (1971), e.g. *qabu[h] *'ashes'*, *qanup *'hunt'*, *[]apuy *'fire'*, *buhək *'hair'*, *dayuq *'far'*, *dəkət *'to stick (to)'*, etc.

7. This Pangasinic group is substantiated on the basis of a number of exclusively shared innovations. Phonological: the assimilation of *a in the penult to the vowel in the ultima, e.g. PPH *ta:[]uh > PPG *tuqu *'person'*, PPH *ba:[h]i > PPG *biqi *'woman'*. Lexical: PPG *kiyəw *'tree, wood'* replacing PPH *ka:yuh; PPG *tikəy *'short'*; da:lin *'earth'*; *ta:wən *'sky'*; *[q]abuŋ *'house'*; etc. Morphological: metathesis of certain prefixes and infixes, e.g. PPH *ma- > PPG *[q]am- adjective, PPH *-um- > PPG *[q]un- active nonpast. Functor: PPG *tu *'his/her'*; PPG *si[q]ka- nominative pronoun formative; PPG *tan deictic denoting position near addressee; PPG *man deictic denoting remote position.

8. Since Pangasinan is a major Philippine language and is the best known within the group, the label Pangasinic is convenient. If strong objections would be raised by Inibaloi, Kallahan, Karaw, or Ilongot speakers (as Bisayans object to the label "Tagalic", or Ifugaos to "Igorot"), then some appropriate geographical label might be chosen, e.g. South-Central Cordilleran, when the extent of NPh languages is established.

9. The reconstructions presented here are validated by evidence from diverse and critical Philippine languages (Ilk, Isg, Tag, Han, Ceb, etc.). They will be discussed in greater detail in a forthcoming paper on PPH accent. Space does not allow a full presentation of data, but examples #1-15 clearly indicate the reconstruction of penult length for PPH.

10. During the posited period when pre-Png did not have penult length, borrowings would have been assimilated in that speakers who did not

have a language with penult length would not pronounce loanwords with length. While distinguishing between inherited forms and early borrowings is generally a matter of speculation, the following forms with irregular reflexes as well as short penult vowels may be taken as tentative evidence of assimilated early loans into Png:

PPH *hu:Ras *'to wash'* > Akl, Ceb, Bik, Tag hu:gas, Isg qu:gat, Sbl qu:yah, Ilk qu:gas, but Png quras. The Png form shows r for expected l (*qulas); it is probably a borrowing from a dialect in which PPH *R > r, such as Ilk, although the Ilk word shows a g. It is possible that pre-Png borrowed the form from pre-Ilk, but that Ilk subsequently replaced its inherited *qu:ras with the g-form.

PPH *[R]u:yud *'to pull'* > Sangil mɨ-rʃudɨq, Akl, Bik, Ceb, Han, Ifg, Ilk, Isg gu:yud, Sbl gu:luy (metathesis), but Png guyur. The g- reflex of PPH *R- in Ifg, Ilk, Sbl, and Png is probably indicative of a very early borrowing spread throughout the archipelago, with loss of length in pre-Png.

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