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PROTO AUSTRONESIAN ACCENT REVISITED

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1. INTRODUCTORY SURVEY

A decade has now passed since my initial attempt (Zorc 1972)[1] to encourage fellow Austronesianists to look into accent in AN languages, and to determine how far back the phenomenon found in diverse Ph languages can be reconstructed. Since that time other researchers have demonstrated that accent plays a role in the historical development of their respective languages. Recently, Dahl has called together a team to look at AN accent (Biggs, Cowan, Dahl, Li, Tsuchida, and Zorc). Hence, a brief survey of recent work and hypotheses is in order as a manifesto for further study.

Zorc (1972) showed that accent needed to be reconstructed for Proto Tagalic (PCP), and sought to explain how accent on some forms may have arisen [e.g. *ə in the penult resulted in oxytonality; certain form classes (pronouns, numerals, interrogatives, deictics, and vocatives) also were oxytone], but that there was a residue of oxytonal forms which could not be explained and appeared to contradict the long-standing assumption that stress or accent fell on the penult in PMP or PAN.

Zorc (1978) again challenged the penult-accent assumption, listing a few (but diverse) AN languages where stress regularly falls on the ultima. The study demonstrated that penult vowel length or shortness must be reconstructed for at least PPH, that geminate consonants might be the result of a preceding short vowel, and that morphological accent (on vocatives and statives, etc.) was at least necessary for PHN. Although data supporting 153 reconstructions were presented, an appendix included over 500 etyma with accent, derived from and justified by cognates cited in Reid (1971) and McFarland (1977).

Zorc (1979)[2] showed how contrastive accent (vowel length) can develop in a language, and demonstrated that Pangasinan was basically oxytonal, with phonemic length introduced by the loss of the first member of a consonant cluster, parallel to that on some Tagalog forms [observed earlier in Zorc (1972:46)]; thus PPH *baqRuh 'new' > Png ba:lu, Tag ba:go.

Cowan (1974 and in press) considers the reconstruction of vowel quantity essential in deriving synchronic minimal pairs and other forms in Acehnese (see section 7 herein).

Pallesen (1979)[2] showed how the split of PAN *ə into three Proto Sama-Bajaw phonemes could be accounted for if accent was posited for pre-PSB:[3] (1) PAN[3] *ə́ > PSB *u, (2) PAN[3] *əCV́ > PSB *əCCV, (3) PAN[3] *ə̆$_2$ > PSB *ʌ. His study has demonstrated that yet another AN subgroup has gemination after *ə, but also that *ə could be accented,[4] and would not then yield gemination; thus, PAN *tə̆ŋáq > PSB *təŋŋaq 'middle (range)', but PAN *tə́ŋaq > PSB *tuŋaq 'middle (point)'.

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[1] I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *? < PAN *q as opposed to PAN *?, was not taken up until Zorc (1981).

[2] Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

[3] Pallesen (1979:footnote 9): 'The label PAN in this paper, when it refers to the stress hypothesis, should be read as shorthand for "PAN or some lower proto-language of Proto-Hesperonesian"'.

[4] I erroneously did not take up this point in Zorc (1978), although it is discussed in Zorc (1972:50 and 1977:218), positing a PCP *bə:təŋ 'to pull' and PCP *bətə́ŋ 'young coconut' (i.e., *pulled off* before it is ripe). I take at least some of the accent pairs for Proto Sama-Bajaw to be indicative of what I have called 'morphological use of accent' (1978:91ff).

Dahl (1982) reviews my 1978 paper, surveys accent in several AN languages, and makes explicit the reconstruction of short vowels where gemination appears.[5] He also explains more of the Madurese geminates (correctly dismissing nasal accretion),[6] and introduces Makassarese and other South Sulawesi speech varieties as criterion languages.[7] However, Dahl reconstructs long vowels on the basis of absence of gemination in Madurese, which does not agree with oxytonality reconstructed for PPH.[8] It is clear that some of the accent-marking conventions introduced in Zorc (1978) require revision (see section 3 below). I fully agree with Dahl (1982:112) 'that the geminates have developed after short penultimate vowels . . . . The quantity feature has, so to speak, moved from the vowel to the consonant'. [See sections 8.2 and 8.3 herein.]

I am pleased that all studies of individual AN languages or subgroups that I have received or seen in the last five years clearly indicate the role of accent. If it predictably falls on a given syllable, this is specified in the introduction; if it is unpredictable, it is indicated on the individual entries. For example, in a study of the Sangiric languages, Sneddon (to appear) discusses word stress in each speech variety, and offers a particularly astute explanation of how stress contrasts evolved in Ratahan: 'stress shifted from a penultimate high vowel to an immediately following vowel in a final closed syllable (*Ríud > Rth iúr 'to pull', tían > Rth tián 'belly' . . .). This stress shift operated before the loss of *h, reflecting PSan *R, in Rth. Subsequent loss of *h resulted in stress contrasts (*níuR > Rth niú 'coconut', *níRu > Rth níu 'winnowing pan', *búat > Rth buá? 'to stand up', *súRat > súa? 'fish poison')'.[9] Another fine study is that of Adelaar (1981) on Proto-Batak, wherein the role of accent for each Batak dialect is discussed.

2. SOME NOTES ON FAITH

In a recent review I noted:

> The decisiveness of any solution . . . ranges from near universally-accepted changes (metathesis, assimilation, dissimilation, etc.) to the setting up of additional correspondence sets, and from over-reliance on the principle of economy to an act of faith in a particular reconciliation of divergent forms (can one reconstruction do? or should doublets or different reconstructions be made?) . . . But this is precisely where the act of faith comes in: Scholars can offer alternative solutions, and those that seem the most economical *and* reasonable should be the most believable. (1981a:45)

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[5]Zorc (1978:97f) suggested that this area should be studied, but did not make explicit the reconstruction of *V when gemination was observed.

[6]Thus, PHN *bŭká? 'open', PAN *Ca?ás 'above', PAN *Sŏsí? 'contents' 'all. . . had short penult in PAN' [Dahl (1982:110)]. And I agree.

[7]Based on Mills (1975 – which to date I do not have access to) and his own research. I will not add to the list of PHN, PMP, or PAN reconstructions with penult *ŏ herein, because I consider this to be sufficiently established. However, some of the 'new reconstructions' (beyond those cited in Zorc 1978) would include: PHN *bŏnáŋ 'thread' (Akl bunáŋ, Ml bənaŋ, Mkr bannaŋ), PMP *pŏñuh [turtle] (Ib pəñu?, Mkr paññu, Tbl həŋuh, Sml pəŋno], PHN *qŏlət 'space, interval' (Tbl kələt 'in succession', Ml hələt, Md ələ?, Mkr alla?, Akl ?ulút). Some new reconstructions based on gemination in Mkr after a vowel other than *ə are presented in section 5 (herein).

[8]Dahl's PAN *a:ku [PPH *?akú (#139)], *t'i:da [PPH *sidá (#144)], *ki:t_1a [PPH *kita (#47)], *a:nu [PPH *?anúh (#148; see Zorc 1981:#P112)] I do not feel that lack of gemination in Madurese proves length in PAN, and oxytonality alone in the Philippines does not prove shortness (see section 3), hence the errors in Zorc (1978) and perhaps in Dahl (1982). I do accept Dahl's PAN *a:ɬak and *i:naH as possible base forms, with PPH *?anák and *?ináh, *?iná? as resultant vocatives.

[9]The importance of Sneddon's analysis cannot be underestimated. The agreement of Rth tián 'belly' with PPH *tián, Rth niú 'coconut' with PPH *niúR, and Rth níu 'winnowing pan' with PPH *ni:Ru is accidental, and clearly not a case for sporadic retention of vowel quantity.

In an article (in press), Blust says:

> During the past decade several writers have proposed that PAN phonology be revised in various ways. In my view most of these proposals suffer from serious methodological inadequacies (Dahl 1976, Wolff 1974, Dyen 1978 and – to a lesser extent – Prentice 1974) or basic incompatibilities with the evidence (Zorc 1978).

Whereas Dahl has come to *believe* in the necessity to reconstruct accent, it is clear that Blust has not. In a personal correspondence, Blust sent me data on Kelabit and some other languages that did not conform with Zorc (1978 and 1981: footnote 24). Indeed, there was an incompatibility with the Ph evidence alone, for I sought to account for three phenomena with two:

(1)	Ph CV́:CV(C)	[long/accented penult vowel]	< PPH *CV:CV(C)
(2)	Ph CV̆CV́(C)	[accent on ultima]	< PPH *CV̆CVC
(3)	Ph/Md CVCCV(C)	[consonant gemination]	

I hope to offer herein more plausible evidence that accent contrasts did obtain in PAN, and that there is a need to reconstruct: (1) vowel length (*V:), based on the evidence of Ph languages which is not contradicted by evidence from other AN languages, (2) vowel shortness (*V̆), based on gemination (or other strengthened reflexes) of consonants following such vowels, (3) accent on the ultima ($*V́_1$), based on the evidence of Ph languages where neither length or shortness in the penult can be established, but oxytone roots appear, and (4) unknown (*V), where evidence of any accent pattern is ambiguous, contradictory, or lacking. Two points should be understood.

Firstly, the basis of my 'faith' in the reconstructability of accent (vowel quantity, and possibly stress) is the overwhelming agreement of Northern and Central Philippine languages that share hundreds of cognate forms and inflections, which cannot plausibly be explained as the result of the loss of a consonant phoneme, borrowing, or convergence (= 'drift'). Ultimately, the question of the subgrouping (and time-separation) of languages like Bisayan and Bontok is at issue. Few scholars today believe in a node 'Proto Philippine'. It is clear that the Sama-Bajaw languages are intrusive, and belong to some 'Indonesian node'. The Bashiic (Yami, Ivatan, Itbayaten) and Bilic (Bilaan, Tboli, Tiruray) languages have been up for grabs to just about any subgrouping hypothesis, while other languages (e.g., Ilongot) have become less controversial. While I still cling to the theory that most of the linguistic groups of the Philippines [including some of Northern Celebes (Mongondow, Minahasan, Gorontalo?) and some Ph intrusives in Sabah (Illanun)[10]] form a single AN subfamily, Reid's most recent subgrouping hypothesis[11] includes only Southern Mindoro, Central and Southern Palawan, and Central Philippines within the Malayo-Polynesian node. Northern and Southern Philippine languages merge at an Extra Formosan

[10]See Fleischman (1981). The inclusion of Mongondow and Gorontalo is based primarily on the work of Mathew Charles, and of Minahasan on Sneddon. Charles had long ago suggested to me that Kadazan may be a Ph language, but I defer to Blust's hypothesis that includes Sabahan languages in a larger North-Sarawak-Sabahan AN node. While I take issue with Blust's vowel-deletion hypothesis on reconstructional grounds, I do not refute the subgrouping implications of the split of PAN *b, *d, *D, *j into two correspondence sets among Bornean languages. This phenomenon appears to be an innovation of high quality, and hence of considerable power in subgrouping theory. My hypothesis suggests that this split arose as the result of consonant strengthening after (randomly or sporadically retained) short penult vowels [rather than vowel deletion and contact with PAN *S, as Blust proposed]. The fact that this innovation crosses typologically different languages ('Philippine' vs 'Indonesian') may be the object of some concern, but I am not in a position (data- or time-wise) to put forward an alternate subgrouping of the Sabahan languages.

[11]Personal communication, cited in Reid's letter to Merritt Ruhlen (dated 27 Aug 82), although the subgrouping is dated 21 Nov 81. It is not my intention to be critical of this hypothesis (as I am not aware of the evidence that has motivated it); I merely wish to make the reader aware of alternative interpretations (of Ph subgrouping and, hence, the provenance of Ph accent).

node along with Amis and PMP. If Reid is correct, then CPh and NPh vowel and consonant quantity agreements must be posited as pre-PMP. If, on the other hand, my subgrouping is correct, then Ph accent *may* be an innovation (see Dyen 1971:45) – one of high quality in a subgrouping hypothesis. However, I do not make recourse to such an innovation, as will be seen hereunder, and has been suggested in Zorc (1972, 1977, 1978, 1979).

Secondly, loss or regularization of accent should not give us pause. The antiquity of the preserved penult accents in Malagasy or the recentness of oxytonality in Kuyonon and Inland Bikol dialects demonstrate only that accent is and was a fragile phoneme (akin to PAN *j or *R or *S), and is subject to the shifts or losses or resurrections noted for the less controversial members of the PAN phonemic inventory. Similarly, partial retention (or loss) of accent, while puzzling, must be accepted. Mansakan short vowels (Svelmoe and Abrams 1955, Abrams 1963) and Kalagan long vowels (Dawson 1958, Reid 1971) correspond with the quantity reconstructed for PCP (Zorc 1977). Yet neither Msk or Klg preserves more than a handful of the total PCP accent inventory.[12] The absence of a Msk **mắta 'eye' or of a Klg **?a:wid 'grasp' does not invalidate the reconstruction of a PCP (and PPH) *matá 'eye' or *ha:wid 'hold',[13] even if the loss of the corresponding accent pattern cannot presently be adequately explained.[14] An analogous or parallel development is suggested hereunder for the clearly random retention of short vowels in Makassarese or Madurese (leading to consonant gemination) or North-Sarawak languages (leading to strengthened reflexes).

3. QUANTITY AND STRESS IN AUSTRONESIAN LANGUAGES

In my 1978 paper, I suggested guidelines for classifying languages typologically (and regardless of their genetic subgrouping) on the basis of the role of accent. The can be found as items A → E in Table 1. Further kinds of sub-classification were implicit in the paper, or have come to light since (items F → K in Table 1).

TABLE 1. CLASSIFICATION OF LANGUAGES BASED ON THE ROLE OF ACCENT

(A) Phonemic length and shortness, as *inherited* from PPH (< PHN/PMP/PAN): Bisayan (except Kuyonon and Tausug), Coastal and Pandan Bikol, Balangaw, Bontok, Hanunoo, Ifugao, Ilokano, Isneg, Itneg, Itawit, Kalinga, Kapampangan, Kankanay, Malaweg, Sambal, Tagalog

(B) Phonemic accent (quantity or stress), as *secondarily introduced,* generally due to consonant loss or borrowing:
Casiguran-Dumagat, Ibanag, Pangasinan, Old-Javanese, Ratahan, Malagasy

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[12]All of the Mansakan short vowels I have data on are: ?ắba 'chest', ?ắbug 'dust', ?ắgaw 'surely', ?ắlag 'also', ?arĭ́gi 'shrimp-fat', bắ?ug 'rotten', bắga? 'abscess', bắyaw 'brother-in-law', bĕ́teŋ 'young-coconut', bĭ́las [in-law], bĭ́tay [yam], bĭ́yag 'full, satisfied', bŭ́kad 'to clean outside of house', bŭ́kuŋ 'bent, crooked', bŭ́ta 'blind', dắyaw 'good', dŭ́nut 'rotten', gắbi 'night', gắmut 'root', kŭ́laŋ 'lie-down', lắ?ug (no gloss, but in contrast to la?ug 'to string beads'), lắnut 'rice-water', lắpas (no glosss, in contrast with lắpas (no gloss)), lắwas 'tree-trunk', sắrig 'to trust', tŭ́?ud 'knee', tŭ́yu? 'to commit suicide'; there is in addition the prefix yamắ- 'able to' (in contrast witn yama- 'accidentally'). All of the Kalagan long vowels I have data on are: ?aba:ga 'shoulder', ?a:kuk 'vagina', ?a:lad 'fence', ?a:luŋ 'shadow', ?a:tag 'give', ba:ga? 'lungs', balaŋa:wan 'rainbow', ba:lu 'widow', da:gat 'sea', dala:gan 'run', da:lan 'trail', ?ina:si 'wine', ka:n 'eat', lasbun 'cloud', (ma)la:lem 'deep', la:nut 'abaca', la:was 'body', (ma)la:wig 'long', mala:lan 'thousand', ma:wat 'far', minta:lun 'defecate', ŋa:lan 'name', pa:lad 'palm (of hand)', pa:naw 'walk', pa:nda? 'short', pa:nid 'wing', pa:wa? 'swidden', sa:kil 'heel', sa:kit 'pain', ta:kaw 'steal'. Etymological justification for most of these can be found in Zorc (1977 and 1978).

[13]PPH *matá (Zorc 1978:#52), PPH *há:wid (Zorc 1977:footnote 13).

[14]It would appear that Mansakan has become a paroxytone language for the most part due to influence from its Manobo neighbors, while Kalagan has become oxytone due to influence from its Bilic neighbors. The vowel quantity thus far preserved is likely to die out in a generation or two.

(C) Length contrasts in the ultima, resulting from compensation for the loss of a consonant:
Tausug, Butuanon, Kamayo, Cebuano

(D) Phonemic length, as the result of coalescence (or crasis) of vowels, which does not correspond with stress (pitch accent):
Kuyonon, Tungho-Saisiat

(E) Phonemic (1) length or (2) shortness, retained sporadically as remnants of a pre-existing system.
Mansaka (shortness), Kalagan (length)

(F) Consonant length (1: gemination, or 2: strengthening) following a short vowel (generally, but not always *ə):
Bagobo, Ilokano, Kagayanen, Obo, Isneg, Itneg, Malaweg, Tagabawa, Madurese, Buginese, Sama-Bajaw

(G) Oxytone = accent (with or without secondary vowel lengthening) falling regularly on the ultima:
Acehnese, Bilaan, Javanese, Ivatan, Kerinci, Palau, Puyuma, Tboli, Takituduh-Bunun, Saisiat, Uma-Juman, Yogad

(H) Paroxytone = accent (with or without secondary vowel lengthening) falling regularly on the penult:
Gaddang, Makassarese, Paiwan, Pazeh-Kahabu, Ishbukun-Bunun, Maanyan

(I) Proparoxytone = accent falling regularly on a prepenultimate syllable (or on the first syllable of a polysyllabic word):
Saaroa, Mantauran-Rukai

(J) PAN *ə influences accent in a different way from the other vowels:
Atayal, Malay, Sarangani-Manobo, Tiruray

(K) Accent is used inflectionally = morphemic accent:
Chamorro, Kanakanabu, Motu, Toba-Batak, Angkola-Batak, most CPh languages

Such a classification may be more useful on given *words,* rather than on languages as a whole, although in some cases only one or two statements may apply and summarize concisely the role of accent in a language. Problematic cases include: Tagalog (A/B,D,F2, K),[15] Ilokano (AF/B),[16] Cebuano A/C,F2,K).[17] More clearcut cases would include: Malay (HJ), Chamorro (HK), Malagasy (B/H), Paiwan (H).

I would like to be able to make a comprehensive list of AN languages on this basis, and insure the accuracy of statements in Table 1. I would deeply appreciate your assistance in achieving this goal.

The accent system of Ph languages and the need to reconstruct long and short vowels for the ancestor of CPh and NPh languages ('PPH') has been taken up in my 1978 paper, and need not be reiterated here. Now I would like to discuss: the origins of secondarily lengthened vowels (§4) and consonants (§5), since they are at issue in the ultimate reconstruction of PAN quantity distinctions; secondary vowel shortness (§6);

[15]Tagalog basically retains original quantity distinctions, but particular forms exhibit interference from consonant loss (Tag ?a:raw < *qaljáw 'day'), crasis ?a:nim < *?a?ənəm 'six'), strengthened reflexes (?iríʼ 'this' < *?i+díʼ; expected **?iliʼ, cf: Tg ha-líʼ: ka 'come here!'), and morpnemic accent (hi:hip <PSP *həyáp 'to blow'; expected **hiyíp, cf: hi:p-an 'blow on/at!')

[16]Ilokano has inherited length and shortness distinctions, and geminate consonants after short vowels; but some long high vowels are overridden if followed by an original laryngeal (Ilk rabi?í < PAN *Rabi:?iH 'night', Ilk luwa <PAN *lu:Səq 'tear').

[17]Cebuano has an accent situation similar to that described for Tagalog (footnote 15), but also has phonemically long final vowels in its *l-losing dialects (Ceb ba:y <PMP *baláy 'house').

and the appearance of long final vowels in Rejang-Melanaw and Acehnese (§7). Finally (§8) I suggest that accent differences in PMP/PAN were responsible for certain irregular sound shifts or changes, which have led to the reconstruction (in some instances) of PAN phonemes that may not otherwise be justified. This potential of accent to yield 'irregular' reflexes has heretofore (as far as I am aware) not been acknowledged.

4. SECONDARY LENGTH

Teselkin (translated Echols 1972) illustrates that some long non-final vowels in old Javanese are the result of *crasis*, e.g., OJv ta:ku < ta+aku 'I (emphatic)', ta:nuŋ < ta+anuŋ 'the one who', ka:lapan < ka+alap+an 'theft', teka:wak < ta+ika+awak 'that body', etc. Dahl (1982:113) suggests that crasis has produced a long vowel in Makassarese beru < *baqəRuH 'new' and alu < *qaSəluH 'pestle', similarly he (1d:48f) posits Tagalog ?a:pat < *aəpat and ?a:nim < *aənem. While crasis cannot be ruled out as a possibility, it is equally possible in the Mkr and Tag cases that the (posited) length is from the loss of a laryngeal cluster, *baqRuH or *qahluh, which already existed in PHN, i.e. syncope occured early in the history of these forms (Zorc, to appear).

Certainly consonant loss has produced long vowels which bear no relationship to reconstructable quantity distinctions in PAN. Witness Iban ba:h < PMP *bahá̋q 'flood', ba:l 'unpleasant taste' < PHN *bahál 'ferment(ed)', tu:r 'low (water)' < PHN *tuqúR 'dry', etc. Biggs[18] illustrates that the contrast between long vowels (which are best regarded as geminate vowels) and short vowels . . . in Proto-Polynesian, can, in the great majority of cases, be regarded as a secondary development' due to the loss of PAN *R or *y: PPN *afaa 'storm, hurricane' < PAN *Saba:Rat 'monsoon wind', PPN *laa 'sail' < PMP *la:yaR. Taai-Saisiyat preserves an [L] < *R, *l, while Tungho-Saisiyat loses it and has vowel length (Li 1978): PAN *Si:maR 'grease' > SaiT s̆imá̋L, Sai s̆imá:, PAN *i:kuR 'tail' > SaiT kikoL, Sai kikó:, PAN *bu:suR 'bow' > SaiT bŏhŏL, Sai bŏhŏ:, etc.[19] Similarly, loss of *R had led to length in old-Javanese: PAN *i:kuR > OJv iku: 'tail', PAN *niuR > OJv nyu: 'coconut', which stood in minimal contrast to OJv iku 'that' and OJv nyu 'your' (Cowan, in press). This would also explain OJv padu: 'corner' < PHN *Zu:Ru 'angle, corner' +*pa- prefix, OJv ili: 'to flow' > PHN *qilí̋R, liṇḍu: 'earthquake' < PHN *linduR, and numerous other forms.

Drift can also account for the appearance of long vowels. Gaddang dialects (McFarland 1977) generally have long penult vowels when followed by a single consonant, even though surrounding languages have historically-derivable short vowels: Gad ma:ta 'eye' < PPH *matá̋, Gad bi:fig 'lip < PPH *bibí̋R, Gad diwa:nan < PNC *di-wanán 'right (hand)', GadS ku:ku 'fingernail' < PPH *kukúh, Gad li:kud 'back' < PPH *likúd, Gad da:pan 'sole' < PNP *dapán, etc. I suspect that drift similarly accounts for most long vowels in Thao (see Li 1976), but more data are required to confirm this.

[18] In a personal correspondence to O. C. Dahl dated 11 Aug 1981, cited in a letter from Dahl to members of the 'accent team', dated 19 Aug 81.

[19] Offhand, I cannot find any cases of Sai length after loss of PAN *l. Note: Sai kois, SaiT koLis 'peel (of fruit)' < PAN *ku:liC 'skin/bark', Sai bŏŏ?, SaiT boLŏ? [bamboo] < PAN *bu:luq, Sai haəŋ, SaiT hăLəŋ 'pine tree' < PHF *sa:ləŋ 'pine-tree; resin', Sai ?ăs̆o?, SaiT ?ăs̆əLo? 'pestle' < PHF *qaSəlúH, Sai bayza?, SaiT baLiza? 'batten, reed (of a loom)' < PHF/PAN *balí̋ja 'shuttle-stick (for loom)', Sai baiw, SaiT baLiw 'buy' < PAN *baliw '(ex)change; payback', Sai s<om>oiz, SaiT s<om>oLiz 'brood (eggs)' < PHF/PAN *Su:lij 'sleep-with' (s̆ should appear < *S, but the connection seems straightforward; possibly a loan from another Fm language where [s] < *S).

[1] I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 501,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *? < PAN *q as opposed to PAN *?, was not taken up until Zorc (1981).

[2] Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

5. SECONDARY CONSONANT GEMINATION

Dahl (1982:115) has already pointed out that assimilation of *NC clusters led only recently to gemination in Toba-Batak. This phenomenon is also noted in Ibanag in contrast to other members of the North Cordilleran subgroup, e.g. PNC *simpət 'kind' > Ibg sippo?, Gad, Itw, Mlw simpət; PNC *-iŋlaw 'intoxicated' > Ibg_1, Itw nellaw, Ibg_2 mellaw, Mlw niŋlaw, Isg miŋlaw; PPH *-hiŋpis 'thin' > Ibg neppi?, Bik-ma-hiŋpís, Mlw nempis, Isg niŋpit, Ilk na-?iŋpis; PNC *-laŋpaw 'light(weight)' > Ibg_1 ?a-lappaw, Ibg_2 ma-lə̀ppaw, Isg na-ləŋpáw, Mlw na-lampaw, Yog ma-ləmpaw. In fact, such assimilation leading to gemination may account for the lack of cognate nasal clusters in CCr and SCr languages (see Reid 1981); in these latter languages, the geminate cluster would have been reduced with the result of compensatory lengthening, as in Luba, Knk sa:dag < *sandaR 'to lean'.[20] These languages do not normally allow consonant gemination on root words, although it is still active in the morphology.

It is perhaps noteworthy that gemination(as well as accent) can play a role in the inflectional system of a language. I am not aware of this function outside of NPh languages, where it can mark plurality (Ilk ?ubíŋ 'child' : (?ub)?ubbíŋ 'children', Ifg ?uŋá 'child' : ?uŋ?uŋŋa 'children') or future action (Kayapa tanəm 'plant' : man-tannəm 'will plant', bayad 'pay' : mam-bayyad 'will pay').

Assimilation of consonant clusters also accounts for some geminates in Makassarese: Mkr sassala? 'regret' < *səlsəl, Mkr allo 'day' < *qaljaw, Mkr aguttu < Port agosto 'August'. However, NC clusters do not produce geminates: ampi? 'near' < *qampir, panre, pande < Xpanday 'craftsman', alinta 'leech' < **qalintaq < PAN *aliməCaq, aŋka? 'raise' < *ankat, etc. While most geminates in Mkr appear after [a] < *ə, not all do. Note Mkr amma? 'mother' (mis-cited[21] as 'father' in Dahl 1982:114, but certain to be connected with PPH *ămá? 'father' (vocative), with semantic shift) [#137], or Mkr pattuŋ, Ceb patúŋ, Mon patuŋ [bamboo], Tag patoŋ 'bamboo drum', Ml p<əm>atoŋ 'bamboo conduit' < PHN *pătúŋ [bamboo] (Blust, in press: #336). Note also:

(154) Mkr butta, Mon buta?, Gor huta, Mar botə? 'earth, ground', K-C li/buta? 'mud' < PHN *bŭt[áə́] [q?].[22]

(155a) Mkr anrinni, Mam, Soc, Sin dini, Ml di/si/ni; (Tag di:ni, Ceb dínhi < PCP *di-h(ă)-ní) 'here' < PHN *dĭ+ní.

(155b) Mkr anni, Aty qani, UJ anih; (Ceb ?ánhi < PCP *?a+h(ă)+ní) 'this' < PAN *qă+ní[ØH].

(156) Mkr kappala? (Bug<Mkr), Ml kapal, Rej kapəl 'ship' < PIN *kăpál.

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[20]This is not a particularly good example, since the final -g is indicative of a loan. Nonetheless, the introduced length and lack of a nasal serve to make the point. Time has not permitted a detailed study of forms in Reid (1981) and McFarland (1977) in light of this hypothesis.

[21]Dahl (personal communication – 8 Nov 82): 'Matthes has both "moeder" and "vader" as translation of amma. Because most languages have the original meaning "father", and this was also one of the meanings of the word in Mkr, I did not find it necessary to mention that it also means "mother". Matthes gives "moeder" first. I therefore suppose that even in his time this was the most common meaning. The word originally meaning "father" has certainly at a certain time got the meaning "parent", and then . . . "mother" '. I do not have access to the earlier Matthes dictionary, but the recent Cense dictionary cites only meanings 'mother' and 'woman'.

[22]Note also WBM tələ/bugta? 'spirit owner of a parcel of land' from a doublet *buRt[aə][q?]. The Mkr form is not likely to be the result of assimilation of *Rt > -tt-, note Mkr bise < *bəRsay (or a doublet) 'oar, paddle'. Since I consider this paper an extension of Zorc (1978), I am continuing the enumeration of reconstructions from #153, the last cited in the previous work.

6. SECONDARY SHORT VOWELS OR SHIFTS OF ACCENT TO THE ULTIMA (OXYTONALITY)

Zorc (1972) demonstrated that loss of the first consonant of the ultima brought accent to that syllable, thus Tag higá? < PCP *higda? < PMP *hidəRáq 'go to sleep' [#169], Tag bigát < PMP *bəR?at 'heavy' [P182, Zorc (1981)]. It is possible that analogy with such cluster losses (and original oxytone forms) led to the oxytonality of languages such as Javanese, Tboli, and Bilaan.

Phonotactics of a given language may also dictate accent shifts to the ultima, such as the presence of an intervocalic morphophonemic [Ø] in Tagalog (buwán < **buØan < PAN *bu:laN 'moon' [#06], da?án < *daØan < PAN *Za:lan 'trail, road' [#08]) or of an intervocalic laryngeal in Ilokano (Zorc 1978: 85f and footnote 16 herein).

The phonotactics of most Ph languages do not allow long vowels in closed syllables. Dahl has suggested (1982:109): 'Words with the structure CVCCVC always seem to have had a short penultimate vowel, and therefore stress on the last syllable, e.g., PPH *bŭkbúk "weevil"'. However, there is the possibility that PAN could have had quantity distinctions in closed syllables, as Cowan (in press) believes (see §7 below). Exceptionally thorough research into inflected forms of Ph languages is needed to verify this. Bearing in mind that oxytone roots when inflected with neutral-accent suffixes yield oxytone derivatives (PPH *hapúy 'fire' + -an → *hapuyán 'fireplace'), and paroxytone roots yield paroxytone derivatives (PPH *ba:Rah 'embers' + -an → *baRa:han 'place for keeping embers'), forms like Knk, Ifg punta:?an 'hit, strike' or Ilk kugta:ren, Itg kulsa:den (Isg ikugsád) suggest prototypes like **punta:[?] or **kuRsa:d. At present, such forms as are found in McFarland (1977), Reid (1971), or Vanoverbergh (1956) cannot be interpreted as definitely indicative of such long vowels until a careful analysis of the behavior of CVCCVC roots establishes a contrast between [CVCCV:Cən] versus [CVCCVCə́n].

Shifts of accent to the ultima have a widespread grammatical or discourse function. Consider vocatives (Han, Tb á:ma 'father' (reference) : amáŋ 'father!' (address) [Blust (1970: footnote 108; 1979) and Zorc (1978:94)], strong commands (Paiwan kánu 'eat!': kanú 'now eat!'), statives (Zorc 1978:93) or attributives (Adelaar 1981, in Toba and Angkola-Batak). Although some cases of grammatical accent may be secondary or innovative developments, vocative and imperative intonations on the ultima are probably PAN.

Drift has also clearly been operative in producing so many oxytonal AN languages.

7. LONG FINAL VOWELS?

At least two AN languages have long final diphthongs: Rejang-Melanaw and Acehnese. Some cognate examples are given in Table 2.

The Rejang data generally indicate secondarily-developed length via oxytonality. Note the development of diphthongs from original final vowels (the first 12 items in Table 2), which may have been the first stage in the history of its final vowel lengthening. However, minimal contrasts do appear: Rej law 'they' apparently a Bornean development, *lu(?) 'they (trial or plural), Mr lu? 'they (3)') : Rej la:w 'day' (< *qaljáw), also Rej jəlá? 'hungry', jəláə? 'tongue', jala? 'cast-net'. Some forms elicited[23] never had length: Rej anúm 'water', anáy 'termite', bubun 'fontanelle', jajáh 'sell', láyáh[24] 'sail', líŋáh 'ear', pa?ít 'bitter', menáŋís 'cry', túgún 'swim', uái 'rattan', tanā? 'earth', dagín 'meat'. As might be expected, final *ə did not lengthen, e.g. kudə́n 'cooking-pot, ñipə́n 'tooth', bilə́m 'black', nor did most forms with final *-a (with introduced final [-h] and schwa doublets): duáh, duwáh 'two', limáh, limə́h 'five', matáh, matə́h 'eye'.

[23]Data were gathered in 1974 when I had an opportunity to sit in on a 'Linguistic Analysis' class of Prof. Dyen at Yale University. The language assistant was Yusuf Hadi, from Rejang village, Sarawak.

[24]The appearance of two accent marks means that accent was observed to fall on either syllable, although the overall pattern was oxytone. The majority of the Rejang data support a hypothesis of secondary lengthening, but I am not in a position to explain all of the forms that do not show this phenomenon. I would be pleased to hear comments from those who understand the linguistic situation of Borneo, and how Rejang fits into the picture. In any case, I do not believe Rejang casts any light on the PHN or PAN accent situation.

demonstrated that yet another AN subgroup has gemination after *ə, but also that *ə could be accented,[4] and would not then yield gemination; thus, PAN *təŋtaq 'middle (range)', but PAN *təŋáq > PSB *tuŋaq 'middle (point)'.

[1]I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS,PCP *? <PAN *q as opposed to PAN *?, was not taken up until Zorc (1981).

[2]Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

TABLE 2. REJANG AND ACEHNESE DATA (WITH LONG FINAL VOWELS)

		REJANG	ACEHNESE
PPH *qabú(h)	'ash'	abə́w	abɛɔ
PPH *ʔa:su	'dog'	asə́w	asɛɔ∿asɛw
PPH *hadi:Ri	'pillar'	digə́y	drɔɔ 'self'
PPH *ka:yuh	'tree'	kayə́w	kayɛɔ
PPH *ku:tu	'louse'	kutə́w	gutɛɔ∿gutɛw
PPH *su:su	'breast'	susə́w	
PPH *ta:u(h)	'person'	tu?áw[25]	
PPH *talí	'rope'	talə́y	talɔɔ
PPH *tə̌lú	'three'	talə́w	lhɛɛ <tlw>
PPH *qu:bi	[yam]	ubə́y	ubi
PPH *qu:lu(h)	'head'	ulə́w	ulɛɛ∿ulɛw
PMP *bulu	'down/fur'	bulə́w	bulɛɛ
PPH *hapúy	'fire'	apúay	apuy
PPH *qatáy	'liver'	atáay	ate
PPH *ba:buy	'pig'	babúay	buy
PPH *bə̌Rás	[rice]	bəgáas	brwəh
PPH *bə̌Ray	'give'	bía?[26]	bri
PPH *buhák	'hair'	búək	bu?o?∿o?
PPH *bu:lan	'moon'	bulán	bulwɛn
PPH *bu:luq	[bamboo]	bulúʔ	buloh
PPH *bu:ŋah	'blossom'	buŋáəh	buŋɔŋ
PPH *da:Raq	'blood'	dagáʔ	darah
PPH *da:hun	'leaf'	daúən	
PPH *Ramút	'root'	gamúət	
PPH *Ru:suk	'rib'	usúək	'chest'
PAN *Sikə́(:)n	'fish'	ikə́ən	
PPH *ʔi:kuR	'tail'	ikúay	iku
PMP *ZuRúq	'juice'	juwúaʔ	'extract'
PPH *kamí	'we (excl)'	kamía?	kamɔɛ
PPH *ku:lit	'skin'	kulíat	kulet
PPH *la:ŋaw	'fly'	laŋáəw	
PPH *manúk	'fowl'	manúək	manɔ?
PPH *ŋa:jan	'name'	nadáən	nan
PPH *ñamúk	'mosquito'	ñamúək	jamɔ?
PPH *niúR	'coconut'	ñúəg	u(r)
PPH *pa:jay	[rice]	padáay	pade
PPH *tudúq	'point'	tujúaʔ	'7'
PPH *ʔu:Rat	'vein'	ugáat	urat
PPH *qudán	'rain'	ujáən	ujwɛn
PPH *ʔulíq	'return'	mulía?	
PPH *təluR	'egg'	t(ə)lúay	
PPH *tu:duR	'sleep'	tudúay	dudu 'lying-prostrate'
PMP *bə̌lí	'buy'	bəláy	blɔɛ
PIN *bəlás	'-teen'	-blás	blax <blas>
PPH *ʔanák	'child'	anák	anw?

[*Note. All Acehnese data are from Cowan (1974, 1981, in press, or personal communication).*]

[25]Also Rej tnawan 'person' (with voiceless n̥), presumably < *t<in>au(h)an.

[26]Also Rej mubí?, without final vowel length. The lengths recorded here are those given in list intonation, and generally disappear in inflections and within phrases, although they are clearly pronounced in single utterances and in phrase-final position.

Cowan (1974 and in press) posits quantity differences to explain a similar situation in Acehnese, but there is a much greater amount of differentiation (and minimal contrasts) than in Rejang. In his earlier paper (1974:207) he showed that the regular reflex of PAN *-aw is Ach -ɔ, PAN *-ay > Ach -ɛ, and PAN *-əy > Ach -e. However, Ach kɯbuɯə'water buffalo' can best be explained if from *kəba:w, and Ach sɯrɯə'lemon-grass' < *səra:y. This would conform, in general, to the points I made in my 1978 paper on the influence of penult *ə. In his recent paper, Cowan proposes long vowels for PAN *ka:n 'eat' and *pa:t 'four' based on Ach makɯən'to eat (high level)' and Ach puət'four', and length on cognate forms in diverse AN languages. There is evidence to substantiate length on both etyma,[27] cf: PPH *ka:?ən, besides inflected forms such as *ka:n-ən, *ka:n-an, and Akl ?ap?a:tá (alongside ?ap?atá) 'make it four!' Unfortunately, the Ph evidence is at variance with the Ach on most of the other reconstructions he proposes, where cognates appear.

However, I note that there may be some correspondence with the loss of penult vowels in Ach and oxytonal stems in the Philippines. The loss of penult *ə is perhaps to be expected (Ach brɯəh 'husked-rice' < PHF *bə̆Rás [#36], Ach blah, plah 'split' < PAN *bə̆láq [Ml bəlah, Pai vəlaq], Ach brat 'heavy' < PMP *bəR?at [Zorc (1981: P182)], but consider Ach u(r) 'coconut' (with loss of the first syllable, which is more in keeping with a reconstruction *nĭúR [#168]) and the following:

(157) Ach tron 'descend', Rej tugun 'swim', Kamayo tugun-án 'waterfall' < PHN *tuRún 'descend, go down'.

(158) Ach thon, OJv, Ml tahun, Kal takun, Bik, Sbl ta?ún, To ta?u 'year' < PMP *taqún.

(159) Ach thuɯn, Ml tahan 'bear, endure', OJv tahən 'restrain', Ib ta:n, Akl, Ceb ta?ún, Ifg to?ón 'trap' < PHN *taqán 'trap, snare'.

(160) Ach tha 'parents-in-law' (but Ach tuha 'old'), Ml tuha, Kpm ma/twá, Bot-Sbl ma/to?á, Ami ma/tu?as/ay, Ib tuay 'old', To ma/tu?a 'parents' < PAN *tuqáS 'old; elder(s)'.

Although *hadi:Ri 'pillar' is well attested in the Philippines, Ach drɔə 'self, person' (Ml diri, Ib diri?, Md dhire?, Sd diri?, OJv di/di) may indicate a separate PIN *dirí? (gemination in Madurese would make the connection more convincing).[28]

For the present, I can only conclude on the basis of the agreement of most of the data I have on Ach and Rej that the development of long final vowels or diphthongs from historically-reconstructable single vowels was a concomitant of the development of oxytonality in these languages, and that the contrasts that do obtain today are the result of more recent intrusions (be they internal developments and/or borrowings). I suspect that the situation is analogous (even if not parallel) to the history of Png baló 'widow' < PPH *ba:lu [#04] in contrast with Png bá:lo 'new' < PPH *baqluh, which are synchronically minimal accent pairs, bearing no relationship whatsoever to the historical accent situation.

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[27]The contrast between Rej nəm 'six' and Rej páət, pa:t 'four' (as between Ach nam 'six' and Ach pwət) is probably explained by the fact that *ə could not be long (*ə̆ñəm [#119] – while other vowels could be (*ə̆pát [#121] → **ə̆pá:t).

[28]Dahl (personal communication – 8 Nov 82) has also called to my attention a cognate of the shorter form (*diRi) in Sakalava and other Mlg dialects ri, 'a stressed alternate to the personal pronoun 3rd person'.

could be accented,[4] and would not then yield gemination; thus, PAN *təŋjaq > PSB *tə̆ŋjaq 'middle (range)', but PAN *tə́ŋaq > PSB *tuŋaq 'middle (point)'.

[1]I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *ʔ <PAN *q as opposed to PAN *ʔ, was not taken up until Zorc (1981).

[2]Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

8. IRREGULAR SOUND SHIFTS ATTRIBUTABLE TO ACCENT FACTORS

8.1. SYNCOPE AS A RESULT OF SHORT OR UNSTRESSED VOWELS

I have suggested (1978:70) that the loss of a vowel in Ml təmak 'local breed, native to' could be explained if from **tər-ắnák (cf: PPH *?anák [#30]). Some PAN trisyllabics have reduced to disyllables; these can be explained if the accent did not fall on the penult vowel:

(161) PAN *paŋuDâN *Pandanus tectorius* > Pai paŋuDaL, Jv paNDan, Ml pandan, Tag pandán, Ilk paŋdán, Fj vandra, Sm, Fu fala.

(162) PAN *SamuCí *Solanum nigrum* [Nightshade] > Pai saməci, RukMg amícu, RukTn amici, Tso mici, Itb humti, WBM muti, Bon, Ifg ?amtí, Isg ?amsí, Ml təroŋ mər/anti (Tsuchida 1976:209, *-amiCi); the unaccented penult *u would explain a reduction to [ə] in Pai, its total loss in NPh languages, but the appearance of [u] in Itb and WBM; the vowels are metathesized in RukMg, and assimilated in RukTn and Tso.

The loss of unaccented vowels needs more attention, particularly in Fm languages. The following reconstructions are put forward tentatively, but the accent placement suggested is justified:

(163) PAN/PHF *qati:məla 'flea' > Kan ?atímua, Sar ?atimula, Tso timro, Puy qatíməla? (TAG:167), Hatimra (Tsuchida 1980:275), Hatimura? (Tsuchida 1976:164), Ami ?atimra? (TAG:168 'louse'), WBM tiləma, Han tímla, Ilk ti:məl, Ifg ti:mol, Blw te:mol 'flea', Bin təmə̀la 'bedbug', [Tsuchida (1976: 164) PSF *$q_1$atimula; Blust (in press:#23) PAN *qati-mə̀la;[29] Pai qatimtim, Sai kä?tim are probably connected.] This is the first reconstruction with prepenultimate length, but it would explain the loss of *-a in the NPh languages (possibly on analogy with an *-a[?q] suffix), the accent of Han tímla (rather than expected **timlá);[30] the [u] < *ə in Kan, Sar, Puy is the result of raising and rounding following *m.

(164) PSF *likuLáw 'leopard' > Pai, RukBd likúLaw, RukMg rkúlo, Ami lukLaw, Bun ?uknav, Tha rúkdaw, Sai əklaw, SaiT Loklaw, Kan ukúnau, Sar lukuLu, Tso r?uho [Tuschida (1976:247) PSF *lukław and *likuław] . Under my hypothesis, the unaccented *i_3 assimilated to *u_2 in Ami, Bun, Tha, SaiT, Kan, Sar, but unaccented *u_2 was later lost in Ami, Bun, Tha, and SaiT; unaccented *i_3 was lost in RukMg and Tso, and reduced to [ə] in Sai.

Tsuchida's study (1976:265ff) of the role of accent in the development of Tso vowels presents a fruitful area for ongoing research. There are some agreements with Ph languages [note Tso mcoo, PPH matá [#52] < PAN *maCá(:)] , but there are disagreements as well. I am not able at present to analyse the support vowels, and their role in accent placement or accent shifts.

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[29] I am not sure what motivates the morpheme division Blust proposes (given that there is a well-attested PAN affix *qa-, as well as *qali/*qaLi-); no data are cited yielding a stem *məla. If anything, the NPh evidence suggests *qa-ti:məl-a or *qa-ti:məla, while the Pai and Sai evidence suggests *qatim-əla.

[30] As far as I can make out from data in Conklin (1953), the normal pattern for inherited Hanunoo roots of the shape CVCCV(C) is CVCCV́(C), while CV́CCV(C) generally indicates a Bisayan loan. However, I know of no Bs cognate for this etymon, so pre-existing length may have influenced this accent pattern.

8.2. PALATALIZATION IN MALAY

Wolff (1974, 1981) has suggested that two palatals be removed from the PAN inventory: *c and *z (although *Z is preserved). Even if it can be demonstrated that Tag, Jv, Tb, NgD, etc. have borrowed from Malay, I tend to wonder what is the provenance (or antiquity) of the Ml form itself. Nevertheless, I would agree that a palatal should not be reconstructed unless there is good reason to do so (see Zorc 1981: footnote 13, concerning *ñ). I feel that accent has led to palatalization on the following Ml forms:

(165) Ml kəcil, Mar kətil 'small' < PHN *kətíl (Blust 1970:#203+footnote 118).

(166) Ml kuciŋ, Tb hutiŋ 'cat', Ilk, Kpm, Png, Tag kutíŋ 'kitten' < PHN *kutíŋ (Blust 1970:#222+footnote 118)

(167) Ml ñilu, ŋilu, Ib ñilu?, Akl, Hil, Ceb ŋilúh-, Pai ŋilu, WBM ŋi/ŋilu 'set teeth on edge' < PHF/PAN *ŋilúH.

(168) Ml ñiur, (Ml dialects əñor), NgD əñoh, Mkb niur, Ach u(r), Rej ñúəg, Tag niyóg, Bon ?inyóg, Fj, Sm niu 'coconut' < PMP *niúR.

(169) Ml jərah-jəreh 'exhausted', WBM hizəga?, Bgb ilogga?, Hil hígda? 'lie-down', Fj m/oze 'sleep' < PMP *hidəRáq 'go to sleep'.

(170) Ml kiñaŋ 'rock crystal, quartz', Ib kiñaŋ 'translucent stone; crystal', Tag kináŋ 'luster, shininess' < PIN/PHN *kináŋ 'rock crystal' (Blust 1970: #218 *kiñ[aə]ŋ); even if Tag is a loan, the ultima accent seems warranted.

(171) Ml ləcit 'be squeezed in order to squirt out' = In ləsit, Ib ləsit 'take out the kernel', Tir ləsit 'slip/force-out' < PHN *ləsít 'squeeze/squirt-out' [Blust (in press:#265)]

(172) Ml rəñay, rinay 'drizzling (of rain)', Tag lináy 'cessation of wind after a storm', Mar lənay 'stop, cease' < PHN *rənáy 'aftermath of a storm' (Blust 1970:#357 *rəñay, *rinay).

(173) Ml, Sd jauh, Md jhau, OJv doh, WBM ma/diyu?, Sa ha?a/tau, PPH *dăyúq [#40] 'far' < PMP *dĭaúq/*dăiúq (i.e., with free syllabics as proposed for PAN *ka:Sui, *ka:Siu, *ka:iuS, etc.). [Forms for 'foreigner, alien' are possibly connected (Tag da:yo, Ceb dáy?u, Tb jau, Sm sau-)]

(174) Ml ñawa 'life, soul', Ml məñawa, Akl, Ceb ginhá:wa, WBM gəhinawa, Png liná:wa, Itb hinawa, Kan ŋisáa, To ma:nawa 'breathe' < PAN *Ra-Siná:wa [Dempwolff *ñawa; Tsuchida (1976:229) *ñiS$_{13}$awa] [31]

[31] Recourse to accent may not be necessary in this case, since *i$_3$ would shift to [ə] in Ml in any event; it is clear that *i$_3$ left its impact by palatalizing *n.

... reconstructions presented therein. ... attempt, and I disagree with the shape of many of 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *ʔ <PAN *q as opposed to PAN *ʔ, was not taken up until Zorc (1981).

[2] Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

Dahl (1976:82) discusses only one possible reflex of PAN *c: *caiŋ (Jv cəŋ 'syrup', NgD saiŋ 'together'), Tag sa:hiŋ 'tar' is from *sa:ləŋ 'resin; pine-tree', and Pai caiŋ (united, connected' ('tether, tie' in Ferrell 1979) is tenuous at best. However, Pai has two cognates of etyma thus far reconstructed with PAN *c, its reflexes are those of *s (not *C or **c):

(175) Pai pətəq 'break, split', Ml pəcah, Tag pisá?, Ilk pəssá, Kal pəsək, Fj voza, Sa ma/pota 'broken (in pieces)' < PAN *pə̆sə́q.

(176) Pai pətəl 'knead, massage', Ib, Ml pəcal, Tag pisíl, Mar, WBM pəsəl < PAN/PHF *pə̆sə́l 'squeeze in hand' (Blust 1970:292 PHN *pəcəl).

It is here suggested that the Indonesian forms with [c] are secondarily developed reflexes of *s [as in #171], strengthened by an accent pattern favoring the ultima. A similar hypothesis is put forward for some forms with [j] [see #169, 173, 179, 182 → 4, 186, 208] It is not my intention to challenge *all* reconstructions with *c or *Z, but I feel that a look at accent suggests that some of the etyma with these phonemes need re-evaluation.[32]

8.3. STRENGTHENED REFLEXES AS THE RESULT OF SHORT VOWELS

Dempwolff (1937:61.c.5) dismissed accent as a factor involved in sound shifts. Zorc (1978:97f) and Dahl (1982:110-15) introduced the reconstruction of short vowels in PAN before geminate consonants appearing in the daughter languages. To the list of Madurese and Makassarese forms which have led to the reconstruction of such etyma (e.g., *lắnúy 'swim', *bŭ́ká? 'open', *qắsíN 'salt', *bắsə́q 'wet', *pĭ́tú 'seven', *wắlú 'eight', *Hắlíq 'go, move', *Cắ?ás 'tall; above', *lắbúq 'fall/throw-down', pắni:ki 'bat') may be added:

(177) PHN *lĭ́kúŋ 'round; bent' > Kamayo likúŋ 'round', Md lekkoŋ 'form a circle around' (doublet of Md leŋkoŋ < PHN *liŋkuŋ).

(178) PHN *dŭ́múg 'upper-lip' > Ilk dommóg, Ml domok (Blust 1970:163).

(179) PHN *ắzá? / *ắdá? 'don't!' > Odionganon ?ayá?, Md ajjha?, OJv aja, Kdz ada, Mlg aza, Bug aja?, Mdr da? (Mills 1981:#35 PIN *( ) aza ( ) 'do not').

(180) PPH *kắwá? 'spider' > Mandaya tambanu/kawa?, Soc boliŋ/kawa?, Sin bəliŋ/kawa?, Kyp kakkawwa, Kly kakkawwa?, Blw ?ak/?a/ká́wwə, Ifg ka/kawwá, Bon kawá [the length in KnkN ?atiŋ/ka:wa is the secondary result of the loss of the geminate cluster].

However, gemination is not the only evidence for short penult vowels. Certain irregular or strengthened reflexes also appear to be the result of the transfer of quality/quantity from the vowel to the following consonant. While recording into my own data system those of Sneddon's Proto-Minahasan (1978), I noted that the reflexes of PMN *d (< PAN *d, *D, *j) are [*d- -r- -d]. Focussing on the intervocalic reflex, note: PMN *muri < PMP *m-ŭDəhí [#219] 'behind, back, rear', PMN *ar$_2$ihi < PMP *hadi:Ri 'post, pillar' [#74], PMN *baruk < PPH *ba:duk (1) [palm], (2) 'tinder' (cf: Ilk ba:dok),

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[32] Tag hirám, Akl hulám, Ceb hulám, Tbl m/ədom, Pai ki/sədam 'borrow' yield a PHF/PAN *Sə̆dám; the In/Ml evidence for *Z is dismissed here, and the [j] reflexes probably result from derivations such as *S<in>ə̆dám (Bs hindam, Mlg indrana, Tb, NgD iñjam, Md əñjham) or *pa-S<in>ə̆dám (Ml pinjam).

PMN *naram < PAN *najam 'tame' (Mills 1981:#186), PMN *ŋir$_2$uŋ 'nose' < PHN *qijúŋ [#218], PMN *raraha < PHN *DaDa:Ra 'maiden, girl' (with initial *d- assimilating to *-r-), PMN *sir$_2$a < PMP *siDá 'they'. However, after *ə in the penult, PMN *-d- appears: PMN *apədu 'gall' < PAN *qapə̌jú [#191], PMN *ədam 'rent' < PAN *Sə̌dám 'borrow',[32] PMN *kədut 'pinch' < PHN *kə̌[dZ]út,[33] PMN *sədu? 'hiccup' < PAN *sə̌D$_2$ú? [Zorc 1981:P151], and:

(181) PPH *sə̌jóm 'ant' > PMN *sə̌dóm, OasBK sərém, Ibg, Itw təggém.

The following reflexes of PMN *-d- appear to be strengthened following a short penult vowel:

(182) PMN *tadəm 'sharp', PPH *tadə́m [#58], Ml tajam, Jv tajəm, Tb tajom < PHN *ta[dz]ə́m. [Cf:PNS *tajəm 'blowpipe-dart/poison' (Blust 1974)]

(183) PMN *udan 'rain', PPH *qudán [#59], Ml hujan, Jv, Tb udan, Mlg urana, To ?uha, Pai quḏaL, Puy Hudal, Bun xudan < PAN qu[dZ]áN. [Cf: PNS *uǰan]

(184) PMN *tudu? 'point-out, indicate', Ilk tudú, Akl turú? 'Id', Md tuzzhu 'aim for', Ib tuduh 'instruct', Ml tudoh 'accuse', Ml tujuh 'seven', Pai c<aL>uḏuq/an 'finger < PAN *tu[dZ] uq 'point; index-finger', [PNS *tuǰuq '7']

(185) PMN *luda? 'spit', Kpm, Tag lurá?, Masbate, IrigaBk, Surigao, Kamayo ludá?, Ib, Ml ludah 'spit', Pai luḏaq 'betelnut spittle' < PAN *ludáq.

Citations 182-4 might be PMN reflexes of *-Z- (although it is more likely that *d, *D, *j, and *Z fell together). On the other hand, the reconstruction of *Z on these etyma may be spuriously based on sporadic occurrences of [ǰ] reflexes in Ml (and other In languages) as a strengthened reflex of *d following an unaccented or short vowel.

Blust (1974 and several articles before and since) has proposed that PAN *S came to stand in a cluster with PAN *b, *d, *D, *j, yielding strong reflexes such as implosive stops (Bintulu), aspirated voiced stops (Kelabit), or s (Kiput). Dahl (1976:125, 130) has shown that only PAN *buSək 'hair' and *təbuS (but not **təbuSu) 'sugarcane' conform with Formosan evidence, while eight etyma [#185, 191, 201, 205, 209, 210, 216, 221] 'are without traces of PAN *S'. While I had originally accepted Blust's hypothesis (witness my incorporation of his reconstructions without any modification on my part in the *Proto-Philippine Finder List* (1971)), I found it strange that Ph languages that normally preserved [h] < *S (Bisayan, Itbayaten, Western Bukidnon Manobo, Hanunoo – granting with various degrees of reliability) showed no [h] whatsoever on forms otherwise yielding PPH *baybáy 'beach, shore' (Blust 1970:#36), PPH *baqbáq 'mouth' [#198], PPH *qalják 'day' [#205], *qijúŋ 'nose' [#218], etc. [See Zorc (1981: footnote 24).] While *h was clearly necessary on some PPH reconstructions, such as *bahá?q 'flood' [#199], *bahá?R 'loincloth' [#200], *ŭdəhí 'late, behind' [#219], it could not be justified on the majority of etyma for which Blust was proposing the reconstruction of PAN *S. At least one etymon requires PPH *q [#204], while another, based on my interpretation (Zorc 1981:§6) of [-h-] in Ml and OJv, requires a PMJ (if not PHN) *q [#206]. PAN *S appeared to have gone horribly amiss on its way to PPH *h.

[1]I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *ʔ < PAN *q as opposed to PAN *ʔ, was not taken up until Zorc (1981).

[2]Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

[33]Tag kurót, Akl kurút, Mar kədot, WBM kəzut, Png karót yield *kədút; Singhi kujət (with metathesis) could be the result of the palatalization phenomenon I am discussing; nevertheless, the reconstruction indicates the possibility of either *d or *Z.

I should underscore the fact that I totally accept the reconstructions that Blust (1974) has proposed for Proto-North-Sarawak, e.g., PNS *bSuk 'head hair', PNS *bSaR 'loincloth', PNS *pedSu 'gall(-bladder)', etc. However, I interpret PNS *S to stand for 'strengthened reflex' in the members of that subgroup and their immediate proto language. I consider that the reconstructions involve strengthened reflexes after original or innovated *ə (akin to gemination in NPh, Md, Mkr, Sama-Bajaw, Bagobo, Kagayanen, etc.), or a small corpus of forms after sporadically retained short vowels.[34]

The following PNS forms can be explained on the basis of *ə in the penult:

(186) PNS *kəjSəp 'blink' < PHF *kə̆[dZ]áp, *kə̆ʤíp (Pai kədip; Ml kəjap).

(187) PNS *ləbSuq 'settlement' < PHN *lə̆búq 'village area' (Mar ləbo? 'lot, plot.).

(188) PNS *mədSaŋ [tree similar to breadfruit] < PIN *mə̆dáŋ (Tb modaŋ, Ml mədaŋ).

(189) PNS *pəd(S)əs 'seriously ill' < PHN *ha-pə̆jə́s 'pain(ful)' (Akl hápdus, Ilk ?apgə́s, Gad məggət, Tbl dəs, WBM pəzəs)

(190) PNS *pədSiq 'sting, smart' < PAN *Sa-pə̆jíq (Akl hápdi?, Tbl hədək, Ibg na-fəggí, Ml pədeh 'sting, smart', Pai sapədiq 'to hurt (of the feet)')

(191) PNS *pədSu 'gall(-bladder)' < PAN *qapə̆júꝑ 'gall, bile' (WBM ?əpəzu, Ml həmpədu, Akl ?ápdu, Pai qapədu, Paz ?apuzu?, Pl xoas)

(192) PNS *təbSaq 'man's traditional haircut' < PHN *tə̆bá? 'to cut-down/off' (Akl tubá?, WBM təva?, Ilk təbbá 'to cut down (bananas)', Ib təba? 'cut (bamboo)').

(193) PNS *təbSəŋ 'fell trees' < PHN *tə̆bə́ŋ 'fell; topple' (Ilk təbbə́ŋ 'fall headlong', Ml təbaŋ 'fell (trees)')

(194) PNS *təbSək 'pierce, stab' < PMP *tə̆bə́k 'pierce' (OJv təwək 'stab, pierce through', Fj teve 'circumsize')

(195) PNS *təbSu 'sugarcane' < PAN *tə̆búS (Akl tubúh, Pai ʈəvus, Fj ndovu)

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[34] Charles (1974:footnote 13) was the first to offer this as an alternative explanation to the vowel-deletion hypothesis, although not explicitly as the result of an accent phenomenon. I have attempted to be more comprehensive in my treatment herein. However, Blust (personal communication – 6 Nov 82), has reminded me that Kelabit also has consonant gemination phonetically after schwa, such as Kel [təggúk] 'gulp' < PHN *tə̆gúk (Tg tigók), instead of **təgʰuk. Blust also points out that 'phonetically it would be very surprising for voiced stops but not voiceless stops to be strengthened after a short vowel'. Without an adequate data-base in Kelabit, my response must perforce be *ad hoc*. Is Kel təguk inherited via PNS, or a Ml or Ib loan? If not inherited, it would be subject to later rules applying to the phonotactics of the language at time of entry. In any event, a language like Ilokano does not have geminates for every PPH oxytone root, so that oxytonality appears to have split reflexes: (1) geminates (or strengthened reflexes) or (2) simple oxytonality. Secondly, for whatever reason, more geminates and strengthened reflexes are noted for voiced consonants (stops and nasals) than for voiceless. CPh languages (Tag, Bs, Bk) have strengthened [-d-] instead of expected **[-r-] < *-d,D,ɟ-, hence I argued against the need for the reconstruction of a PBS/PCP *r *in most cases* (1977:212ff). Maranao and Tiruray have a strengthened [b] reflex instead of **[w] on numerous forms. It may be that PAN voiced stops were lax (and hence more subject to either weakening or strengthening) compared to their PAN voiceless and tense counterparts. Precisely this situation obtains amongst Australian Aboriginal languages which have a distinct obstruent series (i.e., tense vs lax rather than voiceless vs voiced).

(196) PNS *bədSiq 'vulva, vagina' < PHN *bə̆tí[?q] (Mar, WBM bəti? (related by 'shimmer' (Zorc 1977:58f,212), i.e., voicing in PNS or devoicing in PSP))

One form involves PNS *ə, presumably from a doublet with a nasal increment, although the Ph evidence would indicate length:

(197) PNS *RəbSun 'smoke < PMP *Ra:bun 'atmospheric obscurity' (Ceb ga:bun, Tbl lobun, Mam, Mar gabon, (Klg la:bun 'cloud' is either from Bilic or a doublet), Ml rabun 'smoke, hazy', Kdz gavun 'mist', Motu gahu 'mist, fog at sea, haze' (Blust 1972:#155)) and *Rambun (Tb rambon 'dusk, twilight', Ml rambon 'hail'; note PMN *rambun 'cloud' -- hence, possibly PHN *rambun)

Forms thus far limited to the North Sarawak group exhibit the same phenomenon, e.g., PNS *məgSəl 'sleep' (< *mə̆gə́l), PNS * təmədSuR 'rhinoceros' (< *təmə̆dúR).

The second category of PNS forms are the result of reduction to a monosyllabic stem, sometimes with a prothetic vowel introduced to restore disyllabic structure:

(198) PNS *bSaq 'mouth' < PMP *bə̆qbáq (WBM, SarMb ba?ba?, SarMb baha? < Bilic *babaq, Tbl bak, Akl bá?ba? 'mouth', Fu ma/fa 'open-mouth')

(199) PNS *bSaq 'water' < PMP *bə̆háq 'flood' (Akl, Ceb, Han, Tag bahá?, Ib ba:h, Ml bah, Mkr a?ba, Jv wa/wah/an, Ulawa haa)

(200) PNS *bSaR 'loincloth' < PHN *bə̆háR (Akl, Tag bahág, WBM bahag, Han, Ilk ba?á̆g, Bon ba?á̆l)

(201) PNS *bSaw 'above' < PAN *ba:baw (Tag, Akl ba:baw, Pai vavaw 'above', Sm fafo 'outside'; although length is reconstructed on this form, the first syllable was lost in pre-PNS, reducing to a monosyllable with strengthened reflex)

(202) PNS *bSuq 'beneath; short (in height)' < PHN *-ŭbú[q?] 'short' (Ceb mubú?, Masbate hi/mubú?, ha/mubú?, Hil ma/nubú?)

(203) PNS *bSuk 'head hair' < PAN *bŭSə́k (Akl, Han buhúk, Itb vuhuk, Ib bu:k, Ami vukəs, Sai bukəš 'head hair', To fuk/a 'cut hair')

(204) PNS *[dj]Sən 'downward pressure' < PHN *də̆qə̆n (Tag di?in, Bik, S-L du?ún, Tbl dəkən)

(205) PNS *dSaw 'day' < PAN *qə̆ljáw (Bik, Ilk ?aldá̆w, Kal kaldaw, Tbl kədaw, Bon ?algə́w, Png ?a:gə̆w, Pl xayos, To ?aho, Pai qadaw, Rej la:w, lə́əw)

(206) PNS *-dSək 'nasal mucus' < PIN/PHN *Də̆qák 'phlegm' (OJv rəhak, Ml dahak, Ib da:k; Ilk dá?ak (due to both accent and vocalism) and Tag dáhak are treated as loans from Ml; Tag dala:hik 'attack of intense coughing' has a secondarily developed meaning from PPH *(u)da:hik 'to bring up (e.g., boat to shore)')

(207) PNS *[dj]Siq 'term of address among females' < PAN *Sají? 'younger sibling (address)' (Bon ?agí, WBM hazi, Ruk ?agí?, Ib, Lm, Ml adi?, Md ali?, Paz sua:zi?, To t/ehi/na)

demonstrated that yet another AN subgroup has gemination after *ə, but also that *ə could be accented,[4] and would not then yield gemination; thus, PAN *tə́ŋaq 'middle (range)', but PAN *təŋáq > PSB *tuŋaq 'middle (point)'.

[1] I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *? < PAN *q as opposed to PAN *?, was not taken up until Zorc (1981).

[2] Although published in 1979, each of these articles was written considerably earlier (circa 1975)

(208) PNS *ǰSan 'notched log ladder' < PHN *haRə̌[dZ]án (Akl, Ceb hágdan, WBM hagəzan, Sbl ?ayrán, Han, Ilk ?agdán, Ibg ?addán, NgD həjan)

Forms limited to this subgroup exhibit the same reflexes, e.g., PNS *jSa 'one' (Rej jəh, Kel $ə^{d^h}əh$), PNS *jSan 'pig', etc.

Analogous to the development of strengthened reflexes on forms that were or became monosyllabic is the PNS treatment of doubled monosyllables, where $*C_1$ was *b or *d. Those that had an original *ə present the expected reflexes, with the loss of the final consonant of the first syllable:

(209) PNS *-dSəm 'dark(-ness)' < PAN $*D_2ə̌mD_2ə́m$ (Pai zəmzəm/an, Bun ma/dumdum).

(210) PNS *bəbSəd 'wind around' < PHN *bə̌dbə́d 'wind-around, tie' (Bon bədbə́d 'bundle; tie/wrap-up', Tag bidbíd, WBM bədbəd 'wind-around, Ilk bədbə́d 'bind, tie'; Dempwolff reconstructed *bəjbəj, citing Tb bobok (< *bəbəj (?)), but the NPh evidence indicates *-d, not *-j. Dahl (1976:130) cites Ami fəLfəL 'to wind', which is from *bəNbəN 'weave; [plant used in weaving/braiding]', not *bədbəd or *bəjbəj)

(211) PNS *bəbSək 'crushed by pounding' < PMP *bə̌kbə́k 'powder(y)' (WBM bəkbək 'pulverize by pounding', Sm popo 'decomposed, rotten')

Those forms that had a vowel other than *ə also show loss of the final consonant of the first syllable, with strengthened reflexes of the first consonant of the penult:

(212) PNS *bubSuk 'wood weevil' < PHN *bŭkbúk 'weevil' (Tag bukbók, Ilk bokbók; probably PMP *bukbuk 'powder(y)' > Jv bubúk 'powder', Sa huhu 'run out (as powder)')

(213) PNS *bubSun 'heap, pile' < PHN *bŭnbún [Tg bumbón 'dam', WBM bumbun 'to fill in a hole with dirt', Bon bonbón 'to cover (with dirt or leaves)')

(214) PNS *-bSuR 'porridge' < PHN *bŭRbúR (Ilk b<in>ogbog 'rice-porridge')

(215) PNS *bubSut 'pluck' < PMP *bŭtbút 'pluck, pull-out' (Tag butbót 'search, ransack', Tb butbut, Sa huhu/si 'pluck')

(216) PNS *dədSak 'hit with a paddle; tamp earth' < PAN/PHF *dă̌kdắk 'hit (with implement)' (Tag dakdák, Tb dakdak 'hit (with hammer)', Pai ɖakaɖak 'kick')[35]

[35] Blust (1976) discusses the neutralization of *a and *ə as a prepenultimate phenomenon in PNS, so that this PNS form is most plausibly explained as from a trisyllabic etymon. Certainly Pai dakadak supports this possibility (see also Dahl 1982:59, PAN *dakadak). Although no evidence for *S is present, vowel deletion would explain both the shape of the PNS reconstruction and the appearance of *ə in the penult (which then yielded the strengthened reflex).

(217) PNS *dədSəm 'cold, shivering' < PHN *dămdám 'hot; feverish; shivering (from fever, the cold, or fear)' (Mar damdam 'fear', Ib dadam 'fever', Ilk damdám 'bake in hot ashes')[36]

Perhaps the most significant of Blust's proposals are those that cannot possibly involve *ə, but which correspond with short vowels in Ph languages:

(218) PNS *idSuŋ 'nose' < PHN *qĭjúŋ (Akl, Tag ?ilóŋ, Isg, Mlw ?igúŋ, Ml hidoŋ 'nose', Kal kiruŋ 'pointed (nose)'; with doublet PMP *ijúŋ > Pl is, To ihu, Tbl ?iluŋ, Sm isu)

(219) PNS *udSi, *m-udSi 'afterward; behind' < PMP *m-ŭDəhí (S-L ?úrhi, Bon, Ifg ?uddí, Akl ?ulí:hi (with secondary morphemic length) 'late', Jv b/uri, w/uri 'posterior; subsequent', Ml uri 'afterbirth', Sm muli 'back-part')

(220) PNS *bSulaŋ 'cockspur' < PHN *bŭláŋ (Akl buɬáŋ, Ceb buláŋ; note these are rootwords; verb forms 'to enter rooster in fight' have secondary length)

(221) PNS *bSuRuk 'rotten' < PAN *bŭRúk (Tag, Akl bugók, Ifg bulú?, Itb ma/vuyuk, Jv wuk, Ml buruk, Pai ma/vuk 'spoiled, rotten', Sa mate/hulu 'ripe and spoiled']

(222) PNS *buSuləR 'blind' < PHN *bŭlə́R 'ocular cataract' (Bik, Ceb bulúg)

(223) PNS *kub(S)it 'pinch' < PHN *kŭbít 'touch lightly' (Ceb kubít 'touch (in order to attract attention)', Ib kubit 'pinch')

(224) PNS *lidSaq (*u > i unexplained) 'spit(tle)' (Cf: #185 (note UJ, Mr lura)]

Regarding PNS, I would like to make the following observations:

(1) Blust (1974:11) has proposed: 'It appears more probable that vowel deletion did not affect all vowels in the environment voiced obstruent ——— *S, but only the first of like vowels or unlike vowels one of which was *ə'. Insofar as PAN *ə (which was demonstrably a short vowel) was involved, the hypothesis can be tied as much to accent as to PAN *S (considering the Ph evidence for short vowels and the Fm counterevidence against *S).

(2) Voiced aspirates in Kelabit are tied to syllable position (only the first C of the ultima) and the morphology (it can be introduced, as in Kel tukəd 'climb' ⟶ təkəd^{h}/en 'slope', or even dropped, when affixes are added).[37] Similarly, Ilokano geminates are lost in inflections. Such phenomena are more indicative of a secondary development rather than of an inherited feature (which is why we reconstruct vowel rather than consonant quantity for the proto language).

(3) Bintulu implosives can occur on loanwords (Blust 1973:611 and 1974: footnote

[36]The presence of *ə in both syllables of the PNS reconstruction makes my association with a PHN *damdam phonetically implausible, although semantically there appears to be a connection. However, most of the North Sarawak evidence suggests a PNS *dădə́m (Long-Anap dadəm 'cold, shivering', Kiput dasəm 'Id', Kelabit dadəm (unless a typographical error, **dad^{h}əm is expected) 'feverish'; only Narom dətəm 'cold' supports the presence of *ə in both syllables. As I see it, the problem is with *ə in the ultima; the presence of [a] in the penult in L-A, Kip, and Kel does not require the reconstruction of trisyllabic, and appeal to the neutralization of *ə and *a (footnote 35) is unwarranted.

[37]Kel təb^{h}əŋ 'felling a tree' ⟶ təbəŋ/əŋ 'fell!', Kel əb^{h}o 'soothing someone's emotions' boən 'soothe!', kəd^{h}a 'ability to withstand pain' ⟶ kədaan 'suffering'.

25). This indicates the possibility of secondary development. Some of the forms appear after a short vowel, e.g., Bin padaw 'sailing' < Xpadáw 'sailboat' (Akl, Ceb, Tag paráw, Mar padao 'sailboat', Ml layar-padau 'storm-sail' – Wolff (1976:362) maintains this is a loan from Tamil paṭavu), Bin bədil 'firecracker' < Xbədíl 'gun'.

(4) It is possible that PAN *S and *H totally disappeared (certainly in intervocalic position, as in PMJ) in pre-PNS: PAN *duSa 'two' > PNS *duWa, PMP *da:hun 'leaf' > PNS *da?un.[38]

(5) Although the development of [s] reflexes in Kiput < *b, *d, etc. is unusual,[39] the presence of at least some *b : *s doublets needs to be acknowledged (Akl báyluh- 'exchange' : sáyluh- 'transfer, translate < *baliw / *saliw; Tag bilá? 'cane strips across fence' : sila? 'sit cross-legged' < *bilaq / *silaq). Witness also the *b : *c doublets in Sundanese discussed in Nothofer (1975:301ff). Nevertheless, in light of all that has been suggested about accent and strengthened reflexes, and the Formosan and Philippine counterevidence against *S, the probability that Kiput continues a PAN distinction lost outside of North-Sarawak seems very low.

(6) Lastly, the non-appearance of strengthened reflexes on cognates that purportedly derive from etyma with short or unaccented vowels poses a serious question. Why does Kelabit have bibir 'lip' (not **bibʰir), Kel udan 'rain' (not **udʰan), Kel abuh 'ash' (not **abʰuh), Kel idəh 'they' (not **idʰəh), Kl udaŋ 'shrimp' (not **udʰaŋ), etc.? I can only suggest that accent was probably well on its way to being lost in pre-PNS, and the forms with strengthened reflexes are the products of a change affecting those few forms that remained with a phonemically short penult vowel. Kelabit reflects just about as few short vowels as does Mansaka, with the loss of most for reasons that can not be explained, but must be accepted ('on faith', §2, as we Austronesianists profess it).

However, it must be considered that Blust's hypothesis projects a number of *S's into the proto language of highest order which cannot be reconciled by any (other) available data (and in some cases are counter-indicated). My hypothesis projects accent into the proto language of highest order, which is justified by the evidence of available cognates in the Philippines, and the widespread (albeit sporadic) testimony of geminate or strengthened reflexes in other AN languages. That is to say, all PNS *CS forms (except *bSaw < *ba:baw and *RəbSun < *Ra:bun/*Rambun/*rambun, which have their peculiarities derivable within PNS itself) underscore an agreement with AN accent as proposed herein, even though not all forms for PAN with short vowels yield a PNS *CS reflex. According to *either* hypothesis there are residual difficulties. With *S,

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[38] In my own analysis of the North-Sarawak data, I find no solid evidence that PAN *S, *H or PMP *h were retained in initial, intervocalic, preconsonantal, or final position. Under my hypothesis (strengthening of C_1 of the ultima after a short penult vowel on oxytone roots), the laryngeals were lost altogether yielding stems such as *baq (199) and *baR (200); vowel [*e] prosthesis (Charles 1974:fn 13) restored disyllabism in some languages, but all appear to reflect the strengthened reflex.

[39] Dahl (1982:60) argues that the development was *bS > *f > Kip [s] and *dS, *jS > Kip [s]. 'If *f > s had been a direct phonetic change, it might have seemed strange. It would perhaps be difficult to find a parallel in other languages. But the change is not phonetic, it is phonemic. The phoneme /f/ (found in Miri and Narum) has merged with the phoneme /s/ (found also in Miri). Unexpected mutations occur in phonemic mergers. In Malagasy we have a similar merger of labial with dentialveolar'. While Dahl concedes that some (but not all) of the North Sarawak reflexes are the result of vowel deletion, bringing certain voiced obstruents next to PMP *h (but not PAN *S), I do not feel that recourse to *h or *S is necessary, given oxytonality in pre-PNS. The uniqueness of Kip [s] from both labial and apical articulations is not to be questioned (and Dahl's explanation is possibly the most reasonable apart from direct recourse to PAN *S). I note that devoicing does occur in Kiput (PNS *tuju? 'seven' > Kip tucəw?, PNS *tajem 'blowpipe poison' > Kip tacəm, PNS *sigup 'tobacco' > Kip sikup, PNS *agem 'hand' > Kip akem 'foot', PNS *pinan 'plate' > Kip pikaan, and I suspect that devoicing involves phonetic tenseness (footnote 34), so that Kip [s] is remarkable for its place but not manner of articulation with regard to PAN *b. If Dahl's hypothesis is correct (*s < *f), then both place and manner of articulation can be plausibly accounted for.

peculiarities are projected into PAN (which does not conform); with accent, peculiarities are projected into PNS (which does not conform), but which leaves PAN with the canonical shapes and forms we had originally believed to be there.

9. POSTSCRIPT

Comments from Blust, Dahl, Cowan, Wolff, and Sneddon (for which I am deeply grateful) require the following observations.

(1) According to the 'independent evidence requirement' (implicit since Dempwolff's time), the reconstruction of accent for PAN must have corroboration from the Formosan languages. I have been aware of this (see #161 ⟶ 164), and I note that data in Tsuchida (1976) would appear to support a near-minimal pair in PSF: *pú(:)jək 'navel' (Id:176, based on the retention of *u in Tso pucku, Pai pudək, Puy puʤək) as opposed to *puDə́R 'kidneys' (Id:155, based on the loss of *u in Tso pcərə, but assimilation of *ə > u in Pai puDu). While there is no Type-A (accent preserving) or Type-F (geminating) Formosan language (see Table 1), the entire gamut of other types (B ⟶ E, G ⟶ K) are found in Formosa. The very diversity of accent patterns and types on Formosa would appear to be explicable if drift from a phonemic or contrastive accent pattern operated to produce synchronically varying patterns of oxytonality (Puyuma, Takituduh, Saisiat), paroxytonality (Paiwan, Pazeh-Kahabu, Ishbukun), proparoxytonality (Saaroa, Mantauran-Rukai), vowel length (Thao), differential treatment of *ə$_2$ (Atayal), and some inflections (Kanakanabu). Otherwise, would someone kindly propose *which* of the Formosan languages reflects *the* PAN accent situation, and how the others developed from it?

(2) If the North-Sarawak languages reflect a genuine split in PAN phonemes (whether the provenance is vowel deletion and PAN *S or oxytonality), why are these particular strong reflexes tied to the first consonant of the ultima (and hence to derivational or inflectional shifts to or from their nonstrengthened counterparts)? Zorc (1978) suggested and Dahl (1982) affirmed that the quantity of the first consonant of the ultima depended on the quantity of the penult vowel.

(3) I have indicated that the quality (as well as the quantity) of the first consonant of the ultima is affected by oxytonality (e.g., Ml [j̆] < *V̆$_2$dV́, Ml [c̆] < V̆$_2$t/sV́). Doublets in Madurese (assin, accin 'salt' < PAN *qăsíN, bassa, bacca 'wet' < PAN *bă̆sə́q) and Iban (tucul 'set fire to' < PHN *sŭ̆lsúl) support this hypothesis. It follows that a re-evaluation of at least some of our reconstructions with *c, *Z, and *ñ is in order.[40]

(4) I have suggested herein that where Ph evidence indicates an oxytone etymon, and no evidence of consonant gemination or strengthening is available, that such reconstructions should be marked with accent (*CVCV́(C)) rather than with a short penult vowel (**CV̆CV(C)). All reconstructions in Zorc (1978) should be modified accordingly. I realise the introduction of another feature of accent (presumably stress as opposed to vowel quantity) is otiose at present, but I cannot see another alternative to indicating 'oxytone in the Ph' as opposed to 'accent not known or reconstructable'. *Proof* of final long vowels has not been found in the Acehnese or Rejang evidence, nor from Tsou, but the possibility exists (certainly on the grounds of pattern congruity) that if there were long vowels in the penult (and the antepenult), that they probably occurred in the ultima (hence PAN *maCá 'eye' according to my current convention may have been *maCa:).

(5) Further research is needed on the 'unexplained length' of a number of Polynesian forms: Hawaiian nana: 'snarling', nono: 'snore, gurgle' (see Blust, in press, #315, 317; inter alia). Are they the result of consonant loss, ultimate stress, or ultimate length? Is the phenomenon to be explained at the PPN or the PAN level?

[40] Ml pecak, Ib picak, Kpm pisák, Mar, WBM pisók < PHN *pĭsók (?) 'blind in one eye' (Blust 1970:#298, Nothofer 1975:58: *picek]. Ml pocot 'dismiss' Ilk posót 'wean, deprive, disposses' < PHN *pŭsút (?) (Blust, in press, #354: *pucut).

*təŋŋaq 'middle (range)', but PAN *təŋáq > PSB *tuŋaq 'middle (point)'.

[1] I feel that Zorc (1972) was a clumsy first attempt, and I disagree with the shape of many of the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *ʔ < PAN *q as opposed to PAN *ʔ, was not taken up until Zorc (1981).

[2] Although published in 1979, each of these articles was written considerably earlier (circa 1975), and therefore preceded Zorc (1978).

(6) Regardless of the stage of their 'belief' in the reconstructability of PAN accent, scholars should consider Ph accent placement before assigning Ph cognates to particular etyma. Tag si:lim 'dusk' is more like to be associated with PHN *si:ləm 'dark' than with PHN *sə́lə́m 'dark' (Blust 1970: #399 and personal communication), and Tag dugó? 'blood' can not be compared with Ilk da:ra 'blood' (Paz 1981:#100) precisely *because of* the accent.[41] The evidence from and for suprasegmentals has too long been ignored.

ABBREVIATIONS

Note. Certain geographical lables [S = south, C = central, N = North] are not repeated in the list, thus NCr = North Cordilleran, CPh = Central Philippine. Information on the location or subgroup-membership of languages is given in parentheses.

Ach	Acehnese [data from Cowan]	Kdz	Kadazan (W. AN)
Akl	Aklanon (WBs-CPh)	Kel	Bario Kelabit (N. Sarawak)
Ami	Ami(s) (Fm)	Klg	Kalagan (CPh)
AN	Austronesian	Kly	Keley 'i' Kallahan (SCr-NPh)
Aty	Atayal (Squliq dialect-Fm)	Knk	Kankanay (CCr-NPh)
Bgb	Bagobo (S. Manobo-SPh)	Kpm	Kapampangan (NPh)
Bik	Bikol (Naga dialect-CPh)	Kyp	Kayapa Kallahan (SCr-NPh)
Bin	Bintulu (N. Sarawak)	Lm	Lampung (Way-Lima dialect)
Bk	a Bikol dialect (CPh)	Luba	Luba (CCr-NPh)
Blw	Balangaw (CCr-NPh)	Mam	Mamanwa (CPh)
Bon	Bontok (CCr-NPh)	Mar	Maranao (SPh)
Bot	Botolan (Sambal-NPh)	Md	Madurese (W. AN)
Bs	a Bisayan dialect (CPh)	Mdr	Mandar (S. Sulawesi)
Bug	Buginese (S. Sulawesi)	Mkb	Minangkabau (Ml)
Bun	Bunun (Isbukun dialect-Fm)	Mkr	Makassarese (S. Sulawesi)
Ceb	Cebuano (Bs-CPh)	Ml	Malay(sian) (W. AN)
Cr	Cordilleran (NPh)	Mlg	Malagasy (W. AN)
Fj	Fijian (Oceanic)	Mlw	Malaweg (NCr-NPh)
Fm	Formosan	Mon	Mongondow (N. Sulawesi)
Fu	Futuna (Oceanic)	Mr	Murik (Sarawak)
Gad	Gaddang (NCr-NPh)	Msk	Mansaka (CPh)
Gor	Gorontalo (N. Sulawesi)	NgD	Ngaju – Dayak (W. AN)
Han	Hanunoo (Mindoro-SPh)	OJv	old Javanese (W. AN)
Hil	Hiligaynon (CBs-CPh)	Pai	Paiwan (FM) [Ferrell (1979)]
Ib	Iban/Sea-Dayak (Sarawak)	PAN	Proto Austronesian
Ibg	Ibanag (NCr-NPh)	Paz	Pazeh-Kahabu (Fm)
Ifg	Ifugao (CCr-NPh)	PBS	Proto Bisayan
Ilk	Ilokano (NPh)	PCP	Proto Central Philippine
In	Indonesian (W. AN)	Ph	Philippine(s)
Isg	Isneg (NCr-NPh)	PHF	Proto Hesperonesian/Formosan
Itb	Itbayaten (NPh)	PHN	Proto Hesperonesian (W. AN)
Itg	Itneg (CCr-NPh)	PIN	Proto Indonesian
Itw	Itawis (NCr-NPh)	Pl	Palau (W. AN)
Jv	Javanese (W. AN)	PMJ	Proto Malayo-Javanic [Nothofer]
Kal	Kalamian (SPh)	PMN	Proto Minahasan [Sneddon]
Kan	Kanakanabu (Fm)	PMP	Proto Malayo-Polynesian
K-C	Kalamansig Cotabato (SPh)	PNC	Proto North Cordilleran

[41] Not to mention the systematic difference in vowels between NPh *da:Raq and SPh *duRúq, and the presence of outside cognates yileding a PAN *da:Raq 'blood' and a PMP *ZuRúq 'sap; liquid'.

Png	Pangasinan (SCr-NPh)
PNP	Proto Northern Philippine
PNS	Proto North Sarawak [Blust]
Port	Portuguese
PPH	Proto Philippine
PPH	Proto Polynesian
PSan	Proto Sangiric [Sneddon]
PSB	Proto Sama-Bajaw [Pallesen]
PSF	Proto South Formosan
PSP	Proto Southern Philippine
Puy	Puyuma (Fm)
Rej	Rejang-Melanau (Sarawak)
Rth	Ratahan (Sangiric)
Ruk	Rukai (Fm)
RukBd	Budai dialect
RukMg	Maga dialect
RukTn	Tanan dialect
Sa	Sa'a (Oceanic)
Sai	Saisiyat (Tungho dialect-Fm)
SaiT	Saisiyat (Taai dialect-Fm)
Sar	Saaroa (Fm)
SarMb	Sarangani-Manobo (SPh)
Sbl	Sambal (central dialect-NPh)
Sd	Sundanese (W. AN)
Sin	Sindangan-Subanon (SPh)
S-L	Samar-Leyte (CBs-CPh)
Sm	Samoan (Oceanic)
Sml	Samal/Sinama (W. AN)
Soc	Siocon-Subanon (SPh)
Tag	Tagalog (CPh)
TAG	[see: Ferrell (1969)]
Tb	Toba-Batak (W. AN)
Tbl	Tboli/Tagabili (Bilic-SPh)
Tha	Thao (Fm)
Tir	Tiruray (Bilic-SPh)
To	Tongan (Oceanic)
Tso	Tsou (Fm)
UJ	Uma-Juman (Sarawak)
WBM	Western Bukidnon Manobo (SPh)
Yog	Yogad (NCr-NPh)

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the reconstructions presented therein. Many of these have been modified or corrected in Zorc (1977: 50f,216-19), where the term 'Proto Central Philippine' replaces 'Proto Tagalic'. However, the correction of PBS, PCP *ʔ <PAN *q as opposed to PAN *ʔ, was not taken up until Zorc (1981).

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*tanaq 'middle (range)', but PAN *tánaq > PSB *tunaq 'middle (point)'.

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