

THE RECONSTRUCTION AND
STATUS OF AUSTRONESIAN GLOTTAL STOP
- CHIMERA OR CHAMELEON

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ABSTRACT

More than fifteen years have lapsed since I began drafting a still unfinished monograph on the Austronesian Laryngeals.¹ ZORC 1982 presented a summary of its main points, but due to limitations of space and time, much went unsaid. As a result, the principles and data sets underlying my hypothesis were not sufficiently clear and thus only poorly understood. I would like to take this opportunity to review the evidence for the synchronic and diachronic appearance of PAN *ʔ by highlighting the original research of DYEN (1953) and commenting on the more recent work of ADELAAR (1985), WOLFF (1988), and BLUST (1980, 1983/84, 1986, 1988, 1989, and in progress). I propose that, while we must be chary of the appearance of a final glottal stop (since it can mark phonotactic closure in some languages² and loan status in others), PAN *ʔ can be reconstructed when the appearance of a Central Philippine glottal stop is cognate with material not otherwise indicating a PAN, PMP, PHN *q or PML *k. Additionally it was a phoneme that had a special function as a grammatical marker and was thus preserved (or reanalyzed) in a number of daughter languages.

1 DYEN (1953) AND THE CENTRAL PHILIPPINE EVIDENCE

Due to the abbreviated nature of that paper, my treatment of DYEN (1953) was perforce cursory. I am therefore pleased to have this opportunity to dedicate a more extended treatment to DYEN, who so carefully isolated all the regular and irregular correspondence sets pertaining to the appearance of glottal stop in the central Philippines, Indonesia/Malaysia, and Tongan, and of /h/ in Indonesian and Malaysian languages.

The occurrence of a final glottal stop in Tagalog (and other central Philippine languages) as opposed to a final zero in Malay and Javanese was troubling (§97). Conversely, there were glottal discrepancies in Malay and Javanese cognates, most with glottal stop in the Tagalic languages (§108). DYEN assigned all of these to reconstructions with a final vowel (i.e., zero). After a discussion of intrusive glottal stop (-ʔ-) (§78-93) and -n- (§94) before suffixation, the forty etyma in §97 were attributed to analogical wrong division, and the six in §108 to an unexplained secondary origin. It can be demonstrated that these final glottals are attributable to three factors: loan marking (1.1), grammatical marking (1.2), or retention of PAN or lower-order *ʔ (1.3).

1.1 CENTRAL PHILIPPINE LOAN MARKING

As DYEN observed (§98-101), several loan words have a final glottal "which cannot be attributed to the phonetics of the lending language," and which he felt strengthened the hypothesis that some Tagalog (and other central and even southern Philippine) words acquired a final -ʔ analogically. The provenance of these loans was Indic, Malay, and Spanish, although as WOLFF (1976) demonstrated, all Indic words were via Malay. Furthermore, the input of Malay was far more pervasive than DYEN would then have been prepared to accept.³ What is important is that not all such loans are so marked, i.e., there are dozens of Malay and hundreds of vowel-final Spanish borrowings that do not acquire a final glottal.⁴ Furthermore, each language has accommodated loans in its own way, so that the following lists (drawn from DYEN (1953), WOLFF (1976) or my own research) illustrate a case of pepper potting:

SPANISH

- 001a Tag *bangkóʔ*, Akl, *Bik bángkoʔ*, Ceb *bángkuʔ*, WBM, Tbl *bangkuʔ* 'bench' < Sp *banco* [Contrast: 001b Tag, *Bik bángko*, Akl *bángkoh*, Ceb *bángku* 'bank' < Sp *banco*]
- 002 Tag *bandílaʔ*, WBM *bendílaʔ*, (Akl, *Bik bandéra*, Ceb *bandíra*) 'flag, banner' < Sp *bandera* (Lar§101)
- 003 Tbl *basuʔ*, (Tag *báso*, Akl *básoh*, Ceb, *Han básu*, WBM *basu*) '(drinking) glass' < Sp *vaso*
- 004 Tag, *Bik batyáʔ*, Akl, Ceb, *Hil batíyaʔ*, S-L *bátyaʔ* 'wooden basin - wash-tub' < Mex-Sp *batea*
- 005 Tag, Akl, Bik, Ceb *bintánaʔ* 'window' < Sp *ventana* (Lar§101)
- 006 Tag *gansáʔ*, Ceb *gángsáʔ*, (Akl *gánsa*, Bik *gansó*) 'goose' < Sp *ganso*, -a (Lar§101)
- 007 Tag *kampánaʔ*, (Akl, Bik, Ceb, *Han kampána*) '(church) bell' < Sp *campana*
- 008 Tag, Akl, Ceb *kandílaʔ*, (Bik *kandíla*) 'candle' < Sp *candela*
- 009 Tag, Akl *kastílaʔ*, Bik *kastílyaʔ*, Ceb *katsílaʔ*, Mar *kasílaʔ* 'Spaniard, Spanish' < Sp *castilla* 'Castile' (Lar§101)
- 010 Tag *kustínaʔ*, (Akl *kustínah*, Bik *kosína*, Ceb *kustína*) 'kitchen' < Sp *cocina*
- 011 Tag, Han, Hil, Kpm, Sbl *maníʔ*, Cas *manéʔ*, Abr, Klg, Msk *maníʔ*, (Bik, Ceb *maní*, Akl *maníh*) 'peanut' < Mex-Sp *maní* 'peanut'
- 012 Tag, Akl, Ceb *mantíkaʔ*, (Bik *mantéka*) 'butter, lard, shortening' < Sp *mantecca* (Lar§101)

- 013 Tag *páre?*, Akl, Ceb *pári?*, Bik *pádi?*, (Han *pádi*) 'priest' < Sp *padre* 'father' (Lar§101)
- 014 Tag *pitáka?*, (Akl, Ceb *pitáka*) 'pouch, purse, bag' < Sp *petaca* 'cigar ~ cigarette case, tobacco pouch' (MBT:365 relates Ceb to Skt *piTaka* 'basket, box, bag' but there are no Mal or Jav cognates, so the Sp provenance is more likely)
- 015 <Akl *tokáyo?*, (Tag, Bik *tokáyo*, Ceb *tukáyu*) 'namesake' < Sp *tocayo*

MALAY⁵

- 016 Tag *baná?* 'low-lying country' (clearly a loan marked by *e > a) < PIN **bená?* 'lowland' > Iban *bená?*, Mal *bená* 'tidal bore,' Jav *bená* 'overflowed' (Lar§97, VL3:27, not in ADELAAR, NOTHOFER, nor MBT)
- 017 Tag *dáya?* 'cunning', Akl, Bik, Ceb, Han *dáya?* 'cheat' < PIN **dáya[Ø]* 'trick, deceit' > Iban *daya* (Lar§97, VL3:37, MBT:357, not in ADELAAR nor NOTHOFER)
- 018 Tag *gúsi?* < PIN? **guci* 'glazed vase ~ water vessel' > Iban, Mal *guci* (Lar§97, VL3:56, MBT:364, not in ADELAAR nor NOTHOFER)
- 019 Tag, Akl, Ceb, Hil *hári?*, Bik, S-L *hádi?*, WBM *hadi?*, Ilk, Bon *ádi* < PWI **hádi[Ø]* 'king; kingdom' > OJav *haji*, Hov *andrilana* 'ruler' (Lar§114, VL3:60, MBT:360,fn9, not in ADELAAR nor NOTHOFER)
- 020 Tag, Han *kawáli?* < PIN? **kuali[Ø]* 'cooking pot, frypan', Mal *kuali*, Jav *kuwali*, Iban *kali* (Lar§97, MBT:364, PML:61 **kuali*, not in VL3 nor NOTHOFER)
- 021 Tag *kulambó?*, Han *kulambú?*, Tir *kulambu* < PML **kulambu[Ø]* 'mosquito net, bed curtain' [Iban NC] (Lar§97, VL3:83, MBT:365, PML:60, not in NOTHOFER)
- 022 Tag *lumbá?*, Ceb, Hil *lúmba?* < PWI **lumba?* 'race, competition' > Iban *lumba?* ~ *rumba?* (Lar§97, VL3:98, PML:102 **lumba?*, MBT:365, not in NOTHOFER)
- 023 Tag *pasó?* < PIN **pasu[Ø]* 'earthenware vessel' > Iban, Mal *pasu* (Lar§97, VL3:115, MBT:364, not in ADELAAR nor NOTHOFER)
- 024 Tag, Bik *pintó?* 'door', Han *píntu?* 'answer to a riddle' < PIN **pintu[Ø]* > Mal, Iban *pintu* (Lar§114, VL3:119, MBT:364, not in ADELAAR nor NOTHOFER)
- 025 Tag *suligi?* < PIN **suligi?* 'bamboo spear' > Iban *seligi* (Lar§97, PAA #114, VL3:157, MBT:363, PMJ:71 **suligi?*, not in ADELAAR)
- 026 Tag *tandá?* 'seal, stamp', Akl *tánda?* 'remember', Bik *tandá?*, Ceb, Hil, S-L *tánda?*, Tir *tanda?*, Han *tandá?* 'sign, mark' < PWI **tanda[Ø]* 'sign, mark, token; seal, stamp' > Iban *tanda* (Lar§97, VL3:126, MBT:361, PML:87 **tanda*, PMJ:156 **tanDá?*)

- 027 Tag *tungkó?* < PWI **tungku?* 'trivet - tripod' > Iban *tungku?*, Jav, Mal *tungku* 'hearthstones' (Lar§97, PML:57 **tungku?*, VL3:141f, MBT:364, not in NOTHOFER)⁶

SANSKRIT OR OTHER INDIC INFLUENCE

- 028a Tag *astá?* 'characteristic action; posture' < Mal - Jav *asta* 'have, hold, do (honorific)' < Skt *hasta-* 'hand; holding in hand' (MBT:353+359) [Contrast: 028b Tag *astá*, *astá* 'measurement from elbow to fingertips' < Mal (*h*)*asta* 'cubit' < Skt *hasta-* 'hand, measure (the length of the forearm)' (GONDA 1973:123,157, MBT:352,361)
- 029 Tag, Akl, Ceb, Hil, Kpm *balita?*, Bik, S-L *barita?*, (Han *barita*) 'news', Tsg *mag-baita?* 'tell' < Mal *berita* < Skt *vRtta* 'event' (GONDA 1973:22,100,142, PAA#31, MBT:366)
- 030 Tag, Bik, Kpm *banggá?* 'attack; collision', Akl, Ceb, Hil, S-L, Mar *bángga?* 'collision', WBM *bangga?* 'compete' < Skt *bhanga* 'breaking, overthrow' (GONDA 1973:117, PAA#13, MBT:364)
- 031 Tag *dukhá?* 'poor, indigent' cf: Mal *duka* 'grief', OJav *duHkha* 'sorrow' < Skt *dukhka-* 'unfortunate' (Lar§99, MBT:357, GONDA 1973:114,202)
- 032 Tag *kúta?*, Ntg, WBM *kuta?* 'fort', (Han *kúta* 'cement work') < Mal *kota* < Skt *koTā-* 'fortress' (Lar§99, VL3:85, MBT:364, GONDA 1973:91,99)
- 033 Tag, Ceb, Hil *lagári?*, Akl *eagári?*, Bik, S-L *lagádi?*, Han *ragári* < Mal *gergaji* < Skt *krakaca* 'saw' [cf: Iban *ger(eg)aji*] (Lar§97, GONDA 1973:93,110, MBT:364, not in VL3)
- 034 Tag *mukhá?* 'face', Ibg *muká?* 'forehead' cf: Mal *muka* < Skt *mukha-* (Lar§99, GONDA 1973:117, MBT:fn11)
- 035 Tag *mutyá?*, Ceb *mutiyá?*, WBM *muntiya?*, (Btk *mutiya* 'amulet') < Mal *mutia* < Skt *mutya* 'pearl', *mutyaha:ra-* (GONDA 1973:493, MBT:363)

1.2 WESTERN AUSTRONESIAN GRAMMATICAL MARKING

BLUST (1979) established Proto Western Malayo-Polynesian vocative marking as involving accent shift or a final glottal stop (his **-q*)⁷ as part of a series of two other final consonants (*-ng*, *-y*). This is apparent in reflexes of the following kin terms:

- 036 PHF **amá?* 'father' [address] > Bik, Sbl *amá?*, Han, Cas *áma?*, WBM *ama?* (address), Msk, Mong *ama?*, Sub *gama?*, Saaroa *ama?a* (reference), Puy *ama?* (address) [Iban NC] (Lar§78,82, 86,97, Voc:223f, not in ADELAAR nor NOTHOFER)
- 037 PHN? **bapa?* 'father' > Ilk *bápa* 'parent, uncle, aunt', Bot *bapa?*, Rej *bapo?*, Mkb *bapa(?)*, Mal *bapa(k)* 'father', Iban *bapa?* 'father-in-law', (*apay* 'father') (PML:84 *(b)apa(?), VL3:24, Voc:225, not in NOTHOFER)
- 038 PHF **iná?* 'mother' [address] > Tir *ina?* 'aunt', Msk, Sasak, Uma *ina?* 'mother', Rukai-Budai *ináa* [Iban NC] (PML:140 **ina*∅, Voc:220,223; PMJ:98 **iña?* 'foster-mother, nurse')
- 039 PAN **k-aka?* 'elder sibling' > Tag, Bik, Sbl *kaká?*, Iban *aka?*, Mkb *kako*, *kaka?*, Mal *kakak*, Pai, Amis *kaka?* (Lar§108, VL3:72, PML:82 **kaka?*, Ferrell 1969:181, Voc:226f, BLUST 1994:50f, not in NOTHOFER)
- 040 PAN **mamá?* 'father' [children's vocative form] > Tag *máma?* 'sir', Hil *máma?* 'old man', Mal *mama?*, NgD *mama* 'maternal uncle', Motu *mama* (address), Amis *mama(?)* [Iban NC] (Lar§108, PML:84 **mama(?)*, Voc:218ff, not in NOTHOFER)
- 041 PAN *(u-)Saji[?]⁸ 'younger sibling' > Rom, Odg *háli*, Han *ári?*, Tadyawan *taylalalan*, Bon, Png *agt*, Iban, Lmp, Mad *adi?*, Mal *adik*, Rukai *?agi?*, Sedeq *suai*, Thao *SaSuwa:di?* (VL3:12, PML:141 **adi?*, Voc:231, BLUST 1994:51f; not in NOTHOFER)

Also see: PAN **aki?* 'grandfather' #070 and PHN **níni?* [address to older female kin] #079 below.

In a postscript to my 3ICAL paper, I mentioned that "some of these [laryngeal discrepancies] may be resolved on the basis of grammatical derivations" (ZORC 1982:133). I called attention to the following:

- 042 PAN **batú[∅H]*⁹ 'stone' > Akl *batúh* 'stone', *batuh-un* 'throw stones at', but *ka-ba-bátw-an* 'rocky area', Iban, Mal *batu*, Tkd *batuh* (PML:70,158 **batu*∅, PMJ:128 **Batu?*, VL3:24, TSUCHIDA, 1976:134)
- 043 PAN **kúCu[∅H]* 'head louse' > Akl *kútuh* 'louse', *kutúh-un* 'full of lice', but *hingút-w-i* 'delouse', Ceb *kútu*, Iban, Mal *kutu*, Tkd *kutuh* (PML:71,77 **kutu*∅, PMJ:118 **kutu?*, VL3:84, TSUCHIDA 1976:134)

It is not uncommon for noun-verb pairs to show laryngeal final (as well as accent) discrepancies, particularly Iban -∅ vs -ʔ and central Philippine -∅ vs -h. These prompted ADELAAR to reconstruct an ambiguous *-(?) or unambiguous *-ʔ in the following three etymologies:

- 044 PAN **ásu*[Ø] 'dog' > Iban *asu?* 'dog', but *ng-asu* 'hunt' (PML:158, 234 **asu?*, VL3:17, not in NOTHOFER)
- 045 PAN **DuSá*[Ø] 'two' > Iban *dua* 'two', but *be-dua?* 'share, divide' and *se-duay* 'you two' (PML:136,161 **dua*(?), PMJ:148 **Dua?*, VL3:44, TSUCHIDA 1976:153)
- 046 PAN **súsu*[Ø] 'breast' > Akl *súsu* 'breast', *pa-susw-a* 'breastfeed', Iban *tusu* 'breast', but *tusu?* 'suck', TB, Mal *susu* (PML:84 **susu*(?), VL3:158, TSUCHIDA 1976:129, not in NOTHOFER)

A few of these laryngeal-final forms probably arose to preserve the character of consecutive vowels, i.e., to separate the final vowel of the root from suffixes like *-*an*, *-*i*, or *-*en*. The first (Iban *asu?*) is problematic in that the noun (presumably the root form) has the glottal, but once the analogy for differentiating noun-verb pairs was in place (as in 045 and 046, where the roots do end in zero), it could have been applied in reverse.

Some scholars may consider the following two etymologies related. Although I am not particularly drawn to such a conclusion, the second could be considered a verbal counterpart of the pronoun (with both accent shift and glottal marking):

- 047 PAN **akú*[Ø] 'I' > Bik, Hil, Tag *akó*, Akl, Ceb *akú*, Chm *gwahu*, TB *abu*, Iban, Mal *aku* (Lar§133 **aku*(*h*), PML:85 **aku*Ø, VL3:13f)
- 048 PHN **áku?* 'confess, own up to, admit, acknowledge' > Tag *áko?* 'guarantee', Akl, Bik, Han *áku?* 'admit, own up to', Iban, Lmp *aku?* 'treat as', Mal *aku-an* 'acknowledgement', Ojav *ang-aku* 'recognize, acknowledge' (PML:74,82 **aku?*, PMJ:178 **áku?*)

My conclusion is that, as such evidence continues to mount across genetic boundaries, doublets should be reconstructed. Because these reflect remnants of grammatical marking, they represent morphophonemic reconstructions with the characteristics of sporadic (or irregular) sound change, i.e., not **q* > [ʔ], but *ʔ > [ʔ]. The above examples attest to the appearance of a genuine laryngeal articulation in the grammar of the proto-language.

1.3 RETENTION OF PAN, PMP, PHN OR LOWER ORDER GLOTTAL STOP

Moreover, several of DYEN's reconstructions, based on the data he presented as well as additional material from Iban and other languages that has since come to light, suggest that a final glottal stop is justified at the lexical level as well. The following etymologies are presented alphabetically within groups representing the highest order proto

language to which each can be assigned. While some of the latter (PHN) may well be questioned, the initial ones (especially 49-54) represent some of the best evidence for the reconstruction of this final laryngeal.

- 049 PAN **táma?* 'enter; hit the mark' > Tag *táma?* 'hit mark', Iban *tama?*, OJav *tama*, Mlg *tamy*, Erai, Tetung *tama* 'enter', Amis *tama?* 'meat gotten in a hunt' (Lar§97, AE3#347n, VL3:130, ADELAAR 1985:74, not in NOTHOFER)¹⁰
- 050 PHF **kêNa?* 'hit (mark - target)' > Iban *kena?*, Mal *kena*, Kan *sumá-kena*, Tsou *me?ho, eha* 'hit mark' (Lar§97, VL3:78, PML:88 **kena?*, TSUCHIDA 1976:140, not in NOTHOFER)¹¹
- 051 PMP **buká?* 'open-up, uncover' > Akl, Hil *buká?*, *buk?-un*, Tsg, Mong *buka?*, Kal *buka-*, Sbl *buká?* 'open', Mar *boka?* 'untie', Han *buk?-án* 'mid chest', Iban, Lmp *buka?*, Mal *buka(k)* (Lar§108, PML:83f **buka?*, PMJ:193 **Bukka?*)
- 052 PMP **dátu?* 'chief, ruler' > Bik, Ceb, Hil, S-L *dátu?* 'chief', Tir *datu?* 'Moslem nobleman; male leader among superhuman beings', Iban *datu?* (Lar§108, PML:82 **datu?*, PMJ:148 **Datu?*, VL3:39, MBT:360)¹²
- 053 PMP **muda?* 'young, inexperienced' > Iban *muda?* 'unripe', Mal *muda*, NgD *muda* 'young' (Lar§114, PML:82 **mudá?*, VL3:159 sub **uda*, not in NOTHOFER)¹³
- 054 PMP **páku?* 'nail, stake' > (Tag, Bik *páko?*),¹⁴ Iban *paku?*, Mal, Jav *paku*, Fiji *ivako* (Lar§87,90,97, PML:82 **paku?*, VL3:112, MBT:364, not in NOTHOFER)
- 055 PMP?, PHN **puki?* 'vagina, vulva' > Ceb *púki?*, Hil, Ogd, Rom *puki?*, Tbl *ki?*, Samal *puke?*, (Tag, Bik *púki* 'vagina', Han *puki* 'buttocks'¹⁵), Iban *puki?* (Lar§97, VL3:121, PML:82 **puki?*, PMJ:119 **puki?*)
- 056 PMP **sudu[?]* 'spoon, ladle' > Ilk *sódo*, Iban *sudu?*, Jav *suru*, Mal *sudu* 'spoon (usually made of a coconut shell)' vs *sodok* 'shovel; scoop' (Lar§97, AE4#574, MBT:364, PMJ:150 **suDu?*; not in ADELAAR)¹⁶
- 057 PHN **nangka?* 'jackfruit tree' > Bik *nangká?*, Ceb *nangka?*, TB *nakka*, Iban *nangka?* (Lar§97, PML:82 **nangka?*, PMJ:96 **nangka?*, VL3:107, MBT:fn10)¹⁷
- 058 PHN **sípa?* 'kick' > Tag, Akl, Bik, Ceb, Hil *sípa?*, Abr, Btk, Klq, Mar, Msk, Ntg, Sub, WBM *sípa?*, Bilaan(Kor) *sífo?*, Tbl *s<m>ífa?* 'kick', Iban *sípa?*-2 'totter, walk with uncertain steps' [There is evidence for a separate (doublet) PWI **sípak* 'kick' > Iban *sípak*, *ñípak*, Mlg *tsípaka*] (Lar§108, VL3:154, MBT:365,¹⁸ not in ADELAAR nor NOTHOFER).

- 059 PHN?, PMJ, PML **surambi?* 'caves, verandah' > Tag, Ceb *sulámbi?*, Bik, S-L *surámbi?*, Iban *serambi?* 'shed at the back of the house', TB, Mkb *surambi* 'front verandah' (Lar§97, PML:60, VL3:157, PMJ:72, MBT:364f)¹⁹
- 060 PHN **tábu?* 'bail - scoop water' > Tag *tábo?*, Akl, Bik, S-L, Kpm *tábu?*, Msk *tabu?*, Ilk *tábo*, Jav *tawu* [Iban NC] (Lar§97, VL3:125, not in ADELAAR, NOTHOFER, nor MBT)
- 061 PHN? **imba[?]* 'bucket' > Tag, Bik *imbá?*, Ceb, Hil, S-L *timba?*, Iban, Sundanese *imba?* (Lar§97, VL3:136, PMJ:136 **imBa?*, MBT:365, not in ADELAAR)²⁰
- 062 PHN? **utu[?]* 'dumb (mute - foolish), inept' > Tag *utú-utó?* 'simpleton, fool', Akl *óto?-?óto?* 'play for a fool, take advantage of', TB *oto*, Mal *m-utu* 'dumb, mute', Jav *utu* 'novice' [Iban NC] (Lar§97, VL3:163, not in ADELAAR, NOTHOFER, nor MBT)

Two etymologies presented by DYEN probably have to do with the reconstruction of the other laryngeal, PHN *-*h*, which has fallen together with the reflexes of *-*ʔ* in the Indonesian and Malay evidence (to be discussed in section 2 below):

- 063 PMP **ba+bá[h]* 'bear, carry on one's back' > Akl *abáh*, *ábh-un*, Ceb *bábah-*, *babáh-*, *bála*, *bálh-un*, S-L *babá* 'carry', PML:127 **ba(?)*, PMJ:124f **Bawa?* (Lar§108, VL3:18; ADELAAR 1985:127 suggests that this is essentially a monosyllabic root; a hypothesis which is reinforced by the Akl [*a-báh*] and Ceb [*b<al>ah*] evidence)
- 064a PHN? **kurapu[h]* 'slime, seaweed' > Tag *kulapó* 'film on liquid', Bik *kulápu* 'sea-slime', S-L *kulápu* 'seaweed', Kpm *kulapú* 'mold', Iban *kerapu?* 'grass found on marshy land' (Lar§97,²¹ VL3:83) [Although the cognate sets are presented together by DEMPWOLFF and DYEN, this etymon differs from: 064b PMP **ku[rR]apu[q]* 'perch - other fish sp.' > (Tag *kulapó*, Mong *kurapu*, Itb *kurapu*), Ilk *kurapó*, Mal *kerapoh*, (Jav *kerapu*), Sam (?)*ulapo*, Tonga *kulapoo* (Lar§97, VL3:83, PA1#48), not in NOTHOFER, ADELAAR, nor MBT]

2 ADELAAR (1985) AND THE IBAN EVIDENCE

ADELAAR (1985:73-77 and footnotes 26-27) took up an insightful critique of my study, looking in great detail at and beyond the etymologies in ZORC (1982). His study has been exceptionally valuable in my reevaluation of the Iban evidence. Firstly, my enthusiasm over the

appearance of a final glottal stop has been tempered, so I now consider such far from conclusive. For any PAN reconstruction, Iban provides *witness evidence* (even if it may present criterion evidence at the PHN level, see ZORC 1994). Secondly, as ADELAAR's statistics bear out, Iban fares far better in the reconstruction of *-ʔ than it does *-h (from PAN *-S or *-H). An explanation for this was hinted at (in ZORC 1982:121), but will be developed in more detail in 2.3 below. Thirdly, I would cease to cite Iban evidence where a final diphthong [-y] or nasal [-n, -ng] appears to have replaced a laryngeal, since as ADELAAR points out "there is no way of telling whether earlier (undiphthongized) forms of these lexemes had -ʔ or not" (1982:75). It is, however, worth noting in this regard that these could have developed analogically from vocative marking (with -ʔ, -y or -ng discussed in 1.2 above) to a broader range of lexemes.

2.1 IBAN -ʔ IS NOT A LOAN MARKER

ADELAAR (1985:76) states that "loanwords as a rule do not end with -ʔ." He lists only four such loans, to which a fifth may be added. This is clearly not like the central and southern Philippine situation discussed in 1.1 above.

- 065 Iban *cabiʔ* < Skt *chavya* 'chilli pepper,' *Capsicum annuum* > Ind, Jav *cabé*, Mal *cabai* (WILKINSON 1959:173, not in GONDA)
- 066 Iban *cukaʔ* < Prakrit *cukka* 'sorrel,' Skt *cukra*- 'vinegar, sorrel' > Tag *súkaʔ*, Mal *cuka*, Jav *cokà* (GONDA 1973:113,132, VL3:88, MBT:363)
- 067 Iban *kepalaʔ* 'chief, principal' < Skt *kapa:la*- 'skull' > Mal *kepala* (GONDA 1973:91)
- 068 Iban *kijuʔ* 'cheese' < Portuguese (Cf: Tag, Akl *késo* < Sp *queso*)
- 069 Iban *kayuʔ* 'rolls (of cloth), bars (of soap)' < Chinese? (Cf: Tag *káyo* 'textile, cloth, fabric', Bik *káyo* 'Chinese white blanket', Hil *káyo* 'Chinese white cloth', Jav *kayoh* 'piece of material'; Lar§113 **kayuq*, VL3:72, not in ADELAAR)

2.2 FINAL IBAN GLOTTAL < PAN, PMP, PHN *-ʔ

The appearance of a final glottal stop in Iban is significant only in contrast with a final zero. If it were secondary, then we would expect it to be a filler or phonotactic phenomenon. However, Iban zero does correspond with vowel-final forms reconstructed for PAN or lower order proto

languages (see Iban *aku* 'I' < PAN **akú*[Ø] (#047), Iban *batu* 'stone' < PAN **batú*[Ø] (#042), Iban *kutu* 'louse' < PAN **kuCu*[Ø] (#043) above, as well as Iban *apa* 'what?' < PML:50, PMP **apa*[Ø], Iban *beli* 'buy' < PAN **beli*[Ø], Iban *kami* < PAN **kami*[Ø], Iban *laki* 'husband' < PHN **láki*[Ø] 'man, male, husband', Iban *mata* 'eye' < PAN **maCá*[Ø], and dozens of similar reconstructions in ADELAAR's index (1985:258-262)). Thus, in the following citations, a final glottal stop in Iban appears to be etymologically justified.

- 070 PAN **aki*[ʔ] 'grandfather' > Iban *aki*ʔ, Mal *aki* 'grandfather', Jav *aki-2* 'old man', Tsou *aki*ʔ 'grandfather' (PML:140 **aki*ʔ, PAA#4, Voc:227f)
- 071 PMP **qaRúhu*ʔ 'pine tree', *Casuarina equisetifolia* > Tag *agúho*ʔ, Akl, Ceb *agúho*ʔ, (Bik *agúho*, Han), Ilk *agú*ʔu, Ilk *aro*ʔó, Iban *ru*ʔ, Mal (*ha*)*ru*, *eru* (PML:82 **eru*ʔ, VL3:13, PA1#5)
- 072 PHF **b<al>anga*ʔ 'earthenware jar' > (Tag, Kpm *balangá*ʔ = Mal), Iban *belanga*ʔ, Mal *belanga*, TB, NgD *balanga*, Pai *valanga*, Siraya *vangara* 'mortar' (PML:63,82 **bAlanga*ʔ, VL3:23, Lar§104, MBT:364)
- 073 PHN **enda*ʔ 'no, not' > Sin *nda*ʔ (past), Binukid, K-C, Tir *enda*ʔ, Iban *enda*ʔ, Jkt *nda*ʔ (PML:83f **da*ʔ; cf: Mal *tildak*, Mkb *in/da*ʔ, BjrH *kaldá*)
- 074 PHF **qíla*ʔ 'see; keep eye on' > Akl *íla*ʔ 'like', Tag *ka-íla*ʔ 'keep unknown', Kankanay *íla* 'see', Iban *íla*ʔ 'watch, keep an eye on', Saisiyat *mya*ʔílaʔ 'like, be fond of' (PML:82 **híla*ʔ)
- 075a PMP **i-nda*ʔ 'that (distant)' > Akl, Hil *inda*ʔ, Cas *iná*, Iban *ña*ʔ (ADELAAR 1985:161 data, AE2#108)
- 075b PHN **nda*ʔ 'that ~ there yonder' > Akl *ra-nda*ʔ 'there', Ceb *ka-nda*ʔ 'that', Iban *ña*ʔ, Mal *di-sa-na* (PML:148f,161 *(*a*)*na*(ʔ))
- 076 PAN? **isi*[ʔ] 'meat, flesh; contents' > Kal, NgD *isi* 'flesh', Iban *isi*ʔ, TB, Jav, Mal, Mkb *isi*, Puy *isi* (PML:82 **isi*ʔ, ACDi163, VL3:70, Lar§97)
- 077 PHF **lama*ʔ 'old, former' > Iban *lama*ʔ 'old, former, ancient', Mal *lama* 'length (of time)', Atayal *lama*ʔ 'do first ~ before' < (PML:101 **lama*ʔ, AE2#173)
- 078 PHF **Nasi*ʔ 'rice' > Kpm *nási*ʔ, Iban *asi*ʔ, Mal, Mkb *nasi*, Mad *nasi*ʔ 'cooked rice', Pazeh *muLasi*ʔ 'paddy plant' (PML:82,89 **nasi*ʔ)
- 079 PHN **ntni*ʔ [address to older female kin] > Tag *néne*ʔ (< Mal), Akl *ntni*ʔ [address to older girl], Iban *ini*ʔ 'grandmother; grand-aunt' [term of address for older women], Jkt *nini*ʔ, Mkb *ñiñiek*, *ninie*ʔ 'grandmother' (PML:74,88 **nini*ʔ, VL3:108)

**ti+ku?* 'bend, curve') and synchronic doublets from Maranao (*boka* 'breakfast', *boka?* 'untie') and Hiligaynon (*bukáh*, *buká?* 'open').

I concluded: "To the extent that this kind of genetic comparison is valid and reliable, some roots need to be reconstructed with a series of laryngeals (i.e., as doublets). Zorc's problem is, of course, exacerbated by the lack of test evidence when criterion or witness evidence alone is available in the establishment of disjunctive roots like **piq* vs. **pi?* vs. **pih* vs. **piØ*" (1990:186).

4.1 DOUBLET INDICATIVE OF ZORC'S PROBLEM

Moving away from the quagmire of monosyllabic roots but not from Zorc's problem, there are some etyma where the final consonant cannot be ineluctably established, so doublets, disjuncts, or alternative means of marking such ambiguity between a glottal and other phoneme(s) have to be reconstructed:

- 115 PHF **buCá[H?Ø]* 'blind' > Bik, Ceb *búta-* [*Ø], Mam *buta?*, Tbl *buto?* [*?], Msk *búta*, WBM *buta* [*Ø*h*], Iban *buta?* [*?*h*], TB, Mal *buta* [*Ø?*h*], Pai *ma-vutsa* 'having bad eyesight' [**H?Ø*] (VL3:36, PMJ:130 **Buta?*, PML:82 **buta?*)
- 116 PHF **Dáya[Ø?H]* 'inland, upriver' > Iban *daya?* [*?*h*] 'Dayak; up-country', Mal *barat-daya* [*Ø?*h*] 'southwest', Kan *m-a-a-cála* 'blow upwards ~ towards mountain-side', Pai *zaya* 'upland, upriver' [**H?Ø*], Tkd *daDá?* [Ø?] 'above, up' (PML:134f **daya?*, VL3:42, TSUCHIDA 1976:240)
- 117 PHN? **lagi[h?]* 'again, more, still; later on' > Tag *lagi?* [*?] 'always', Akl *eagih* 'right away', Ceb *lagih-* 'surely' [**h*], Iban *lagi?* [*?*h*] 'later on', Mal *lagi* [*Ø?*h*] 'again; still more' (PML:57 **lagi?*, PAA#233)³¹
- 118 PHF **pakú[?HØ]* 'edible fern sp., *Athyrium esculentum*' > Bik *paku* [*Ø*h*], Ceb *pakúh-* [**h*], Tir *fagew* [*Ø], Tbl *hokú?* [*?], Iban *paku?* [*?*h*], Mal, Mkb *paku* [*Ø?*h*], Amis *pahko* (M) [H] (VL3:112, PML:82 **pakú?*, TSUCHIDA pc)
- 119a PMP **lawá?* 'spider' > Iban *empellawá?*, Mal *lawá-2* vs 119b PMP **lawaq* > Kal *lawak*, Mkb *lawah*; Tag (an)*lalawá?*, Akl *eáwá?*, Bik, Ceb *láwá?*, Fiji *lawá-2* (PML:69 **lawá?*, VL3:93, Lar§104)
- 120a PML **bali?* 'reverse; go back' > Mal, Jkt *kem/bali*, Mkb *kum-bali* 'back' [adv], (Iban *bali?* 'change, vary' pos < **baliw*) (PML:83f, 73) vs 120b PMP **balík* 'return' > Tag, Akl *balik* 'turn around',