PROTO-DANAW: A COMPARATIVE STUDY OF MARANAW, MAGINDANAW, AND IRANUN

E. JOE ALLISON

1. INTRODUCTION

Three large groups of Muslim peoples live in the southwest part of the Philippine island of Mindanao -- the Maranaw, the Magindanaw, and the Iranun[1]. The speech varieties of these three groups have an apparent close genetic relationship and comprise what will be called in this study the Danaw[2] language group.

1.1. *PURPOSE*

The purpose of this study[3] is (1) to demonstrate the genetic unity of Maranaw (MAR), Magindanaw (MGD), and Iranun (IRN); (2) to investigate their genetic history; and (3) to reconstruct the phonology and some of the lexicon of Proto-Danaw (PDAN), the hypothetical parent language of MAR, MGD, and IRN.

1.2. *ABBREVIATIONS*

The following abbreviations appear in this paper:

IRN	Iranun
MAR	Maranaw
MGD	Magindanaw
PAN	Proto-Austronesian
PBS	Proto-Bisayan
PDAN	Proto-Danaw
PMAN	Proto-Manobo
PNEM	Proto-North-east Mindanao

Allison, E.J. "Proto-Danaw: A Comparative Study of Maranaw, Magindanaw and Iranun". In Gallman, A., Allison, E., Harmon, C. and Wiucki, J. editors, *Papers in Philippine Linguistics No. 10.* **A-55:53-112**. Pacific Linguistics, The Australian National University, 1979. DOI:*10.15144/PL-A55.53*

PPH	Proto-Philippine
PSEM	Proto-South-east Mindanao
PSP	Proto-Southern Philippine
PTAG	Proto-Tagalic

1.3. *PREVIOUS CLASSIFICATIONS*

Several previous classifications name one or more of the Danaw speech varieties as a discrete linguistic subgroup within the Philippine group.[4] Conklin (1952:286) subdivided the Philippine group geographically into a Luzon group, a Bisayas group and a Mindanao group. Within the latter he classified MAR and IRN together as dialects of a single language co-ordinate with MGD and 21 other languages. He gave no further subgrouping of the Mindanao group, either internally or externally.

The investigation of Thomas and Healey (1962:22) defined a "Northern Philippine Family" and a "Southern Philippine Family", the latter consisting of ten branches that began to differentiate from a common parent about 100 BC (± 300). One of these branches is the MAR-MGD branch. Their study attested to:

> ...the internal unity of the Maranao-Maguindanao branch...demonstrated by intra-branch comparisons, all of which lie within the range 60-70% probable shared cognates (1962:25)

Dyen (1965:29) identified a "Cordilleran Hesion" of northern languages and a "Sulic Hesion" of southern languages, plus nine separate languages that stand in co-ordinate relationship with both Cordilleran and Sulic. MAR is one of the co-ordinate languages, having its closest relationship lexicostatistically to the Bukidnic Subfamily (Dyen's terminology), which includes Bukidnon and Central Manobo, in the Sulic Hesion. Dyen does not list either MGD or IRN.

Chrétien (1966:207) in a classification of 21 Philippine languages placed MAR and MGD together with Tausug as an independent "Mindanao-Sulu" group. He distinguished this southern group from a northern group, the "luzon Sequence", and a central group, "Macro-Bisayan"; but he related Mindanao-Sulu and Macro-Bisayan through Tausug. He states:

> Tausog (sic) also enters into a three-member climax with Magindanaw and Maranaw... This climax thus constitutes a group to which I shall tentatively give the name Mindanao-Sulu. This is a separate group from Macro-Bisayan, but the two groups are connected through Tausog, which belongs to both and which is thus a transition language.

Even Chretien's figures, however, show Tausug more closely related to Butuanon than to MAR-MGD, and Zorc (1975) subsequently has given evidence that Tausug is a member of a subgroup of Bisayan, closest to

Butuanon. This present study, therefore, does not include Tausug for genetic comparison.

Recently, Llamzon (1974:18-19) classified 101 Philippine languages, which he divided into a "Northern Group", a Central Group", and a "Southern Group". He classifies MAR and MGD together as a subgroup co-ordinate with the large Manobo and Mansakan branches.

It can be seen that the results of investigators have not always been consistent in regard to the placement of the Danaw speech varieties. Furthermore, these classifications all fail either (1) to recognise the unity and relative independence of a Danaw subgroup; or (2) to account for all the Danaw members.

1.4. *HISTORICAL BACKGROUND*

The earliest historical records of the Danaw world are contained in 19th century documents termed 'tarsilas', written genealogies which go back over 500 years to the arrival in Mindanao of the first Muslim missionaries (Majul 1973:1, Saleeby 1905:11). Of interest to the linguist is the fact that at that early time the Danaw speakers appear to have been segregated already into three separate groups, occupying much the same areas as they do today: The Magindanaw along the Pulangi River basin; the Iranun on the coastal and inland areas off Illana Bay; and the Maranaw in the area around Lake Lanao.

The names of these three groups reflect something of their geographical history. Maranaw (ma- *'adjective marker'* + ranaw *'lake'*) means, approximately, *'lake-like'*; hence, *'by or near the lake, lake dweller'*. In the early tarsilas, and still today, this term refers to the people living around Lake Lanao (Saleeby 1905:15).

Iranun (i- *'remote prefix'* + ranaw *'lake'* + -un *'suffix designating source of people'*; thus *Iranawun > Iranun) means literally *'of or from the lake'*. This name originally applied both to the people living around Illana Bay and also to all those living along the Pulangi River basin, i.e., those now known as Magindanaw.

The name Magindanaw (mag- *'active verbal prefix'* + -in- *'verbal infix'* + danaw *'lake'*, i.e., *'to be inundated'*. It no doubt refers to the propensity of the Pulangi River to regularly overflow its banks, giving the basin a lake-like appearance (Ileto 1971:1). This name was first given by the Iranun to their town near the mouth of the Pulangi's north branch, at the site of present-day Cotabato City. Only later, during Spanish days, did it come to be applied to the people themselves (Majul 1973:31).

Another fact of some importance is revealed by the early tarsilas (Ileto 1971:28). The Iranun group were in continuous contact with the

Maranaw to the north and the Magindanaw to the south. Commercial, political, and military ties were prevalent in both directions. It can reasonably be assumed that such connections were in existence from the earliest migrations to the area. The Iranun groups, standing between both Maranaw and Magindanaw, perhaps served for centuries as an intermediary between them and remained subject to linguistic influence from both sides.

2. THE PHONEMIC SYSTEMS

Certain basic facts concerning the phonological structure of the living languages are helpful for a proper understanding of the Proto-Danaw reconstructions.

2.1. *ESSENTIAL ASPECTS OF MAR, MGD, AND IRN PHONOLOGIES*

McKaughan (1958) has described in part the phonemic system of MAR, and Lee (1962) has described, also in part, the phonemic system of the Buluan dialect of MGD. I have utilised both ananlyses for phonemic comparison, but with some modifications to be described later. At the time of writing, no phonemic statement was available for IRN. Consequently, I have prepared for it a tentative phonological analysis.

2.1.1. Consonants

The consonants of MAR, MGD, and IRN are little different from those in other Philippine languages (Table 1). With the exception of the phonemes /r/ and /ʔ/, the consonant systems of the three languages are almost identical.

Voiced and voiceless stops occur at the bilabial, alveolar, and velar points of articulation: /p,t,k,b,d,g/. The bilabial, alveolar, and velar nasals /m,n,ŋ/, also occur. There is a voiceless alveolar grooved fricative, /s/, and a voiced lateral, /l/. The alveolar flap, /ř/, occurs phonemically in MAR and IRN (symbolised throughout this text as /r/); but in MGD it occurs only as an allophone of /d/.

The glottal stop, /ʔ/, is phonemic in MAR, but it occurs only phonetically in MGD. In IRN, the glottal stop has been cited as a consonant by Constantino (1965); however, the data acquired for this study shows no evidence of its phonemic status. I shall interpret it tentatively,[5] according to my data, as phonetic.

TABLE 1

The Reflexes of PDAN Phonemes

PDAN	MAR	MGD	IRN
*p	p	p	p
*t	t	t	t
*k	k	k	k
*b	b,#(a)	b	b
*d	d,#	d	d
*g	g,#	g	g
*m	m	m	m
*n	n	n	n
*ŋ	ŋ	ŋ	ŋ
*s	s,#	s	s
*l	l	l	l
*r	r	l	r
*ʔ(b)	ʔ	#	#
*w	w	w	w
*y	y	y	y
*a	a	a	a
*ɨ	ɨ,a,u	ɨ	ɨ,a,#
*i	i	i	i,e
*u	u	u	u

(a) # indicates a null reflex.

(b) In MGD and IRN the glottal stop occurs phonetically, but not phonemically.

2.1.2. Semi-vowels

McKaughan (1958) analyses the non-syllabic high vocoids in MAR as vowels, and Lee (1962) does likewise for MGD. But there are objections to these interpretations on the grounds of the canonical syllable pattern.

The only non-suspect syllable pattern in the data for all three speech varieties -- (C)V(C) -- allows for only one vowel to a syllable and no more than two adjacent vowels in a sequence of syllables: e.g., MAR, MGD, IRN gapas *'cotton'* (CV.CVC); MGD mamaɨn *'areca nut'* (CV.CV.VC), etc. On the other hand, the vowel interpretation requires a syllable pattern of up to three vowels, with syllable sequences containing as many as five adjacent vowels (from Lee, 1962): E.g., MAR, MGD, IRN ma-yaw *'hot'*, interpreted as vowels, gives ma-iau (CV-VVV); MGD ɨg-kayawan *'will become hot'*, interpreted as vowels, gives ɨg-kaiauan (VC-CV.VVV.VC).

In contrast, treating the non-syllabic high vocoids as the semi-vowels /y/ and /w/ satisfies the canonical requirement: MAR, MGD, IRN ma-yaw is CV-CVC; MGD ɨg-kayawan is VC-CV.CV.CVC.

As will be seen, there are also historical reasons for the semi-vowel interpretation, in that /y/ and /w/ appear to be inherited forms of earlier semi-vowels. Failure to identify inherited semi-vowels confuses the distinction between syllabic and non-syllabic functions of the high vocoids both in the proto-forms and in their reflexes.

For these reasons, I have adopted the semi-vowel interpretation as the best analysis for the Danaw non-syllabic high vocoids. The phonemic notation of McKaughan for MAR is modified to reflect this interpretation in the wordlists.

2.1.3. Vowels

MAR, MGD, and IRN all share a similar, or parallel, four-vowel system, viz: /a,ɨ,i,u/ (Table 1). All the languages show a marked variation in vowel quality. McKaughan (1967:ix) states that in MAR, the high back vowel varies from [o] to [u], and the high front vowel varies from [i] to [e]. In MGD, Eck (1974:125) reports that allophonic variation between [i] and [ɪ] "tends to appear" in vertain environments for /I/, and free variation occurs in all environments between [ɪ̈] and [u], suggesting similar vowel quality variations. In fieldwork[6] conducted with both Magindanaw and Iranun speakers, I have observed pronounced variation of /u/ between [o] and [u], and some variation of /i/ between [I] and [ɪ].

The central vowel, /ɨ/, also varies, ranging from mid to high (Lee 1962:65; McKaughan 1967:ix). In IRN, I have further observed the variation of the low central vowel, /a/, from [a] to [ʌ]: E.g., [mag-anad ∿ mag-ʌnad] *'to practice'*; [pɨ-ndadarɨmɨt ∿ pɨ-ndʌdarɨmɨt] *'is playing'*.

2.2. *THE PHONEMIC SYSTEM OF PROTO-DANAW*

The reflexes of the Proto-Danaw phonemic system reveal only minimal sound change in the daughter languages. The proto-phonemes *r, *ʔ, *i, and *ɨ are the only ones evidencing developmental changes. The rest of the proto-phonemes show no phonemic change. (Refer to Table 1.)

In the illustration of each **proto-phoneme** that follows, the numbered examples refer to the reconstruction list (Section 4) and are arranged in an order that shows first, stem-initial position of the proto-phoneme; second, intervocalic position; and third, stem-final position. Following this, phoneme **clusters** are cited, which demonstrate each type of combination within a stem that has been found in the data.[7] A statement is also given of any discrepancies that occur. Conventions employed in the reconstructions and language citations are described in Section 4. For the sake of brevity, the examples shown here do not give all the comparative data contained in the individual entries of the construction list.

2.2.1. Proto-consonants

2.2.1.1. *p

In MAR, MGD, and IRN: *p → p/all environments.

192. *palad *'palm (of hand)'*. MAR, MGD, IRN palad.

310. *upis *'bark, peeling, shell'*; MAR, MGD, IRN upis.

269. *tagiɨp *'dream'*. MAR, MGD tagiɨp; IRN tagiɨp-ɨn.

257. (*)simpit *'narrow'*. MAR, MGD ma-simpit.

2.2.1.2. *t

In MAR, MGD and IRN: *t → t/all environments.

286. *tian *'belly'*. MAR, MGD, IRN tian.

101. *itɨm *'black'*. MAR, MGD, IRN ma-itɨm.

229. (*)raŋit *'anger'*. MAR raŋit; IRN ka-ra-raŋit-an.

134. *lantay *'floor'*. MAR *('bridge, floor')*, MGD lantay.

297. *udtu *'noon'*. MAR ma-utu; MGD, IRN ma-udtu.

Note reduction of the *dt cluster in MAR. (See Section 2.2.1.5.)

2.2.1.3. *k

In MAR, MGD, and IRN: *k → k/all environments.

109. *kalut *'dig'*. MAR kalut; MGD, IRN pɨg-kalut.

322. *waka *'abaca (Manila hemp)'*. MAR, MGD, IRN waka.

107. (*)kaɨk *'fear (v)'*. MAR kaɨk; IRN kaɨk-an.

189. *ŋka *'thy, thine'*. MAR, IRN ŋka; MGD nɨŋka.

282. *tɨgkaw *'steal'*. MAR *('sudden')* paN-tɨkaw; MGD paN-tɨgkaw; IRN tɨgkaw.

2.2.1.4. *b

(a) In MGD and IRN: *b → b/all environments.

(b) In MAR: $*b \rightarrow \begin{cases} \text{null}/V\_\_C \\ b/\text{elsewhere} \end{cases}$ where:C is bilabial

30. *baka? *'chin'*. MAR baka?; MGD, IRN baka.

77. *gabun *'cloud'*. MAR, MGD, IRN gabun.

233. *rarɨb *'chest'*. MAR rarɨb; MGD laɨb; IRN rarub.

246. *sambɨr *'wind'*. MAR *('blow')*, IRN sambɨr; MGD sambɨl.

267. *t(a,ɨ)bpul *'dull, as a knife'*. MAR tɨpul; MGD ma-tabul; IRN ma-tabpul.

Discrepencies: MAR ga-gawl?i < PDAN *-gabi(?)i *'night'* has /w/ where /b/ is expected. (See discussion of PDN *w from PPH *b, Section 3.4.1.1.)

2.2.1.5. *d

(a) In MGD and IRN: *d → d/all environments.

(b) In MAR: $*d \rightarrow \begin{cases} \text{null}/V\_\_C \\ d/\text{elsewhere} \end{cases}$ where: C is alveolar

66. *da? *'none'*. MAR da?; MGD, IRN da.

74. *duda? *'spit'*. MAR duda?; MGD, IRN pɨn-duda.

261. (*)s(ɨ)bu(d) *'fat(adj.)'*. MAR sɨbu?; MGD ma-subud; IRN ma-sɨbud.

1. *adsɨm *'sour'*. MAR m-asɨm; MGD m-adsɨm; IRN m-adsum.

54. *buludtu *'rainbow'*. MAR bulutu; MGD, IRN buludtu.

10. *(a)nda *'where?'*. MAR anda; IRN nda; MGD ndaw.

244. *salday *'comb'*. MAR, MGD, IRN salday.

2.2.1.6. *g

(a) In MGD and IRN: *g → g/all environments.

(b) In MAR: $*g \rightarrow \begin{cases} \text{null/V\_\_C} \\ \text{g/elsewhere} \end{cases}$ where: C is velar

77. *gabun *'cloud'*. MAR, MGD, IRN gabun.

241. *sagiŋ *'banana'*. MAR, MGD, IRN sagiŋ.

88. *ɨdtug *'throw'*. MAR ɨtug; MGD bɨg-ɨdtug; IRN ɨ-pag-ɨdtug.

282. *tɨgkaw *'steal'*. MAR *('sudden')* paN-tɨkaw; MGD paN-tɨgkaw; IRN tɨgkaw.

185. *ŋgay *'give'*. MAR, IRN ŋgay; MGD lɨŋgay.

Discrepancies: IRN taŋgub-an < tagub *'sheath, for bolo'* has /ŋg/ where only /g/ is expected. Such elaboration of an original single consonant is known to occur in Philippine languages (Charles:1974:3).

2.2.1.7. *m

In MAR, MGD, and IRN: *m → m/all environments.

169. *mis *'sweet'*. MAR, MGD, IRN ma-mis.

172. *(n)amag *'tomorrow'*. MAR, IRN amag: MGD namag.

101. *ɨtɨm *'black'*. MAR, MGD, IRN ma-ɨtɨm.

263. (*)sumpat *'answer'*. MGD, IRN sumpat.

145. (*)lɨmbuʔ *'fat (n.)'* MAR lɨmbuʔ; MGD ka-lɨmbu-an.

2.2.1.8. *n

In MAR, MGD, and IRN: *n → n/all environments.

182. *niug *'coconut, ripe'*. MAR, MGD, IRN niug.

164. *manuk *'chicken'*. MAR, MGD, IRN manuk.

32. *balagɨn *'rattan'*. MAR, MGD, IRN balagɨn.

308. (*)untud *'sit'*. MAR untud; IRN pag-untud.

236. *rɨndiŋ *'wall'*. MAR *('curtain, screen')*, IRN rɨndɨŋ; MGD lɨndiŋ.

2.2.1.9. *ŋ

In MAR, MGD, and IRN: *ŋ → ŋ/all environments.

186. *ŋlbu *'thousand'*. MAR, IRN sa-ŋlbu; MGD ŋibu.

273. *taŋila *'ear'*. MAR, MGD, IRN taŋila.

188. *ŋiruŋ *'nose'*. MAR, IRN ŋiruŋ; MGD ŋiluŋ.

245. *(s,t)aliŋgi? *'turn, revolve'*. MAR saliŋgi?; MGD, IRN pɨd-taliŋgi

189. *ŋka *'thy, thine'*. MAR, IRN ŋka; MGD niŋka.

Discrepancies: (1) IRN nipan < *ŋipɨn *'teeth, tooth'* has /n/ where /ŋ/ is expected.

2.2.1.10. *s

(a) In MGD and IRN: *s → s/all environments

In MAR *s → { null/ V__C ; s/elsewhere } where: C is alveolar

258. *sipa? *'kick'*. MAR sipa?; MGD sipa; IRN sipa-n.

260. *sisiŋ *'ring'*. MAR, MGD, IRN sisiŋ.

281. *tɨgas *'hard (substance)'*. MAR, MGD, IRN ma-tɨgas.

16. *asla? *'big'*. MAR m-ala?; MGD, IRN m-asla.

67. *dɨds(ɨ?)an *'shore'*. MAR *('beach')* dɨsɨ?an; MGD dɨdsan; IRN dadsan.

2.2.1.11. *l

In MAR, MGD, and IRN: *l → l/all environments.

149. *lig *'neck'*. MAR, MGD, IRN lig.

117. *kasili *'eel'*. MAR, MGD, IRN kasili.

43. *bidsul *'burn'*. MAR bisul; MGD bɨN-bidsul; IRN pɨN-bisul.

244. *salday *'comb'*. MAR, MGD, IRN salday.

16. *asla? *'big'*. MAR m-ala?; MGD, IRN m-asla.

Discrepancies: MGD tapidak < *tapilak *'scar'* has /d/ where /l/ is expected.

2.2.1.12. *r

(a) In MAR and IRN: *r → r/all environments.

(b) In MGD: *r → l/all environments.

239. *rugu? *'blood'*. MAR rugu?; MGD lugu; IRN rugu.

313. *uriŋ *'charcoal'*. MAR, IRN uriŋ; MGD uliŋ.

121. *kɨmɨr *'finger'*. MAR kɨmɨr; MGD kɨmɨl; IRN kamar.

Although consonant clusters with r do occur in the daughter languages, the study corpus does not provide sufficient evidence for reconstruction.

2.2.1.13. *?

(a) In MAR: *? → ?/ $\left\{\begin{matrix} V\_\_V^{8} \\ V\_\_\#^{9} \end{matrix}\right\}$

(b) In MGD and IRN: *? → null/ $\left\{\begin{matrix} V\_\_V \\ V\_\_\# \end{matrix}\right\}$

230. *ra?ɨt[27] *'bad'*. MAR ma-rata?; IRN ma-rata; MGD ma-lat.

27. *baga? *'lungs'*. MAR baga?; MGD, IRN baga.

PDAN *? does not occur phonemically in word-initial position following pause,[10] nor does it occur in consonant clusters word-medially.

2.2.1.14. *w

In MAR, MGD, and IRN: *w → w/all environments.

323. *walay *'house'*. MAR, MGD, IRN walay.

139. *lawas *'body'*. MAR, MGD, IRN lawas.

194. *palaw *'mountain'*. MAR, MGD, IRN palaw.

There are no cases of consonant clustering with /w/ within a word stem.

Discrepancies: MAR balay *'building'*, walay *'house'*; basa? ∿ wasa? *'wet'*; bata? ∿ wata? *'child'*; batu ∿ watu *'stone'* appear to be doublets reflecting PDAN *w (<PPH *b). Since it is certain from the evidence that a conditioned sound change of PPH *b > PDAN *w did occur, the possibility of Maranaw borrowing b-initial words cannot be excluded. Borrowing sources in contact with Maranaw include Manobo, Cebuano, Kalagan, Mansakan, Subanon, and Tausug.

2.2.1.15. *y

In MAR, MGD, and IRN: *y → y/all environments

328. *yaw *'hot (as water)'*. MAR, MGD, IRN ma-yaw.

142. *layug *'fly (v.)'*. MAR layug; MGD ɨb-layug; IRN pɨ-layug.

126. *kiray *'eyebrow'*. MAR, IRN kiray; MGD kilay.

There are no cases of consonant clustering with /y/ within a word stem.

2.2.2. Proto-vowels

2.2.2.1. *a

In MAR, MGD, and IRN: *a → a/all environments.

5. *alad *'fence'*. MAR, MGD, IRN alad.

23. *babak *'frog'*. MAR, MGD, IRN babak.

35. *basa *'word'*. MAR, MGD, IRN basa.

140. (*)lawasaig *'river'*. MAR, IRN lawasaig.

37. *bau *'smell'*. MAR bau; MGD bɨg-abau; IRN ka-bau.

Discrepancies: MAR pɨtɨd < *pɨdtad *'sand'*; tɨpul < *tabpul *'dull, as a knife'* have /ɨ/ where /a/ is expected.

2.2.2.2. *ɨ

(a) In MGD: *ɨ → ɨ/all environments.

175. *ndarɨmɨt *'play'*. MAR *('gamble')* ndarɨmɨt; MGD pɨ-ndalɨmɨt; IRN pɨ-ndarɨmɨt.

PDAN *ɨ does not occur word-initially, word-finally, nor in vowel clusters. However, the PDAN sequence *-V?ɨ- has a reflex, -Vɨ-, in MGD in two forms: sets 163 and 47, below. Note also the ambiguous *-(ɨ?)V- in set 67 below.

(b) In MAR: *ɨ → $\begin{cases} a/a?\_\_C \\ u/u?\_\_C \\ ɨ \text{ elsewhere} \end{cases}$

163. *mama?ɨn *'areca nut'*. MAR mama?an; MGD mamaɨn.

47. *bitu?ɨn *'star'*. MAR bitu?un; MGD bituɨn; IRN bitun.[11]

67. *dɨds(ɨ?)an *'shore'*. MAR *('beach')* dɨsɨ?an; MGD dɨdsan; IRN dadsan.

(c) In IRN: *ɨ → $\begin{cases} a/ \quad \begin{cases} C_1\_\_C_2a \\ C_1\_\_C_2u \end{cases} & \text{in stressed}[11] \text{ penults.} \\ \text{null/} \quad \begin{cases} *V?\_\_ \\ *\_\_?V \end{cases} & \\ ɨ/\text{elsewhere} & \end{cases}$

where $C_1 \neq /l/$.

31. *bakɨrɨŋ *'throat'*. MAR bakɨrɨŋ; MGD bakɨlɨŋ-an; IRN bakaraŋ-an.

285. *tɨŋ(g)aw *'cold'*. MAR ma-tɨŋgaw; MGD ma-tɨŋaw; IRN ma-taŋaw.

280. *tɨbu *'sugar-cane'*. MAR, MGD tɨbu; IRN tabu.

210. *pɨnu? *'full (as of a container)'*. MAR pɨnu?; MGD pɨnu; IRN panu.

176. *nɨm *'six'*. MAR, MGD, IRN nɨm.

See also sets 47 and 67 cited above for examples of *ɨ > null.

Discrepancies: (1) A small set of IRN forms have /a/ where /ɨ/ is expected:[12] bal < *bɨl *'smoke'*; ma-dakal < *dakɨl *'many'*; kamar < *kɨmɨr *'finger'*; pɨg-kamas < *kɨmɨs *'squeeze'*; nipan < *ŋipɨn *'tooth, teeth'*; pi-pirak < *-pi(d,r)ɨk *'eyelashes'*; tanak < *tɨnɨk *'thorn'*; uripan < *uripɨn *'slave'*. (2) IRN rarub < *rarɨb *'chest'*; m-adsum < *adsɨm *'sour'* have /u/ where /ɨ/ is expected.

2.2.2.3. *i

In MAR, MGD, and IRN: *i → i/all environments.

94. *ilay *'see'*. MAR ilay; MGD bɨg-ilay; IRN pɨg-ilay.

20. *atiŋ *'sweat'*. MAR, MGD, IRN atiŋ.

117. *kasili *'eel'*. MAR, MGD, IRN kasili.

211. *pia *'good'*. MAR, MGD, IRN ma-pia.

182. *niug *'coconut, ripe'*. MAR, MGD, IRN niug.

2.2.2.4. *u

In MAR, MGD, and IRN: *u → u/all environments.

302. *ulad *'wide'*. MAR ma-ulad; MGD, IRN m-ulad.

305. *ulug *'fall (drop)'*. MAR ulug; MGD i-ulug; IRN ka-ulug.

304. *ulu *'head'*. MAR, MGD, IRN ulu.

49. *buanaw *'wash hands'*. MAR buanaw; MGD bɨN-buanaw; IRN pɨN-buanaw.

3. RELATIONSHIPS WITHIN THE DANAW GROUP

It was posited earlier in this paper that Maranaw, Magindanaw, and Iranun form a subgroup of Philippine languages, termed Danaw, which are genetically closer to each other than to any language outside the subgroup. I now give the basis for this assumption, and investigate the genetic connections among the three Danaw members.

3.1. *THE SUBGROUPING HYPOTHESIS*

Subgrouping analysis suggests that IRN holds an approximately equal genetic relationship to both MAR and MGD, and that the latter two are

both closer to IRN than they are to each other. This analysis asserts that IRN must have derived from a mix of intermediate speech forms stemming from both MAR and MGD, after these underwent a two-way split. Three lines of evidence advance this hypothesis: (1) lexicostatistical analysis; (2) functor analysis; and (3) shared phonological, morphological and lexical features.

3.2. *LEXICOSTATISTICAL ANALYSIS*

Cognate percentages relating MAR, MGD, and IRN were obtained using (a) the Reid 372-meaning list (Reid 1971); and (b) a modified Swadesh 100-meaning list (Appendix). The results are shown in Table 2.

TABLE 2

Lexicostatistical Comparisons of Danaw

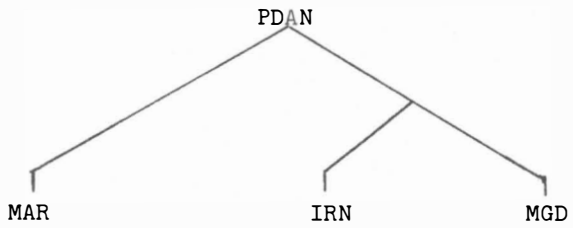
MAR	MAR
65.6 IRN	78.3 IRN
60.2 71.3 MGD	66.8 77.1 MGD
(a) Reid-372	(b) Swadesh-100

A comparison of the two sets of scores shows that the Reid percentages are considerably lower than the Swadesh percentages, as might be expected from a list which has not been compiled on the basis of high retention values. The scores in both sets are interpreted as representing three distinct languages rather than dialects.[13] Henceforth, therefore, the Danaw speech varieties will be referred to as languages.

Looking at the percentages based on the Reid list, one observes that the highest scores of MGD and IRN are with each other (71.3%). In comparison with this, the score of MGD with MAR (60.2%) is significantly different.[14]

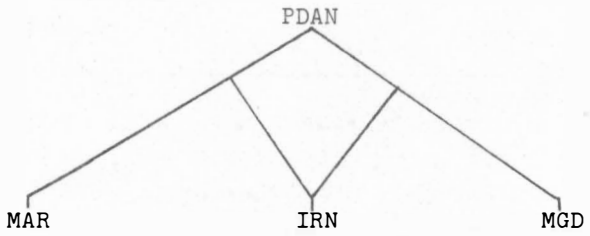
This implies that MGD and IRN are more closely related to each other than either are to MAR; the results may be interpreted in the following family tree:

(1)



Turning to the percentages based on the Swadesh list, it can be seen that the score of IRN with MAR (78.3%) is very close to the score of IRN with MGD (77.1%), placing IRN almost equidistant between its two sister languages. The MAR-MGD score (66.8%) is significantly lower than the scores of both IRN-MAR and IRN-MGD. This implies another interpretation of genetic relationship, described by the following family tree:

(2)



Tree (2) represents a mix of two intermediate (post-PDAN) speech forms, with their ultimate crystallisation into one later form, IRN. The question naturally arises: Which tree is most likely to be an accurate representation of genetic relatedness? The answer ought to be obtained by investigating each possible language pair for shared linguistic features, to see if there is qualitative evidence in favour of one tree over another. The subgrouping hypothesis already posited (Section 3.1.), represented by tree (2) above, was arrived at in this fashion. The areas of investigation included functors, phonology, morphology, and lexicon.

3.3. *FUNCTOR ANALYSIS*

The Reid-372 and Swadesh-100 lists comprise mostly contentives and are drawn, therefore, from a large, open group of forms. Functors, on the other hand, represent a closed set of language-specific forms that are essentially grammatical items. Some linguists look at functors as more stable, i.e., as having a low probability of replacement (McFarland 1974:122). Zorc (1975:226) sees functors as less likely to be retentions, and therefore more useful as subgroup indicators.

For this study I have compared a set of 100 qualitative items, consisting primarily of functors, plus a few forms that are either functor-like or may have some value in subgrouping (Appendix 2). Because the Danaw members are so closely related, I based the comparison on a principle of strict morphological identity (following Zorc 1974b:8). Forms are not counted as cognate if they differ in formation, even though they share an etymon in part. Thus MAR anda *'where?'* is in part shared by MGD nda, but the MGD form appears innovative by its loss of initial /a/ and is counted as noncognate. The results of the comparison are given in Table 3(a).

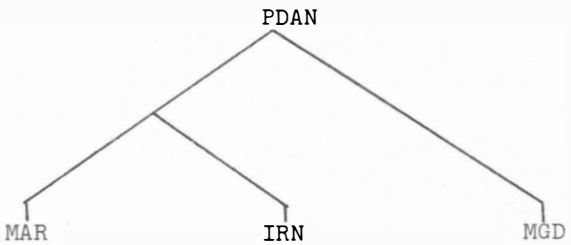
TABLE 3

Comparison of Danaw Functors and Qualitative Forms

MAR	MAR
74.5 IRN	69.4 IRN
56.5 67.2 MGD	54.4 65.6 MGD
(a) 100 forms	(b) 80 forms

The percentages resulting from the functor analysis agree with the lesicostatistical results in placing MAR-MGD considerably farther from each other than either are from IRN. However, the score of IRN with MAR (74.5%) is here greater by 7.3 percentage points than the score of IRN with MGD (67.2%). The results imply yet another possibility for subgrouping, viz:

(3)



The reason for the apparent disparity between the lexicostatistical and functor analyses appears to reside in the composition of the functor list. If a functor comparison is to reflect an accurate relationship of the grammatical core it appears axiomatic that it must reflect all sectors of the core. Ideally, all functors should be represented in the comparison, since if one sector is fully represented, but another only partially so, the results would appear to be distorted. In fact, this is what appears to have happened in the present analysis.

Since complete data were not available, the functor list contained only three verbal affixes, and an incomplete set of grammatical markers, whereas 25% of the forms were pronominals. If we allow for this unbalance, a more accurate relationship should emerge.

To test this notion I removed that 20% of the corpus consisting of pronouns and recalculated the percentages using an 80-form corpus. The results are shown in Table 3(b). IRN has now moved back toward a midposition between MAR and MGD, with a difference of only 3.8 percentage points. The results are in relative agreement with the Swadesh lexicostatistical scores, implying the grouping described by tree (2).

3.4. *PHONOLOGICAL INNOVATIONS*

Phonological innovations have been isolated in the Danaw languages, representing (1) those that occurred in Proto-Danaw prior to the development of the daughter languages and that were subsequently inherited by all three languages; and (2) those that developed in the daughter languages subsequent to Proto-Danaw and are shared by some, but not all, of the languages.

3.4.1. Phonemic Change in Proto-Danaw

A significant phonological development in Proto-Danaw was the merger of conditioned reflexes of PPH *b with PPH *w. This also had secondary effects leading to the loss in PDAN of a stem-initial reflex of PPH *b.

3.4.1.1. *PDAN *b - *w Merger*

PPH *b → PDAN *w/*__a.$C_1V(C_2)$

Where: (1) $C_1 \neq$ *?
(2) Reduplicated monosyllabic stems are excluded.
(3) $C_1V(C_2)$ is an ultimate syllable.

Contrastive stress and/or length appear to have been factors in this change also. All the PDAN forms that do **not** show a *b - *w merger in the above environment have PPH etyma with lengthened penultimate syllables (where PPH length and stress have been reconstructed). However, the set of forms that exhibits the change is mixed, having PPH etyma with both lengthened and unstressed penultima. Stress for PDAN forms could not be reconstructed from the data available to me during my comparison. The following examples of this merger occur in the corpus:

320. PPH *ʔaba:Ra *'shoulder'* PDAN *waga > MAR, MGD, IRN waga.

321. PPH *baRɨʔ *'boil, infection'* > PDAN *waga(ʔ) > MGD ma-uwaga. IRN ma-waga.

322. PPH *abaka *'abaca, Manila hemp'* > PDAN waka > MAR, MGD, IRN waka.

323. PPH *bálay *'house'* > PDAN *walay > MAR, MGD, IRN walay; cf. MAR (building) balay.

325. PPH *básaʔ *'wet'* > PDAN *wasaʔ > MAR ma-wasaʔ; MGD, IRN ma-wasa.

326. PPH *ba:taʔ *'child'* > PDAN *wataʔ > MAR wataʔ; MGD, IRN wata.

327. PPH *batú *'stone'* > PDAN *watu > MAR, MGD, IRN watu.

Typical examples in which the merger does **not** occur are:

26. PPH *ba:buy *'pig'* > PDAN *babuy > MAR, MGD, IRN babuy.

27. PPH *ba:Ra? *'lungs'* > PDAN *baga? > MAR baga?; MGD, IRN baga.

34. PPH *ba:lu *'widow'* > PDAN *balu > MAR, MGD, IRN balu.

Additional examples can be found in the list of reconstructions (Section 4.).

There are also three examples in the data in which a PDAN intervocalic *w appears to reflect PPH *b:

21. PPH *abaŋ *'canoe'* > PDAN *awaŋ > MAR *('boat')*, MGD, IRN awaŋ.

48. PPH *gibaŋ *'left'* > PDAN *(b,d)iwaŋ > MAR diwaŋ; MGD biwaŋ.

249. PPH *sabaw *'soup'* > PDAN *sawaw > MAR, MGD sawaw.

3.4.1.2. *PDAN Loss of Stem-Initial Consonant*

Apparently the change of PPH *b to PDAN *w occurred not only in the environment stated above, preceding PDAN *a, but also in a similar environment preceding PDAN *u. However, when the *w reflex occurred before *u it was lost. This produced a set of PDAN forms which show null for PPH *b. Thus:

PPH *b → PDAN null/*__u.$C_1V(C_2)$

Where: (1) $C_1 \neq$ *?
(2) Reduplicated monosyllables are excluded.
(3) $C_1V(C_2)$ is an ultimate syllable.

The following examples occur in the data:

299. PPH *bɨR?at *'heavy'* > PDAN *ugat > MGD, IRN ma-ugat.

302. PPH *bɨlaj *'spread out'* > PDAN *ulad *'wide'* > MAR ma-ulad; MGD, IRN m-ulad.

303. PPH *bu:lan *'moon'* > PDAN *ulan > MAR ulan, MGD, IRN ulan-ulan.

309. PPH *bu:ŋa *'fruit'* > PDAN *uŋa > MAR, MGD, IRN uŋa.

311. PPH *bu:Dak *'flower'* > PDAN *urak > MGD ulak, IRN urak.

315. PPH *bɨsuR *'full, satiated'* > PDAN *usug > MAR, MGD, IRN usug.

Note that in sets 299, 302 and 315, the hypothetical intermediate form (*wɨ-) appears to have affected the PDAN reflex of PPH *ɨ, which is reflected in other contexts as PDAN *ɨ. Thus, e.g. PPH *bɨR?at > (*)wɨR?at > PDAN *ugat.

Representative forms in which PPH *b does not go to PDAN *w before *u (and consequently there is no loss of a stem-initial consonant) are as follows:

55. PPH *buluŋ *'medicine'* > PDAN (*)buluŋ > MAR, IRN buluŋ.

57. PPH *bunu? *'stab, butcher'* > PDAN *'fight'* *bunu? > MAR bunu?; MGD, IRN pɨm-bunu.

Additional examples can be found in the list of reconstructions (Section 4.).

3.4.2. Phonemic Changes in MAR, MGD, and IRN

In the daughter languages, phonemic changes subsequent to PDAN are shared by IRN with both MAR and MGD. In addition, MAR and MGD show independent changes. This pattern of development is consistent with the genetic connections described by tree (2). A summary of these developments, drawn from section 2.2., but organised topically for greater ease of comparison, is presented here.

3.4.2.1. *MAR-IRN Vowel Assimilation*

MAR and IRN share a similar phenomenon of vowel assimilation -- i.e., *ɨ > a -- although not in identical environments.

In MAR the *ɨ reflex is assimilated to /a/ or /u/ following /a?/ or /u?/, respectively. Thus in MAR:

$$*ɨ \rightarrow \left\{ \begin{array}{l} a/a? \_\_\_C \\ u/u? \_\_\_C \\ ɨ \text{ elsewhere} \end{array} \right\}$$

For examples see sets 47, 67 and 163.

In IRN the *ɨ reflex is assimilated to /a/ in a stressed penult when followed by a consonant plus /a/ or /u/, unless the consonant immediately preceding the *ɨ reflex is /l/. Thus, in IRN:

$$*ɨ \rightarrow \left\{ \begin{array}{ll} a/ & \left\{ \begin{array}{l} C_1 \_\_\_\_\_ C_2{}^a \\ C_1 \_\_\_\_\_ C_2{}^u \end{array} \right\} \text{in stressed penults} \\ ɨ \text{ elsewhere} & \end{array} \right\} \text{ where: } C_1 \neq /l/$$

Examples are shown in sets 31, 67, 210, 280, 285.

3.4.2.2. *MGD-IRN Glottal Stop Loss*

PDAN had a phonemic *? in the intervocalic and word-final positions, but not in the word-initial position. While MAR retained *? reflexes in these same positions, MGD and IRN lost the phonemic *? altogether. Thus, in MGD and IRN:

$$*? \rightarrow \text{null} / \left\{ \begin{array}{l} V\_\_\_V \\ V\_\_\_\# \end{array} \right\}$$

Examples occur in sets 47, 58, 85, 113, 196, 202, 230, 275.

3.4.2.3. *MGD r-l Merger*

PDAN *r and *l merged in all environments as MGD l, but remained unchanged in MAR and IRN. Thus, in MGD:

*r → l/ all environments.

Examples are sets 28, 31, 80, 82, 116, 223, 224, etc.

3.4.2.4. *MAR Consonant Cluster Reduction*

Within a word base, PDAN consonant clusters with a voiced stop (*b, *d, *g) or alveolar grooved fricative (*s) as the first element undergo reduction in MAR, thus:

*b, *d, *g, *s → null/V____C

Where: C is a consonant at the same point of articulation as the first element in the cluster.

Examples are sets 1, 16, 54, 267, 282.

3.5. *MORPHOLOGICAL FEATURES*

In its morphological structure also, IRN shares several features with both MAR and MGD, reflecting a pattern similar to that established in the phonological and functor systems. The evidence to be considered here includes the deictics and a set of verbal affixes.

3.5.1. Deictics

The pronominal and locative deictic systems are as follows:

	MAR	MGD	IRN	PDAN
this (proximate)	glaya/gla?l	nlya bay	glaya	*glaya
that (nearby)	glanan	namba	glanan	*glanan
that (remote)	glutu	nan bay	glutu	*glutu
here (proximate)	saya/sl?l	nlya	saya	*saya
there (nearby)	san	nan	san	*san
there (remote)	ru?u	ntu/lu	ru	*ru?u

The deictic proto-bases are *-ya *'proximate'*; *nan *'nearby'*; and *-tu *'remote'*. These are quite old, probably Proto-Sulic, being represented in numerous Philippine languages. Their reflexes are shared by all three Danaw members.

MAR and IRN generate their pronominal deictics similarly from the reflexes of the deictic proto-bases plus the formative prefix giV-. This leads to a hypothesis that the parent system may have operated on the basis of vowel harmony:[15] When *giV- was added to a base, the vowel chosen for -V- was determined by the base vowel. Thus *giV- + *-ya = *giaya *'this'*; *giV- + *nan[16] = *gianan *'that (nearby)'*; *giV- + *-tu = *giutu *'that (remote)'*. (MAR exhibits two forms for the pronominal proximate deictic, one of which gia?i, has a cognate form in ha?i).

MGD generates its three pronominal deictics from reflexes of *nan, *-ya, and the marking particle *bay. Thus, IRN nan + -ya + bay = niya bay; nan + ba (< *bay) = namba; nan + bay = nan bay. The form niya would derive from the intermediate *naniya (< *nan + *-ya) with shortening and consequent loss of na-. The form namba represents a development through assimilation of the nasal in the earlier form nanba. The remote form *-tu is here replaced by nan bay.

In the locative system MAR and IRN alike add reflexes of the locative formative *sa- to the proto-bases to give the proximate and nearby forms: sa- + -ya = saya *'here'*; sa- + nan = san *'there (nearby)'* (< *sanan, assuming shortening and loss of -an). For the remote form, reflexes of a suppletive, *ru?u, appear. (As in the pronominal set, MAR here also has two proximate forms, saya and si?i. The latter may be related to Manobo sɨ?i).

The MGD locatives follow the same pattern as that used for the pronominal system, the only difference being the deletion of the marking particle bay and the employment of a reflex of *-tu in the remote form (ntu < *nantu, through shortening). The *ru?u reflex, lu, also appears alongside ntu.

It is postulated that the MAR-IRN forms reflect the parent system. This being the case, MGD exhibits development in an independent direction, while MAR and IRN share common retentions.

3.5.2. Verbal Affixes

MGD and IRN manifest similar morphophonemic alterations of certain verbal affixes. In MGD, the prefix indicating present progression is {pɨG-}, where G represents a voiced consonant at the same point of articulation as the initial consonant of the word stem to which it joins; e.g.: pɨmbayu *'is pounding rice'*; pɨgkalut *'is digging'*; pɨdtalu *'is saying'*. {pɨG-} has several alternant shapes, including

(1) bɨg- ∿ pag- and (2) bɨ- ∿ pa-. The first pair stand in free variation before a vowel-initial stem: bɨganad ∿ paganad *'is learning'*; bɨgidtug ∿ pagidtug *'is throwing'*; bɨgikɨt ∿ pagikɨt *'is tying'*. The second pair, which also are in free variation, occur with and precede the distributive infix {-N-}. The morphophoneme {-N-} is a nasal at the point of articulation of the initial consonant of the word stem (which it replaces), or a velar nasal before initial vowels. Thus: bɨmidsul ∿ pamidsul (< bidsul) *'is burning'*; bɨŋuta ∿ paŋuta (< uta) *'is vomiting'*; bɨŋanup ∿ paŋanup (< anup) *'is hunting'*, etc.

In IRN the present progressive verbal prefix is also {pɨG-} where G represents a voiced consonant occurring under the same conditions as described above for MGD: pɨndarɨmɨt *'is playing'*; pɨdtarutaru *'is saying'*; pɨmbuayu *'is pounding rice'*. {pɨG-} has several allomorphs, including pɨ- ∿ pa-, which occur in free variation before the distributive infix {-N-}. The morphophoneme {-N-} has the same phonemic shapes under the same conditions as the MGD distributive marker. IRN shows the following typical alternations: pɨŋuta ∿ paŋuta (< uta) *'is vomiting'*; pɨmagapa ∿ pamagapa (< agapa) *'is waiting'*; pɨmipi ∿ pamipɨ *'is washing clothes'*, etc.

There is no corresponding alternation in the MAR present tense affix system.

3.6. *SHARED LEXICON*

The Danaw members share a sizeable number of lexical items on the basis of (1) form and/or semantics that are exclusive to the group; and (2) retentions from a parent language which do not occur in surrounding (adjacent) languages, and thereby serve to mark off the Danaw group. (Such retentions may occur elsewhere, but only in a clearly unrelated language.)

Without detailed knowledge of an extremely large number of languages it is not always possible to isolate these retentions from exclusively shared forms. Hence, in the following list of examples, a distinction is not made between the two. It represents, therefore, a qualitative list that underscores the genetic unity of the Danaw grouping.

The PDAN reconstruction is given first, and next its form in the daughter languages. Any pertinent comments are then supplied, followed by forms outside the PDAN grouping. It should be noted that the citation of outside proto-forms does not necessarily imply genetic connection.

2. *agag *'dry in sun (v.)'* > MAR, MGD, IRN agag. cf. PAN (*'sieve'*) *(?)agag > PPH (*'sift, grain or powder'*) *agag; cf. also PNEM *?aag-aag.

15. *a?i *'foot, leg'* > MAR a?i, MGD, IRN ay. cf. PAN *('leg, shank')* *pa?i.

18. (*)atag *'under'* > MAR, IRN atag. cf. Samal *('location directly opposite or under')* atag.

33. *baliŋ *'return home'* > MAR, MGD, IRN baliŋ. cf. PAN *('to wind')* *baliN.

42. *bɨnɨ(n,ŋ) *'forehead'* > MAR, MGD *('face')* bɨnɨŋ; IRN bɨnɨn.

61. *dadag *'lose'* > MAR *('astray')*, MGD, IRN dadag. cf. PNEM *('to fall off main part')* *dadag; Tausug *('to diminish')*, Mamanwa *('to fall off tree, as blossoms')* dagdag.

62. *dadtɨm *'rain cloud'* > MAR datɨm, MGD dadtɨm. cf. PPH *('cloudy')* *DaG?um > PNEM *dag?ɨm.

66. *da? *'none'* > MAR da?; MGD, IRN da. cf. PPH *waDa? > PBS *wada?; also cf. PBS *('don't)* da?a; Cotabato Manobo *('none')* nda?.

75. *dumpaw *'rat'* > MAR *('guinea pig')*, MGD, IRN dumpaw. May be related to PPH *aNbaw > PEM *?ambaw.

80. *gandɨr *'pull'* > MAR *('pull and give way suddenly')*, IRN gandɨr; MGD gandɨl.

85. (*)gura?uk *'cry, weep'* > MAR gura?uk, IRN gurauk.

88. *idtug *'throw'* > MAR itug; MGD, IRN idtug. cf. PBS *('yonder')* *?idtu.

89. *ig *'water'* > MAR, MGD, IRN ig. Note shape change through loss of initial syllable. cf. PSP *wahiR.

93. (*)ilaw *'rice, unhusked'* > MAR, IRN ilaw. cf. Central Bisayan *('uncooked, unripe')* hilaw.

94. *ilay *'see'* > MAR, MGD, IRN ilay.

102. (*)itu? *'small'* > MAR ma-itu?; IRN ma-itu. cf. PPH *[ ]intuk, *iNtɨk

106. (*)kala? *'laugh'* > MAR kala?; IRN kala. cf. Aklanon *('croaking of frogs')* kala?kala?.

140. (*)lawasaig *'river'* > MAR, IRN lawasaig. Probably lexical innovation. cf. PDAN *('body')* *lawas; PDAN *('water')* *ig; PSP *('water')* *wahiR.

144. (*)lɨman *'egg'* > MGD, IRN lɨman. cf. PNEM *('to brood over, sit on eggs')* *lumlum > Mamanwa, Surigaonon, Cebuano *('hatch eggs')* lumlum.

146. *lɨndu *'long (object)'* > MAR, MGD, IRN ma-lɨndu. cf. Cordilleran *?andu.

148. (*)llbubuk *'dust'* > MGD, IRN llbubuk. cf. PAN *lɨbu; PPH *?abuk; Tigwa Manobo ?allabuk; Binukid ?allyabuk.

154. (*)linu? *'swallow'* > MAR llnu?; IRN linu.

160. *luya irisin *'ginger'* > MAR luya pag-irisin, IRN luya irisin. cf. MAR *('pepper')* luya; PPH *lɨ?uya; PNEM *luy?a.

170. (*)mudul *'lip'* > MAR, IRN mudul. cf. PAN *('mouth')* *mulut.

178. *nipay *'snake'* > MAR, MGD, IRN nipay.

184. *ŋ(a,ɨ)ri? *'mouth'* > MAR ŋari?, MGD ŋall, IRN ŋri.

185. *ŋgay *'give'* > MAR, IRN ŋgay, MGD lɨŋgay. cf. PPH *bɨgɨy.

190. *pagɨna? *'hide'* > MAR pagna?, MGD, IRN pagɨna. cf. PSB *'to store, place'* *ɨnna?.

194. *palaw *'mountain'* > MAR, MGD, IRN palaw.

196. *pamana?i *'sew'* > MAR pamana?i, MGD, IRN pamanay. Shape change. cf. PPH *tahi?; cf. also reconstruction set 275.

206. (*)pasaŋ *'difficult'* > MAR *('intelligent')*, MGD, IRN ma-pasaŋ. PAN *('to arrange, prepare')* pasaŋ.

209. *pɨdtad *'sand'* > MAR pɨdtɨd, MGD, IRN pɨdtad. Note consonant cluster reshaping. cf. PPH *p(a)(N)ta(d) > PMAN *pantad; Subanon pɨntad.

216. *pita? *'morning'* > MAR ka-pi-pita?, MGD, IRN ma-pita-pita.

219. (*)pulaŋi *'river'* > MAR, MGD pulaŋi.

223. (*)rabi(n,ŋ) *'old (object)'* > MGD labiŋ, IRN rabin.

233. *rarɨb *'chest'* > MAR rarɨb, MGD lalɨb, IRN rarub[18]. cf. PPH dɨbdɨb.

240. *ruma *'spouse'* > MAR, IRN ka-ruma, MGD ka-luma. cf. PPH *('companion')* *Duma; *'Indonesian (house)'* rumah.

245. *(s,t)alŋgi? *'turn, revolve'* > MAR salŋgi?, MGD, IRN talŋgi. cf. PPH *('turn awry, askew')* *llŋi?.

246. *sambɨr *'wind'* > MAR *('blow')* IRN sambɨr, MGD sambɨl.

263. (*)sumpat *'answer'* > MGD, IRN sumpat. Possible reshaping of medial consonant cluster. cf. PPH *suŋbat, Inibaloy soŋbat, Isneg suŋba:t, Casiguran seŋbet.

274. *tapllak *'scar'* > MAR *('cast aside')*, IRN tapllak, MGD tapidak. cf. PPH *pi(gk)lat; PAN *('sore, scab')* *pil(a,i)k.

302. *ulad *'wide'* > MAR ma-ulad, MGD, IRN m-ulad. cf. PPH *('spread out, dry in sun')* *bilaj > Sarangani Manobo mi-bilad, Itneg ?a-bilad.

307. (*)umbi *'ashes'* > MAR, IRN umbi. cf. Western Bukidnon Manobo ?ibmuk.

308. (*)untud *'sit'* > MAR, IRN untud.

328. *yaw *'hot (as water)'* > MAR, MGD, IRN ma-yaw. cf. PPH *('broil, roast')* *ihaw.

3.7. *SUMMARY AND CONCLUSIONS*

Lexicostatistical analysis using the Reid and Swadesh-100 wordlists yields two different inferences for subgrouping the Danaw languages, as displayed in trees (1) and (2). An investigation of cognate functors, using an appropriately balanced set of forms representative of the grammatical core, gives results that are essentially the same as tree (2). By comparing similar linguistic features found in the phonology and morphology, qualitative evidence has been obtained that also supports a tree (2) interpretation. This evidence is tabulated in Table 4.

The prominent pattern here shows that IRN shares features about equally with both MAR and MGD, while the latter two have independent developments.

It seems reasonable to conclude that MAR and MGD, once dialects of a single language, separated and subsequently developed into individually distinct languages. During their divergence, intermediate speech forms from both MAR and MGD mixed together and eventually crystallised out into a third distinct linguistic entity, IRN.

TABLE 4

Summary of Danaw Shared Features

	FEATURES SHARED	MAR	IRN	MGD
1.	*i > a	X	X	
2.	*giV- pronominal formative	X	X	
3.	*sa- locative formative	X	X	
4.	*ʔ > null		X	X
5.	pig- ∿ pag- alternation		X	X
6.	*dC > C	X		
7.	*r > l			X
8.	-bay pronominal suffix			X
9.	n- deictic formative			X

4. RECONSTRUCTIONS AND COGNATE SETS

The reconstructed PDAN lexical items appear in this section in alphabetical order, along with the cognate sets on which they are based.[17] Ambiguities in the reconstructed forms are indicated by parentheses. A single proto-segment enclosed by parentheses indicates that the segment is ambiguous with respect to zero. More than one proto-segment enclosed in parentheses and separated by commas indicates ambiguity among the segments cited. Such alternative segments are placed in alphabetical order. Enclosed segments not separated by commas represent phoneme clusters. A hyphen preceding a reconstruction indicates the existence of an unreconstructed morpheme.

In the language citations, affixes and reduplications are separated from stems by hyphens. Where a gloss of an individual language is different from the reconstructed gloss, the distinctive meaning is set off in parentheses following the language. Thus a meaning in parentheses applies only to the immediately preceding languages.

Reconstructions which have attesting cognate forms only in IRN and MGD or only in IRN and MAR should be noted, inasmuch as they represent an intermediate language stage subsequent to PDAN. These reconstructions are indicated by enclosing the asterisk in parentheses (*). Sometimes, however, it is possible to ascertain that a reconstruction

represents PDAN through language forms outside Danaw. Where this is the case, the attesting forms are cited for comparison after the Danaw forms.

An English index to the reconstructions, arranged alphabetically according to the English gloss, follows the list of reconstructed words.

4.1. *PROTO-DANAW RECONSTRUCTIONS*

1. *adsɨm *'sour'*. MAR m-asɨm; MGD m-adsɨm; IRN m-adsum; cf. PPH *?alsɨm.
2. *agag *'dry in sun (v.)'*. MAR agag; MGD bɨg-agag; IRN pɨg-agag.
3. (*)agɨt *'coconut, unripe'*. MGD, IRN agɨt; MAR bɨtɨŋ.
4. *aku *'I* (lsg. topic prn.)'. MAR, MGD, IRN aku.
5. *alad *'fence'*. MAR, MGD, IRN alad.
6. *alɨb *'knee'*. MAR lɨb; MGD, IRN alɨb.
7. *aluŋ *'shadow'*. MAR aluŋ; MGD, IRN aluŋ-aluŋ.
8. *ama? *'father'*. MAR ama?; MGD, IRN ama; cf. PPH *ama(?,h).
9. *anad *'learn'*. MAR, MGD, IRN *('practice')* pag-anad.
10. *(a)nda *'where?'*. MAR anda; IRN nda; MGD ndaw; cf. PPH *(a,ɨ)Nda.
11. (*)(a)ntuna?, (*)ŋɨn *'what?'* MAR antuna?a, ŋɨn; IRN ntuna; MGD ŋin.
12. *anup *'hunt'*. MAR anup; MGD bɨŋ-anup; IRN paŋ-anup.
13. (*)apug *'lime'*. MAR, MGD apug; IRN arina.
14. *apuy *'fire'*. MAR, MGD, IRN apuy.
15. *a?i *'foot, leg'*. MAR a?l; MGD, IRN ay.
16. *asla? *'big'*. MAR m-ala?; MGD, IRN m-asla; cf. Dibabawon Manobo ma-?aslag.
17. *asu *'dog'*. MAR, MGD, IRN asu.
18. (*)atag *'under'*. MAR, IRN atag; MGD ung, baba.
19. *atay *'liver'*. MAR, MGD, IRN atay.
20. *atɨŋ *'sweat'*. MAR, MGD, IRN atɨŋ.
21. *awaŋ *'canoe'*. MAR *('boat')*, MGD, IRN awaŋ; cf. PPH *abaŋ.
22. *awat *'far'*. MAR, MGD, IRN m-awat-an; cf. Mansakan ma-?awat; PPH *('separate')* *awat.
23. *babak *'frog'*. MAR, MGD, IRN babak.
24. *baba? *'short (object)'*. MAR *('short, low')* ma-baba?; MGD ma-baba; cf. PPH *('below')* *baba?.

25. *babay *'woman, female'*. MAR, MGD, IRN babay; cf. PPH *báyi.

26. *babuy *'pig'*. MAR, MGD, IRN babuy; cf. PPH *ba:buy.

27. *baga? *'lungs'*. MAR baga?; MGD, IRN baga; cf. PPH *ba:Ra?.

28. *bagɨr *'strong'*. MAR ma-bɨgɨr; MGD ma-bagɨl; IRN ma-bagɨr; cf. MAR *('to make strong')* bagɨr.

29. *bagu *'new'*. MAR *('renew')*; MGD, IRN bagu.

30. *baka? *'chin'*. MAR baka?; MGD, IRN baka.

31. *bakɨrɨŋ *'throat'*. MAR bakɨrɨŋ; MGD bakɨlɨŋ-an; IRN bakaraŋ-an.

32. *balagɨn *'rattan'*. MAR, MGD, IRN balagɨn.

33. *baliŋ a. *'live, dwell'*. MAR baliŋ; IRN pɨm-baliŋ.
b. *'return home'*. MAR baliŋ; MGD, IRN m-baliŋ-an.

34. *balu *'widow'*. MAR, MGD, IRN balu; cf. PPH *ba:lu.

35. *basa *'word'*. MAR, MGD, IRN basa.

36. *batuk *'cough'*. MAR, MGD, IRN batuk.

37. *bau[19] *'smell'*. MAR bau; MGD bɨg-abau; IRN ka-bau; cf. PPH *ba:hug.

38. *bau?u *'turtle'*. MAR bau?u; MGD, IRN bau; cf. PPH *ba?u?u.

39. *bayad *'pay* (v.)'. MAR bayad; MGD mayad; IRN mɨm-bayad.

40. (*)bɨgas *'rice, husked'*. MGD, IRN bɨgas; MAR margas; cf. PPH *bɨRas.

41. *bɨl *'smoke'*. MAR, MGD bɨl; IRN bal; cf. PPH *bɨbɨl.

42. *bɨnɨ(n,ŋ) *'forehead'*. MAR, MGD *('face')* bɨnɨŋ; IRN bɨnɨn.

43. *bidsul *'burn'*. MAR bisul; MGD bɨN-bidsul; IRN pɨN-bisul; cf. Ilianen, Western Bukidnon Manobo *('to burn a field')* binsul.

44. *bilaŋ *'count'*. MAR, MGD bilaŋ; IRN pɨm-bilaŋ.

45. *binaniŋ *'yellow'*. MAR, MGD, IRN binaniŋ.

46. *bisu *'deaf'*. MAR, MGD, IRN bisu.

47. *bitu?ɨn *'star'*. MAR bitu?un; MGD bituɨn; IRN bitun; cf. PPH *bitu:?ɨn.

48. *(b,d)iwaŋ *'left'*. MAR diwaŋ; MGD biwaŋ; cf. PPH *gibaŋ.

49. *buanaw *'wash hands'*. MAR buanaw; MGD bɨN-buanaw; IRN pɨN-buanaw.

50. *buaya *'crocodile'*. MAR, MGD, IRN buaya; cf. PPH *bu?aya; PSB *buayɨh.

51. *b(u)ayu *'pound rice'*. MAR *('pound with pestle')* buayu; MGD pɨm-bayu; IRN pɨm-buayu; cf. PPH *bayu.

52. *bubun *'thigh'*. MAR, MGD, IRN bubun.

53. *buk *'hair'*. MAR, MGD, lRN buk.

54. *buludtu *'rainbow'*. MAR bulutu; MGD, IRN buludtu.

55. (*)buluŋ *'medicine'*. MAR, IRN buluŋ; MGD gamut.

56. (*)bu(m,ŋ)bul *'feather, generic'*. MAR bumbul; MGD buŋbul; IRN lawi? cf.PPH *('pubescent hair')* *bulbul.

57. *bunu? *'to fight'*. MAR bunu?; MGD, IRN pɨm-bunu; cf. PPH *('stab, butcher')* *bunu?.

58. *bu?uŋan *'roof ridge'*. MAR bu?uŋan; MGD, IRN buŋan; cf. PPH *bubuŋ(an).

59. *but *'bite'*. MAR but; MGD bɨŋ-ɨbut; IRN pag-but-an. (Note discrepant addition of stem-initial /ɨ/ in MGD.)

60. (*)buta *'blind'*. MAR, IRN buta; MGD pɨsɨk.

61. *dadag *'lose'*. MAR *('astray')*, MGD, IRN dadag.

62. (*)dadtɨm *'rain cloud'*. MAR datɨm; MGD dadtɨm; IRN ma-libutɨŋ; cf. PPH *('cloudy')* *DaG?um.

63. *dakɨl *'many'*. MAR, MGD ma-dakɨl; IRN ma-dakal.

64. *dalɨm *'deep'*. MAR, MGD, IRN ma-dalɨm.

65. *dalig *'root'*. MAR *('large root, buttress')*, MGD, IRN dalig.

66. *da? *'none'*. MAR da?; MGD, IRN da; cf. PPH *waDa?.

67. *dɨds(ɨ?)an *'shore'*. MAR *('beach')* dɨsɨ?an; MGD dɨdsan; IRN dadsan.

68. *dɨkɨt *'stick (adhere)'*. MAR dɨkɨt; MGD, IRN pɨn-dɨkɨt.

69. *dɨn *'now, already* (completive particle) . MAR, MGD, IRN dɨn.

70. *dila? *'tongue'*. MAR dila?; MGD, IRN dila; cf. PPH *di:la?.

71. *dl? *'not (verbal)'*. MAR dl?; MGD, IRN di; cf. PPH *-di?, *diri?, *(h)lNdi?.

72. *dua *'two'*. MAR dua; MGD dua tlmun; IRN dua.

73. *dua-pulu? *'twenty'*. MAR dua-pulu?; MGD, IRN dua-pulu; cf. PPH *('ten unit')* *-pu:lu?.

74. *duda? *'spit'*. MAR duda?; MGD, IRN pɨn-duda; cf. PPH *('saliva')* *duDa?.

75. *dumpaw *'rat'*. MAR *('guinea pig')*, MGD, IRN dumpaw.

76. *-gabi(?)i *'night'*. MAR ga-gawi?i;[20] MGD, IRN ma-gabi; MAR *('day')* gawigi; cf. PPH *Rabii.

77. *gabun *'cloud'*. MAR, MGD, IRN gabun.

78. *gaduŋ *'green'*. MAR, IRN gaduŋ; MGD gadduŋ.[21]

79. *gaɨibɨk *'work'*. MAR gaɨibɨk; MGD, IRN pɨn-gaɨibɨk.

80. *gandɨr *'pull'*. MAR *('pull and give way suddenly')*, gandɨr; MGD pɨŋ-gandɨl; IRN pɨŋ-gandɨr.

81. *gapas *'cotton'*. MAR, MGD, IRN gapas.

82. *garaŋ *'sharp'*. MAR, IRN ma-garaŋ; MGD ma-galaŋ.

83. (*)gatɨl *'itch'*. MAR gatɨl; MGD *('itchy')* ma-gatɨl; IRN kukuut.

84. *gatus *'hundred'*. MAR, MGD, IRN ma-gatus.

85. (*)gura?uk *'cry, weep'*. MAR gura?uk; IRN pɨŋ-gurauk; MGD ullang.

86. *gusuk *'rib'*. MAR, MGD, IRN gusuk.

87. *gutɨm *'hunger'*. MAR, MGD, IRN gutɨm; cf.PPH *('in want, hungry')* *gutɨm.

88. *idtug *'throw'*. MAR itug; MGD bɨg-idtug; IRN i-pag-idtug.

89. *ig *'water'*. MAR, MGD, IRN ig.

90. *ikam *'mat'*. MGD, IRN ikam; cf. PMAN *?ikam.

91. *ikɨt *'tie, tether animal'*. MAR ikɨt; MGD bɨg-ikɨt; IRN pɨg-ikɨt; cf. PPH *hikɨt.[22]

92. *ikug *'tail'*. MAR, MGD, IRN ikug.

93. (*)ilaw *'rice, unhusked'*. MAR, IRN ilaw; MGD puluy; cf. Central Bisayan *('uncooked, unripe')* hilaw.

94. *ilay *'see'*. MAR ilay; MGD bɨg-ilay; IRN pɨg-ilay.

95. (*)imantu *'today'*. MAR, IRN imantu; MGD saguna.

96. *imatay *'kill'*. MGD m-imatay; IRN imatay-an; cf. PMAN *himatay.

97. *ina? *'mother'*. MAR ina?; MGD, IRN ina; cf. PPH *ina(?,h).

98. *inum, *inɨm *'drink'*. MAR inum; MGD bɨg-inɨm; IRN pɨg-inum; cf. PPH *inum; PMAN *?inum; PSEM *?inɨm.

99. *iŋutu *'delouse'*. MAR iŋutu; MGD bɨg-iŋutu; IRN pɨŋ-iŋutu.

100. *isa, *sa *'one'*. MAR, IRN isa; MGD sa[23]; MAR *('ten')* sa-wati?; MAR *('ten')*, IRN *('ten')* sa-pulu; cf. PAN *hisah, *hɨsah.

101. *itɨm *'black'*. MAR, MGD, IRN ma-itɨm.

102. (*)itu? *'small'*. MAR ma-itu?; IRN ma-itu; MGD ma-inut.

103. *ka *'thou* (2sg. topic prn.)'. MAR, MGD, IRN ka.

104. *ka-ga?i *'yesterday'*. MAR ka-ga?i; MGD, IRN ka-gay; cf. PEM *('previously, earlier')* *ka(ga)?ina.

105. *(kak)wak[24] *'crow'*. MAR, IRN kak-wak; MGD wak, uwak; cf. PSEM *?uwak; PPH *(?)uwak.

106. (*)kala? *'laugh'*. MAR kala?; IRN pig-kala; MGD pid-tutawa; cf. Aklanon *('croaking of frogs')* kala? kala?.

107. (*)kalik *'fear* (v.)'. MAR kalik; IRN kalk-an; MGD gidut.

108. *ka-luda(?) *'ladle (of coconut shell)'*. MAR ka-luda?; MGD, IRN ka-luda.

109. *kalut *'dig'*. MAR kalut; MGD, IRN pig-kalut.

110. *kami *'we* (1pl.excl. topic prn.)'. MAR, MGD, IRN kami.

111. *kan *'eat'*. MAR kan; MGD, IRN pig-kan.

112. *kanu *'when?'*. MGD, IRN kanu; cf. PPH *k(a,u)nu(h).

113. *kanu *'you* (2pl. topic prn.)'. MAR, MGD, IRN kanu.

114. *kanuku *'fingernail'*. MAR, MGD, IRN kanuku.

115. *kapal *'thick'*. MAR, MGD, IRN ma-kapal.

116. *karad *'cut, slice'*. MAR karad; MGD biN-kalad.

117. *kasili *'eel'*. MAR, MGD, IRN kasili.

118. *kawanan *'right'*. MAR, MGD, IRN kawanan.

119. *ka-ya? *'ashamed'*. MAR ka-ya?; MGD ka-ya; IRN ka-ya-n; cf. PPH *hiya?.

120. *kayu *'tree, wood'*. MAR, MGD, IRN kayu.

121. *kimir *'finger'*. MAR kimir; MGD kimil; IRN kamar.

122. *kimis *'squeeze'*. MAR *('grip with fist')* kimis; MGD pig-kimis; IRN pig-kamas.

123. *kina? *'not* (predicative)'. MAR kina?; IRN kana; MGD kuma; cf. Binukid, Dibabawon, Sarangani Manobo kina?.

124. *kilat *'lightning'*. MAR, IRN kilat; MGD lapalap; cf. PEM *kilat.

125. *(ki)nig *'hear'*. MAR nig; MGD kinig; IRN pama-kinig.

126. *kiray *'eyebrow'*. MAR, IRN kiray; MGD kilay.

127. *ku *'my, mine* (1sg. genetive prn.)'. MAR, MGD, IRN ku.

128. *kudin *'cooking pot'*. MAR, MGD, IRN kudin.

129. *kutu *'lice (head)'*. MAR, MGD kutu.

130. *(la)laguy *'run'*. MAR, IRN pa-la-laguy; MGD pa-laguy; cf. MAR *('hurry, rush')* laguy.

131. *(la)lakaw *'walk'*. MAR la-lakaw; MGD bɨ-lakaw; IRN pɨ-la-lakaw; cf. MAR *('footprint')* lakaw; PPH *lakaw.

132. *lalan *'trail'*. MAR, MGD, IRN lalan.

133. *lalawaʔ *'spider'*. MAR lalawaʔ; MGD, IRN lalawa; cf. PEM *lawaʔ.

134. *lantay *'floor'*. MAR *('bridge, floor')*, MGD lantay; IRN papan.

135. (*)laŋaw *'fly (insect)'*. MGD, IRN laŋaw; MAR tɨndɨk.

136. *laŋit *'sky'*. MAR, MGD, IRN laŋit.

137. *laŋun *'all'*. MAR, MGD, IRN laŋun.

138. *laŋuy *'swim'*. MAR laŋuy; MGD bɨ-laŋuy; IRN pɨ-laŋuy.

139. *lawas *'body'*. MAR, MGD, IRN lawas.

140. (*)lawasaig *'river'*. MAR, IRN lawasaig; MGD pulangi.

141. *layaʔ *'water container, bamboo'*. MAR layaʔ; MGD, IRN laya.

142. *layug *'fly* (v.)'. MAR layug; MGD ɨb-layug; IRN pɨ-layug.

143. *lɨbɨŋ *'bury (inter)'*. MAR lɨbɨŋ; MGD bɨ-lɨbɨŋ; IRN pɨ-lɨbɨŋ.

144. (*)lɨman *'egg'*. MGD, IRN lɨman; MAR urak, bIga?.

145. (*)lɨmbuʔ *'fat* (n.)'. MAR lɨmbuʔ; MGD ka-lɨmbu-an; IRN unavailable.

146. *lɨndu *'long (object)'*. MAR, MGD, IRN ma-lɨndu.

147. (*)lɨsuŋ *'mortar, for rice'*. MAR, MGD lɨsuŋ; IRN nduu.

148. (*)libubuk *'dust'*. MGD, IRN libubuk; MAR lupapɨk.

149. *lig *'neck'*. MAR, MGD, IRN lig; cf. PPH *li:ʔɨR.

150. (*)likud *'back'*. MAR, IRN likud; MGD taldas; cf. Itbayaten licud; Mamanwa likod; Binukid talikud-an.

151. *lima a. *'five'* MAR, MGD, IRN lima.
(*)lima b. *'hand'*. MAR, IRN lima; MGD ŋɨlay.

152. *linaw *'lake'*. MAR *('pond')*, MGD, IRN linaw.

153. *linug *'earthquake'*. MAR, MGD, IRN linug.

154. (*)linuʔ *'swallow'*. MAR linuʔ; IRN p-linu-n; MGD lɨmɨd.

155. *lipat(an) *'forget'*. MAR lipat; MGD lipatan-an; IRN ka-lipatan-an; cf. PMAN *lipat.

156. *lugasiŋ *'peanut'*. MAR, MGD, IRN lugasiŋ.

157. *lukɨs *'old, person'*. MAR, MGD, IRN lukɨs.

158. *lupa? *'earth'*. MAR lupa?; MGD lupa; IRN unavailable; cf. PPH *lupa?.

159. *lu? *'tear (from crying)'*. MAR lu?; MGD, IRN lu; cf. PPH *lu:hi?.

160. *luya irisin *'ginger'*. MAR luya pag-irisin; IRN luya irisin; MGD unavailable; cf. PPH *li?uya.

161. *maluŋ *'blanket (skirt-like garment)'*. MAR, MGD, IRN maluŋ.

162. *mama *'man, male'*. MAR, MGD, IRN mama.

163. *mama?in *'areca nut'*. MAR mama?an; MGD mamain; IRN unavailable; cf. PMAN *mama?in; PPH *('betel chew')* *mama?-in.

164. *manuk *'chicken'*. MAR, MGD, IRN manuk.

165. *mara *'dry* (adj.)'. MAR ma-mara; MGD ma-mala.

166. *mata *'eye'*. MAR, MGD, IRN mata.

167. *matay *'die'*. MAR, IRN m-i-atay; MGD m-in-atay; cf. PPH *matay.

168. (*)may *'rice, cooked'*. MAR bigas; MGD, IRN may; cf. PPH *?imis.

169. *mis *'sweet'*. MAR, MGD, IRN ma-mis; cf. PMAN *?imis.

170. (*)mudul *'lip'*. MAR, IRN mudul; MGD bibil.

171. *mut *'fragrant'*. MAR *('perfume')*, MGD, IRN ma-mut; cf. PMAN *himut.

172. *(n)amag *'tomorrow'*. MAR, IRN amag; MGD namag.

173. (*)namat *'betel leaf'*. MAR, MGD namat; IRN unavailable.

174. *(n)ami, *ami *'our* (1pl. excl. genetive prn.)'. MAR, IRN ami, mi; MGD nami; ami; cf. PTAG (1pl. inc.) *namin; cf. also sets 177, 180, 181, 189.

175. *ndarimit *'play'*. MAR *('gamble')* ndarimit; MGD pi-ndaiimit; IRN pi-ndarimit.

176. *nim *'six'*. MAR, MGD, IRN nim; cf. PPH *inim.

177. *ni(y)an, *i(y)an *'his, hers, its* (3sg. genetive prn.)'. MAR nian, ian; MGD nin, in; IRN niyan, iyan; cf. PPH *-na.

178. *nipay *'snake'*. MAR, MGD, IRN nipay.

179. *nipis *'thin (objects)'*. MAR, MGD, IRN ma-nipis.

180. *(n)iran, *iran *'their* (3pl. genetive prn.)'. MAR, IRN iran, ran; MGD nilan, ilan; cf. PPH *niDa; cf. also sets 174, 177, 181, 189.

181. *n(i)u, *(y)u *'your* (2pl. genetive prn.)'. MAR niu, yu; MGD nu, u; IRN niu, yu; cf. PPH *i(n)yu.

182. *niug *'coconut, ripe'*. MAR, MGD, IRN niug.

183. *ŋaran *'name'*. MAR, IRN ŋaran; MGD ŋala;[25] cf. PPH *(ŋ)a:jan.

184. *ŋ(a,ɨ)ri? *'mouth'*. MAR, ŋari?; MGD ŋali; IRN ŋri.

185. *ŋgay *'give'*. MAR, IRN ŋgay; MGD lɨŋgay.

186. *ŋibu *'thousand'*. MAR, IRN sa-ŋibu; MGD ŋibu.

187. *ŋipɨn *'teeth, tooth'*. MAR, MGD ŋipɨŋ; IRN nipan.

188. *ŋiruŋ *'nose'*. MAR, IRN ŋiruŋ; MGD ŋiluŋ.

189. *ŋka, *ka *'thy, thine* (2sg. genetive prn.)'. MAR, IRN ŋka, ka; MGD nɨŋka, ka.

190. *pagɨna? *'hide'*. MAR pagna?; MGD, IRN pagɨna; cf. MAR *('secret')* pagɨnɨs; PBS *('to store, place')* *ɨnna?.

191. *(pa)igu? *'bathe'*. MAR paigu?; IRN paigu; MGD bɨŋ-liulu; cf. PPH *Di:Ru?.

192. *palad*'palm (of hand)'*. MAR, MGD, IRN palad.

193. *palad a a?i *'sole (of foot)'*. MAR palad a a?i; MGD, IRN palad a ay

194. *palaw *'mountain'*. MAR, MGD, IRN palaw.

195. *palu *'heel'*. MAR, MGD, IRN palu.

196. *pamana?i *'sew'*. MAR pamana?i; MGD ɨb-pamanay; IRN pamanay; cf. PPH *tahi?.

197. *pamasa *'buy'*. MAR, MGD, IRN pamasa.

198. *pamula *'plant* (v.)'. MAR, MGD, IRN pamula.

199. *panik *'climb'*. MAR *('climb stairs')* panik; IRN paN-panik; MGD bɨ-musu; cf. PSEM *panik.

200. *papak *'wing'*. MAR, MGD, IRN papak.

201. *papanuk *'bird'*. MAR, MGD, IRN papanuk.

202. *pa?it *'bitter'*. MAR ma-pa?it; MGD ma-palt; IRN atagadill; cf. PPH *pa?it.

203. (*)paras *'face'*. MAR, IRN paras; MGD bɨnɨŋ.

204. *paruparu *'butterfly'*. MAR, MGD, IRN paruparu.

205. (*)pasa *'sell'*. MAR, MGD pasa; IRN pɨn-dagaŋ.

206. (*)pasaŋ *'difficult'*. MAR *('intelligent')*, MGD, IRN ma-pasaŋ.

207. *pat *'four'*. MAR, MGD, IRN pat; cf. PPH *ɨpat.

208. *pɨd *'companion'*. MAR, IRN pɨd; MGD ka-pɨd.

209. *pɨdtad *'sand'*. MAR pɨtɨd;[26] MGD, IRN pɨdtad; cf. PPH *p(a)(N)ta(d).

210. *pɨnu? *'full (as of a container)'*. MAR pɨnu?; MGD panu; IRN panu; cf. PPH *pɨnu?.

211. *pia *'good'*. MAR, MGD, IRN ma-pla; cf. PAN *pia.

212. *pili? *'choose'*. MAR pili?; MGD, IRN paN-pili; cf. PPH *pl:li?.

213. *pipi? *'wash clothes'*. MAR pipl?; MGD bɨN-pipi; IRN pɨN-pipi.

214. *pira *'how many?'*. MAR, IRN pira; MGD pila.

215. *-pi(d,r)ɨk *'eyelashes'*. MAR pir-pirɨk; MGD pi-pidɨk; IRN pl-pirak. cf. PPH *pi(D)ɨk.

216. *pita? *'morning'*. MAR ka-pi-pita?; MGD, IRN ma-pita-pita.

217. *pitu *'seven'*. MAR, MGD, IRN pitu.

218. (*)pitut *'buttocks'*. MAR, IRN pitut; MGD pudit.

219. (*)pulaŋi *'river'*. MAR, MGD pulaŋi; IRN lawasayg.

220. *pura *'canoe paddle'*. MAR pura; MGD pula.

221. *pusu? *'heart'*. MAR pusu?; MGD pusuŋ; IRN pusu; cf. PPH *pu:su?.

222. *puti? *'white'*. MAR ma-putl?; MGD, IRN ma-puti; cf. PPH *putl?.

223. (*)rabi(n,ŋ) *'old (object)'*. MGD labiŋ; IRN rabin; MAR andaŋ.

224. *ragat *'sea'*. MAR, IRN ragat; MGD lagat.

225. *ragum *'needle'*. MAR, IRN ragum; MGD lagum.

226. *ragun *'year'*. MAR, IRN ragun; MGD lagun.

227. *rani *'near'*. MAR, IRN ma-rani; MGD maslkɨn; cf. Ata, Dibabawon, Tigwa Manobo ma-dani; Ilianen mɨ-rani.

228. *raŋaw *'span (8 inches)'*. MAR, IRN raŋaw; MGD laŋaw.

229. (*)raŋlt *'anger'*. MAR raŋlt; IRN ka-ra-raŋit-an; MGD ma-dlpuŋɨt.

230. *ra?ɨt[27] *'bad'*. MAR ma-rata?; MGD ma-lat; IRN ma-rata; cf. Ilianen Manobo mɨ-ra?at; Samal la?at; PPH *ma-Da?ɨt.

231. *ra?un *'leaf'*. MAR ra?un; MGD laun; IRN raun; cf. PPH *Da:hun; Bilaan do?on; Cotabato Manobo, Mansakan, Tagbanwa da?un.

232. *rara *'weave mat'*. MAR rara; MGD bɨ-lala; IRN pɨ-rara.

233. *rarɨb *'chest'*. MAR rarɨb; MGD lalɨb; IRN rarub.[18]

234. *rɨdak *'rotten'*. MAR rɨdak; MGD lɨldak; IRN m-ɨrdak; cf. Western Bukidnon Manobo rɨdak; Sarangani Manobo lɨdak.

235. *r(ɨ)dsik *'dirty (clothes)'*. MAR *('dirty, filthy, not of clothes')*, IRN[28] ma-rslk; MGD[29] ma-lldslk; cf. Ilianen Manobo mɨ-rɨdslk.

236. *rɨndiŋ *'wall'*. MAR *('curtain, screen')* IRN rɨndiŋ; MGD lɨndiŋ.

237. *riga? *'red'*. MAR ma-riga?; MGD, IRN ma-rɪga.

238. (*)ruguŋ *'thunder'*. MAR ruguŋ; MGD ɪuguŋ; IRN dalandɨg.

239. *rugu? *'blood'*. MAR rugu?; MGD ɪugu; IRN rugu; cf. PPH *DuRu?.

240. *ruma *'spouse'*. MAR, IRN ka-ruma; MGD ka-ɪuma; cf. Indonesian *('house')* rumah; PPH *('companion')* *Duma.

241. *sagiŋ *'banana'*. MAR, MGD, IRN sagɪŋ.

242. *sakit *'pain'*. MAR sakɪt; MGD, IRN ma-sakɪt.

243. *saladɨŋ *'deer'*. MAR, MGD, IRN saladɨŋ.

244. *salday *'comb'*. MAR, MGD, IRN salday.

245. *(s,t)alŋgl? *'turn, revolve'*. MAR salŋgl?; MGD, IRN pɨd-talŋgi; cf. PPH *('turn awry, askew')* *lŋi?.

246. *sambɨr *'wind'*. MAR *('blow')*, IRN sambɨr; MGD sambɨl.

247. *sandak *'stab'*. MAR sandak; MGD pɨd-sandak; IRN pɨd-sandak-an.

248. *sa-pulu? *'ten'*. MAR sa-pulu?; MGD, IRN sa-pulu; cf. PPH *('ten unit')* *-pu:lu?.

249. *sawaw *'soup'*. MAR, MGD sawaw; IRN unavailable; cf. PPH *sabaw.

250. *sɨbaŋan *'east'*. MAR, MGD, IRN sɨbaŋan; cf. MAR *('rise')* sɨbaŋ.

251. *sɨbu *'boil* (v.)'. MAR sɨbu; MGD pɨd-sɨbu; IRN pɨ-sɨbu-sɨbu.

252. *sɨda? *'fish'*. MAR sɨda?; MGD sɨda; IRN sadɨ; cf. PPH *?ɪs(ɨ)Da?.

253. *sɨkanyan *'he, she, it* (3sg. topic prn.)'. MAR, IRN sɨkanyan; MGD sɨkanɪn.

254. *sɨnɨb *'dive'*. MAR sɨnɨb; MGD pɨd-sɨnɨb; IRN pɨ-sɨnɨb.

255. *siaw *'nine'*. MAR, MGD, IRN sɪaw.

256. *siku *'elbow'*. MAR, MGD, IRN sɪku.

257. (*)simpit *'narrow'*. MAR, MGD ma-simpɪt; IRN mulad.

258. *sipa? *'kick'*. MAR sɪpa?; MGD sipa; IRN sɪpa-n; cf. PPH *si:pa?.

259. *siran *'they* (3pl. topic prn.)'. MAR, IRN siran; MGD sɪlan.

260. *sisiŋ *'ring'*. MAR, MGD, IRN sisiŋ.

261. (*)s(ɨ)bu(d) *'fat* (adj.)'. MAR sɪbu?; MGD ma-subud; IRN ma-sɨbud.

262. *sumag *'push'*. MAR sumag; MGD pɨd-sumag; IRN pɨ-sumag.

263. (*)sumpat *'answer'*. MGD, IRN sumpat; MAR sɨmbag; cf. PPH *suŋbat.

264. *susu *'breast'*. MAR, MGD, IRN susu.

265. *susup *'suck'*. MAR susup; MGD pɨd-susup; IRN pɨ-susup.

266. *ta *'our* (ldu. genetive prn.)'. MAR, MGD, IRN ta.

267. *t(a,ɨ)bpul *'dull, as a knife'*. MAR tɨpul; MGD ma-tabul; IRN ma-tabpul.

268. (*)tag(ɨ)nɨk *'mosquito'*. MGD, IRN tagnɨk; MAR rɨŋɨt; cf. Kalagan tagnɨk; Binukid tagɨnɨk; Sarangani Manobo tɪgʌnʌk.

269. *tagɪnɨp *'dream'*. MAR, MGD taginɨp; IRN tagɪnɨp-ɨn.

270. *tagub *'sheath, for bolo'*. MAR tagub; MGD tagub-an; IRN tagub-an; cf. PPH *ta(g)ɨb.

271. *tali *'rope'*. MAR, MGD, IRN tali.

272. *tanu *'our, we* (lpl. incl. prn., topic and genetive)'. MAR, MGD, IRN tanu.

273. *taŋila *'ear'*. MAR, MGD, IRN taŋila.

274. *tapilak *'scar'*. MAR *('cast aside')*, IRN tapilak; MGD tapidak; cf. PAN *('sore, scab')* *pil(a,ɨ)k; PPH *pl(gk)lat.

275. *ta?i *'excrement'*. MAR ta?i; MGD, IRN tay; cf. PPH *ta:?i.

276. *taru? *'say, tell'*. MAR *('vocal, talkative')* taru?; MGD pɨd-talu; IRN pɨd-taru-taru; cf. MAR *('say, tell')* tɨru?.

277. *tau *'person'*. MAR, MGD, IRN tau; cf. PPH *ta:uh.

278. *taw *'know (acquaintance)'*. MAR, MGD, IRN ka-taw-an; cf. Samal ta?u; PAN *ta?uh.

279. *tawag *'call'*. MAR, MGD, IRN tawag.

280. *tɨbu *'sugarcane'*. MAR, MGD tɨbu; IRN tabu; cf. PPH *tɨbuh.

281. *tɨgas *'hard (substance)'*. MAR, MGD, IRN ma-tɨgas.

282. *tɨgkaw *'steal'*. MAR *('sudden')* paN-tɨkaw; MGD paN-tɨgkaw; IRN tɨgkaw; cf. PPH *ta:kaw; MAR *('steal')* paN-tɨkɨw.

283. *tɨlu *'three'*. MAR, MGD tɨlu; IRN talu; cf. PPH *tɨlu.

284. *tɨnɨk *'thorn'*. MAR, MGD tɨnɨk; IRN tanak.

285. *tɨŋ(g)aw *'cold'*. MAR ma-tɨŋgaw; MGD ma-tɨŋaw; IRN ma-taŋaw.

286. *tɪan *'belly'*. MAR, MGD, IRN tɪan.

287. *tɪdtu *'straight'*. MAR ma-tɪtu; MGD, IRN ma-tɪdtu.

288. *tɪlak *'smooth'*. MAR, MGD, IRN ma-tɪlak.

289. *tɪmus *'salt'*. MAR *('salty')*, MGD, IRN tɪmus.

290. *tina?i *'intestines'*. MAR tina?i; MGD, IRN tinay; cf. PPH *tina:?i.

291. *tindɨg *'stand'*. MAR tindɨg; MGD, IRN pɨd-tindɨg.

292. *tudtul *'story'*. MAR tutul; MGD, IRN tudtul.

293. *tulan *'bone'*. MAR, MGD, IRN tulan.

294. *turug *'sleep'*. MAR turug; MGD pɨd-tulug; IRN pɨd-turug.

295. *ubal *'monkey'*. MAR, MGD, IRN ubal.

296. *ubi *'sweet potato (yam)'*. MAR, MGD, IRN ubi.

297. *udtu *'noon'*. MAR ma-utu; MGD, IRN ma-udtu.

298. *udu *'defecate'*. MAR udu; MGD bɨg-udu; IRN pɨg-udu.

299. *ugat *'heavy'*. MGD, IRN ma-ugat; MAR ma-pɨnɨd; cf. PPH *bɨR?at.

300. *ugat *'vein (blood)'*. MAR *('varicose vein')*, MGD, IRN ugat; cf. PPH *?uRat.

301. *ukap a. *'husk (of rice)'*. MAR, MGD, IRN ukap.
(*)ukap b. *'winnow'*. MAR ukap; MGD bɨg-ukap; IRN nigu.

302. *ulad *'wide'*. MAR ma-ulad; MGD, IRN m-ulad; cf. PPH *('spread out, dry in sun')* *bɨlaj.

303. *ulan *'moon'*. MAR ulan; MGD, IRN ulan-ulan; cf. PPH *bu:lan.

304. *ulu *'head'*. MAR, MGD, IRN ulu.

305. *ulug *'fall (drop)'*. MAR ulug; MGD l-ulug; IRN ka-ulug.

306. *ulunan *'pillow'*. MAR, MGD, IRN ulunan.

307. (*)umbi *'ashes'*. MAR, IRN umbi; MGD au.

308. (*)untud *'sit'*. MAR untud; IRN pag-untud; MGD bɨg-ayan.

309. *uŋa *'fruit'*. MAR, MGD, IRN uŋa; cf. PPH *bu:ŋa.

310. *upis a.*'bark, peeling, shell'*. MAR, MGD, IRN upis.
(*)upls b.*'skin (human)'*. MAR, IRN upls; MGD laŋitun.

311. *urak *'flower'*. MAR bulak[30]; MGD ulak; IRN urak; cf. PPH *bu:Dak.

312. *uran *'rain'*. MAR, IRN uran; MGD ulan.

313. *uriŋ *'charcoal'*. MAR, IRN uriŋ; MGD uliŋ.

314. *urɨpɨn *'slave'*. MAR urɨpɨn; MGD ullpɨn; IRN urɨpan; cf. PPH *?ɨDl:pɨn.

315. *usug *'full, satiated'*. MAR, MGD, IRN usug; cf. PPH *bɨsuR.

316. *uraŋ *'debt'*. MAR, MGD, IRN utaŋ.

317. *uta? *'vomit'*. MAR uta?; MGD biŋ-uta; IRN piŋ-uta; cf. PPH *?u:ta?.

318. *utɨk *'brain'*. MAR, MGD, IRN utɨk.

319. (*)utin *'penis'*. MAR, MGD utin; IRN unavailable.

320. *waga *'shoulder'*. MAR, MGD, IRN waga; cf. PPH *?aba:Ra.

321. (*)waga(?) *'boil (infection)'*. MGD ma-uwaga; IRN ma-waga; MAR kamo?o, lɨbag; cf. PPH *baRɨ?.

322. *waka *'abaca (Manila hemp)'*. MAR, MGD, IRN waka.

323. *walay *'house'*. MAR, MGD, IRN walay; cf. MAR *('building')* balay; PPH *bálay.

324. *walu *'eight'*. MAR, MGD, IRN walu.

325. *wasa? *'wet'*. MAR ma-wasa?; MGD, IRN ma-wasa; cf. MAR basa?; PPH *bása?.

326. *wata? *'child'*. MAR wata?, bata?; MGD, IRN wata; cf. PPH *ba:ta?.

327. *watu *'stone'*. MAR watu, batu; MGD, IRN watu; cf. PPH *batú.

328. *yaw *'hot (as water)'*. MAR, MGD, IRN ma-yaw; cf. PPH *('broil, roast')* *lhaw.

4.2. *ENGLISH INDEX OF PROTO-DANAW RECONSTRUCTIONS*

APPENDIX 1

Modified Swadesh 100-Meaning List

It was necessary to revise the original Swadesh list because the available data did not contain all of the Swadesh vocabulary items. The revision was made by substituting forms drawn from the Swadesh 200-meaning list that had a persistence rate approximately equal to the replaced form (Swadesh 1955). In all but two cases the rates were actually equal to or greater than the replaced item. The overall average persistence rate of the items removed from the list equals 79%; the average persistence rate of the replacing items equals approximately 84%. The analytical potential of the modified list for use in comparisons should remain approximately the same in terms of the tendency of these forms to be retained in a given language. The substitute forms are indicated by an asterisk. The list of substitutions following the main list contains the persistence rates.

1. *all*
2. *ashes*
3. **back*
4. *bark*
5. *belly*
6. *big*
7. *bird*
8. *bite*
9. *black*
10. *blood*
11. *bone*
12. *breast*
13. *burn*
14. *cloud*
15. *cold*
16. *dog*
17. *drink*
18. *dry*
19. *ear*
20. *earth*
21. *eat*
22. *egg*
23. *eye*
24. **fall*
25. *fat* (adj.)
26. *feather*
27. *fire*
28. *fish* (n.)
29. *fly* (v.)
30. *full*
31. *give*
32. *good*
33. *green*
34. *hair*
35. *hand*
36. *head*
37. *hear*
38. *heart*
39. *I* (lsg. topic)
40. *kill*
41. *knee*
42. *know* (acquaintance)
43. **laugh*
44. *leaf*
45. *liver*
46. *long (object)*
47. *louse*
48. *man/male*
49. *many*
50. *moon*
51. *mountain*
52. *mouth*
53. *name*
54. *neck*
55. *new*
56. *night*
57. *nose*
58. *not (verbal)*
59. **old (person)*
60. *one*
61. *person*
62. *rain*
63. *road/trail*
64. *root*

65.	*sand*	74.	*small*	83.	*this (proximate)*	92.	*water*
66.	*say*	75.	*smoke*	84.	*thou* (2sg.emph.)	93.	*we*
67.	**sea*	76.	**snake*	85.	*tongue*	94.	*what?*
68.	*see*	77.	*stand*	86.	*tooth*	95.	*white*
69.	**seed*	78.	*star*	87.	*tree/wood*	96.	*who?*
70.	*sit*	79.	*stone*	88.	*two*	97.	**wide*
71.	*skin (person)*	80.	*swim*	89.	*walk*	98.	*woman*
72.	**sky*	81.	*tail*	90.	*warm/hot*	99.	**worm*
73.	*sleep*	82.	*that (remote)*	91.	**wash (hands)*	100.	*yellow*

SUBSTITUTIONS

'back' (83) replaces *'meat'* (77)
'fall' (67) replaces *'lie down'* (33)
'laugh' (92) replaces (92)
'old (person)' (100) replaces *'horn'* (p.r. not given)
'sea' (82) replaces *'red'* (66)
'seed' is modified in meaning as *'rice seed, husked'*
'sky' (92) replaces *'sun'* (100)
'snake' (91) replaces *'foot'* (90)
'wash (hands)' (83) replaces *'come'* (100)
'wide' (85) replaces *'round'* (p.r. not given)
'worm' (100) replaces *'claw'* (p.r. not given)

APPENDIX 2

Danaw Functor and Qualitative Wordlist

In the following list, an asterisk (*) indicates the form was not available for comparison.

AFFIX, VERB	MAR	MGD	IRN
1. Future tense	-ɨ- ∿ pɨ- ∿ pag-	m- ∿ mɨ- ∿ -ɨm-	pɨ- ∿ pɨC- ∿ paC-
2. Past tense	-i- ∿ -ni ∿ -in-	-i- ∿ -ni- ∿ -in-	-i- -ni- -in-
3. Present tense	pɨ- ∿ pɨg-	pɨC- ∿ bɨg- ∿ pag-	pɨ- ∿ pɨC ∿ paC-
COLOUR			
4. Black	ma-itɨm	ma-itɨm	ma-itɨm
5. Green	gaduŋ	gadduŋ	gaduŋ
6. Red	ma-riga?	ma-ilga	ma-riga
7. White	ma-puti?	ma-puti	ma-puti
8. Yellow	binaniŋ	binaniŋ	binaniŋ
CONJUNCTION			
9. Attributive coordinating	a	a	a
10. Clause coordinating, *'and'*	na	na	na
11. Clause coordinating, *'because'*	kagla	kagina	sabap
12. Clause coordinating, *'for'*	ka	ka	ka
13. Nominal coordinating	agu	ɨndu	gu
14. Subordinating *'if'*	u	amaika	amay
ENUMERATIVE			
15. *all*	laŋun	laŋun	laŋun
16. *count*	ituŋ, bilaŋ	bilaŋ	bilaŋ
17. *eight*	walu	walu	walu

	MAR	MGD	IRN
18. *five*	lima	lima	lima
19. *four*	pat	pat	pat
20. *hundred*	ma-gatus	ma-gatus	ma-gatus
21. *many*	ma-dakil	ma-dakil	ma-dakal
22. *nine*	siaw	siaw	siaw
23. *one*	isa	sa timun	isa
24. *seven*	pitu	pitu	pitu
25. *six*	nim	nim	nim-nam
26. *ten*	sa-watiʔ, sa-pulu	sa-pulu	sa-pulu
27. *thousand*	sa-ŋibu	ŋibu	sa-ŋibu
28. *three*	tilu	tilu, tulu	talu
29. *twenty*	dua-watiʔ, dua-pulu	duapulu	dua-pulu
30. *two*	dua	dua timun	dua
INTERROGATIVE			
31. *How many?*	pira	pila	pira
32. *What?*	antunaʔa	ŋin	ntuna
33. *When?*	andaʔi	kanu	kanu
34. *Where?*	anda	ndaw	nda
35. *Who?*	antawaʔa	ntain	ntaun
LOCATIONAL			
36. *Far*	ma-watan	ma-watan	ma-watan
37. *Left*	diwaŋ	biwaŋ	miasama
38. *Near*	ma-rani	ma-sikin	ma-rani
39. *Right*	ka-wanan	ka-wanan	ka-wanan
40. *Under*	atag didalim	uŋ, baba	atag
LOCATIVE, DEICTIC			
41. *Here (proximate)*	saya, siʔi	niya	saya
42. *There (nearby)*	san	nan	san
43. *There (remote)*	ruʔu	ntu, iu	ru
MARKER			
44. Topic, general	su	su	su
45. Topic, personal	san	si	si
46. Nominative	u	nu ~ u	u
47. Objective, locative	sa	sa	sa
48. Referent	ku	ku	ku
49. Referent, personal	ki	ki	ki

	MAR	MGD	IRN
NEGATIVE			
50. Predicative	kɨna?, dI?	kuma, dala	kana
51. Stative	da?	da, dala	da
52. Verbal	kɨna?, dI?	dI, dIII	dI
PARTICLE			
53. Discourse, completive	dɨn	dɨn	dɨn
54. Discourse, incompletive	pɨn	pan	pan
55. Existential, possessive	ədɨn	adɨn	adɨn
PRONOUN			
56. Topic, 1sing.	aku	aku	aku
57. Topic, 2sing.	ka	ka	ka
58. Topic, 3sing.	sɨkanyan	səkanIn	sɨkanyan
59. Topic, 1-2 dual	ta	ta	ta
60. Topic, 1pl. excl.	kamI	kamI	kamI
61. Topic, 1pl. incl.	tanu	tanu	tanu
62. Topic, 2pl.	kanu	kanu	kanu
63. Topic, 3pl.	siran	sIlan	siran
64. Emphatic 1sing.[31]	sIkɨn	saki	sakɨn
65. Emphatic 2sing.	sɨka	sɨka	saka
66. Emphatic 1-2 dual	sɨkta	sɨkita	*
67. Emphatic 1pl. incl.	sɨktanu	sɨkItanu	*
68. Emphatic 2pl.	sɨkanu	sɨkanu	*
69. Genetive, 1sing.	ku	ku	ku
70. Genetive, 2sing.	ŋka ∿ ka	nɨŋka ∿ ka	ŋka ∿ ka
71. Genetive, 3sing.	nian ∿ ian	nin ∿ in	niyan ∿ iyan
72. Genetive, 1-2 dual	ta	ta	ta
73. Genetive, 1pl. excl.	ami ∿ mI	namI ∿ amI	amI ∿ mI
74. Genetive, 1pl. incl.	tanu	tanu	tanu
75. Genetive, 2pl.	niu ∿ yu	nu ∿ u	niu ∿ yu
76. Genetive 3pl.	iran ∿ ran	nIlan ∿ Ilan	iran ∿ ran
77. Dative formative element	rɨk-	lɨk-	rɨk-
PRONOUN, DEICTIC			
78. *This (proximate)*	glaya, gla?i	niga bay	glaya
79. *That (nearby)*	glanun	namba ∿ amba	glanan
80. *That (remote)*	glutu	nanbay	glutu

	MAR	MGD	IRN
81. *Big*	m-ala?	m-asla	m-asla
82. *Heavy*	ma-pɨnɨd	ma-ugat	ma-ugat
83. *Long*	ma-lɨndu ma-tas	ma-lɨndu	malɨndu
84. *Small*	ma-itu?	ma-inut	ma-itu
85. *Span (8 inches)*	raŋaw	laŋaw	raŋaw
86. *Straight*	ma-titu	ma-tidtu	ma-tidtu
87. *Thick*	ma-kapal	ma-kapal	ma-kapal
88. *Thin*	ma-nipis	ma-nipis	ma-nipis
89. *Afternoon*	ma-gabi	ma-lulɨm	miapuiid
90. *Day*	gawi?i, aluŋan	gay	mapita
91. *Morning*	ka-pi-pita	ma-pita-pita	ma-pita-pita
92. *New*	bɨgu, bagu	bagu	bagu
93. *Night*	ga-gawi?i	ma-gabi	ma-gabi
94. *Noon*	ma-utu	ma-udtu	m-udtu
95. *Old (object)*	andaŋ	labiŋ	rabin
96. *Old (person)*	lukɨs	lukɨs, ma-tua	lukɨs
97. *Today*	imantu	saguna	imantu
98. *Tomorrow*	amag, ma-pita?	namag	amag, ma-pita
99. *Year*	ragun	lagun	ragun
100. *Yesterday*	ka-ga?i	ka-gay	ka-gay

NOTES

1. Maranaw is spoken primarily in the province of Lanao by approximately 250,000 persons. Magindanaw is spoken in the province of Cotabato, also by about 250,000 persons. Directly between these two groups are located the Iranun speakers, occupying a large territory eastward off the coast of Illana Bay, with an estimated 100,000 people. Iranun is also spoken on the island of Bongo off the south-west coast of Mindanao. The Danaw language group totals at least 600,000 speakers.

2. The name 'Danaw' was first suggested for these three speech varieties by Richard G. Elkins of the Summer Institute of Linguistics.

3. This paper is based on my thesis prepared during an MA study program at the University of Texas at Arlington (Allison 1974). New language data acquired since that program was completed has resulted in a modification of the original conclusions. I am indebted to my colleagues, A. Kemp Pallesen, SIL Philippine Branch, and David Thomas, SIL Asia Area, for much information and advice. I also wish to acknowledge the many insights shared with me by R. David Zorc, whose valuable help is reflected in this work.

4. The Philippine languages comprise a subdivision of the Austronesian language family (Voegelin 1973:100). The designation of Austronesian subdivisions, however, varies among scholars so that there is no commonly accepted set of terms to specify categories, such as phylum, family, stock, etc. For this reason, the Philippine group, and the position of the Danaw languages within it, will not be designated by a ranking nomenclature; instead, the general terms 'group' and 'subgroup' will be used throughout the paper.

5. The working corpus of approximately 400 words is too small to draw final conclusions regarding the phonemic status of certain segments and sequences. For this reason, the analysis is regarded as tentative only.

6. In September 1975, I conducted interviews during a limited period in Cotabato City with Magindanaw and Iranun speakers, investigating the phonology of these languages and obtaining data for the present study.

7. The limited data base does not warrant conclusions about permissable clusters. Actually, more clusters than appear here do occur in the languages. Clusters across morpheme boundaries are excluded from the illustrations.

8. A PDAN intervocalic glottal stop is reflected quite regularly in MAR, but it completely disappeared in this position in MGD and IRN. Evidence for the intervocalic glottal is based primarily on a comparison of MAR and PPH, employing the same assumptions used for reconstructing word-final glottal. (See footnote 9.) When PPH and MAR are in disagreement, intervocalic glottal is shown ambiguously by placing it in parentheses, i.e. (ʔ).

9. A distinction between word-final glottal (ʔ) and null occurs in PPH reconstructions, and the **Maranao Dictionary** (McKaughan 1967) also gives this distinction. A comparison shows that PPH and MAR generally agree regarding -ʔ and null etyma, so it is assumed that PDAN, the intermediate stage, also had the same distinction in the same etyma. Hence, in cases where PPH and MAR both attest either -ʔ or null, I reconstuct accordingly. (Null is shown in the reconstructions by the absence of any symbol.) I have disregarded the MGD and IRN forms on this point because of their apparent instability. Where PPH is unknown, I reconstruct following the MAR form. In the few cases when PPH and MAR are in disagreement, word-final glottal is shown ambiguously, i.e., as (ʔ).

10. In the daughter speech forms, in word-initial position, glottal stop occurs phonetically after pause preceding vowels, but it never occurs phonemically in this environment. Therefore, word-initial glottal stop following pause has not been reconstructed.

11. The available data indicate that stress is one component in the conditioning factors for *ɨ > IRN a. However, data for stress is incomplete and, in many forms, unattested; therefore it is not given in the citations other than in these examples. (See also fn. 12 below.)

12. All of these forms are from field survey lists and the low central vocoid is not certain. In unstressed vowels, the [ʌ] variant of /a/ and the /ə/ variant of /ɨ/ are so close in vowel quality that their distinction is often quite difficult to non-Filipino ears. Unfortunately, at the time of writing this paper, it was not possible to test these items with an Iranun speaker. They are included here to indicate potential discrepancies, even though it is quite probable that some of them can later be re-interpreted with ɨ in place of a.

When the forms are attested it may further appear that *ɨ > a in IRN ultima. However, it should be pointed out that the process of *ɨ > a in the ultima is regular in Malay, and IRN has had a long history of Malay contact. Many of these words may, therefore, simply reflect Malay influence. Further research is needed to clarify these points.

13. Dyen (1965:18) established a "provisional language limit" of 69.9% as the approximate score above which speech forms ought to be assigned as dialects of the same language. His criteria were based on the Swadesh 200-meaning list. But even using the Reid list, which contains only 170 of the Swadesh-200 items, the IRN-MGD score is 71.3% -- a value which appears to stand at the borderline between dialect and language.

In the present case, the decision to regard IRN as a separate language comes from additional evidence. Mutual intelligibility testing conducted by the Summer Institute of Linguistics shows that IRN is not mutually intelligible with either MAR or MGD, and permits us to interpret the 71.3% score as falling below the language limit (Charles Walton, personal communication).

With regard to the Swadesh-100 scores, observations made by R. David Zorc (1972) are of considerable interest. He reports that in his fieldwork with 33 West Bisayan dialects, using the Swadesh-100-meaning list,

> some difficulty in understanding was encountered if the lexicostatistical score was below 87%... Furthermore, where the score fell below 84%, intelligibility appeared to be nearly minimal...

If these figures are used as a guide, one would conclude that the Swadesh-100 percentages for all Danaw members are well below a level requiring interpretation as dialects.

14. For the use of "significantly different" see Dyen (1962).

15. First pointed out to me by R.D. Zorc.

16. Another analysis is plausible on the basis of *-an instead of *nan, but this also presents problems in explaining irregular forms. Observe, e.g. MAR, IRN gianan *'that (nearby)'* (< *giV- + *-an) instead of the expected form *gian. Such an analysis requires the postulation of an intrusive -n- for the MAR-IRN forms and an n- formative for the MGD forms.

17. The reconstructions are based on a diagnostic set of 328 vocabulary glosses drawn from Reid (1971). The wordlists and phonemic data for each language were taken from the following sources:

(1) Maranaw: (a) **The Maranao Dictionary** compiled by Howard P. McKaughan and Batua A. Macaraya (1967). (b) A grammatical analysis of Maranaw by McKaughan (1958). (c) A wordlist of 372 entries taken by Robert Ward of the Summer Institute of Linguistics in a 1966 dialect survey in the Philippines.

(2) Magindanaw: (a) A wordlist of 372 entries taken by Jerry Eck of the Summer Institute of Linguistics in a 1966 dialect survey in the Philippines. (b) A list of approximately 70 grammar-based items prepared by Jerry Eck. (c) A phonemic analysis of the Buluan dialect (Lee 1962).

(3) Iranun: (a) A wordlist of 372 entries taken by Michael Walrod of the Summer Institute of Linguistics in a 1971 dialect survey in the Philippines. (b) A text of a personal narration prepared by Miss Papua Ali of Sultan Kudarat near Cotabato City in the Philippines. The text was obtained by Mike Walrod in the 1971 survey.

(4) Other languages: (a) Batak, Bilaan, Binukid, Itneg, Kalagan, Mamanwa, Manobo (Dibabawon, Ilianen, Cotabato, Sarangani, Tigwa, Western Bukidnon), Mansaka, Samal, Sambal, Subanon, Tagabili, Tausug are from Reid (1971); (b) Malay from Wilkinson (1932); (c) Indonesian from Echols and Shadily (1968); (d) Aklanan, Tadyawan, Surigaonon, Cebuano from unpublished sources.

(5) Proto-languages: (a) Proto-Austronesian from Blust (1970); Dyen (1953); Laurens translation (undated) of Dempwolff Volume III (1938); (b) Proto-Philippine and Proto-Southern Philippine from Zorc (1971, 1974a); (c) Proto-Bisayan from Zorc (1975); (d) Proto-North-east Mindanao from Gallman and Pallesen (this issue); (e) Proto-South-east Mindanao (Proto-Mansakan) from Gallman (1974);

(f) Proto-Manobo from Elkins (1974); Proto-Tagalic from Dyen (1970).

18. The IRN /u/ in place of /ɨ/ may be due to contamination from contact with another language group, such as Subanon, which has mo-som for *'sour'* and gig-dob for *'chest'*.

19. A. Kemp Pallesen has pointed out to me that the Proto-Sama-Bajaw doublet *bahu, *bahu? is widely attested in Sama-Bajaw languages.

20. MAR ga-gawi?i is irregular with /w/ in place of /b/. The /w/ may be the result of analogy with other forms which reflect PPH *b as PDAN *w, e.g., sets 21, 48, 249. Note that the *b > *w split was a pre-Danaw change and is regularly reflected in all three languages when it occurs.

21 Geminate consonants are not a regular feature of the Danaw languages, suggesting the MGD gadduŋ may be a borrowing. A probable source is Samal gadduŋ.

22. PPH *h went to null in all positions in PDAN.

23. None of the Danaw languages lose word-initial *i. MGD sa must come from PAN *hɨsah > PDAN *sa; while MAR isa, IRN isa? must come from PAN *hisah > PDAN *isa.

24. *(kak)wak may contain the derivational morpheme *ka-, in which the medial -k- may represent an irregular development from PPH *?.

25. MGD ŋaia may represent apocope of -n, the removal being permissible by an analogy with the MGD suffixes -ɨn, -an, which have an -n allomorph.

26. I cannot account for MAR /ɨ/ in place of /a/ in the ultima syllable in this form.

27. MGD shows the regular reflex for PDAN *ra?ɨt in this form, viz: -iat. The expected form for MAR would be (*)-ra?at, but this has undergone metathesis to -rata?. The IRN word here is probably borrowed from MAR, since its expected form would be -rat, rather than -rata?.

28. The regular retention of the *dC cluster in IRN in this word would produce the non-canonical shape (*)ma-rdsik. IRN has here adopted the MAR form, ma-rsik.

29. MGD shows an irregular assimilation of *i to /i/.

30. MAR bulak is apparently a loan, the expected form is urak (< PDAN *urak < PPH *bu:Dak). Sources for bulak include Manobo, Mansakan, and Subanon bulak.

31. I am indebted to Dr. Ernesto Constantino, University of the Philippines, for providing the Magindanaw emphatic pronouns.

BIBLIOGRAPHY

ALLISON, E. Joe
1974 *Proto-Danao: A Comparative Study of Maranao, Maguindanao, and Iranon.* M.A. thesis, The University of Texas at Arlington.

BLOOMFIELD, Leonard
1933 *Language.* New York: Henry Holt.

BLUST, Robert A.
1970 'Proto-Austronesian Addenda'. *Oceanic Linguistics* 9/2:104-62.

CHARLES, Matthew
1974 *Problems in the Reconstruction of Proto-Philippine Phonology and the Subgrouping of the Philippine Languages.* *Oceanic Linguistics* 13:457-509.

CHRÉTIEN, C. Douglas
1973 'A Classification of Twenty-one Philippine Languages'. In: Andrew B. Gonzalez, F.S.C., Teodoro Llamzon S.J., and Fe Otanes, eds. *Readings in Philippine Linguistics*, 195-212. Manila: Linguistic Society of the Philippines.

CONANT, Carlos Everett
1912 'The Pepet Law in Philippines Languages'. *Anthropos* 7:920-47.

CONSTANTINO, Ernesto
1965 'The Sentence Patterns of Twenty-six Philippine Languages'. *Lingua* 15:71-124.

DEMPWOLFF, Otto
1938 *Vergleichende Lautlehre des austronesischen Wortschatzes* vol. 3: *Austronesisches Wörterverzeichnis*, trs by Christine Laurens, *Zeitschrift für Eingeborenensprachen*, Beiheff 19.

DYEN, Isodore
1962 'The Lexicostatistical Classification of the Malayopolynesian Languages'. *Language* 38:38-46.

1965 *A Lexicostatistical Classification of the Austronesian Languages. International Journal of American Linguistics* 31/1, Memoir 19.

1970 'Maranao and Tagalic: Qualitative Confirmation of a Subgrouping Hypothesis'. *Philippine Journal of Linguistics* 1/1:1-11.

1971 'The Austronesian Languages and Proto-Austronesian'. In: T.A. Sebeok, ed. *Current Trends in Linguistics*, vol.8: 5-54.

ECHOLS, John M. and Hassan Shadily
1963 *An Indonesian - English Dictionary.* Second edition. Ithica, New York: Cornell University Press.

ECK, Jerry
1974 'Magindanao Penultimate Vowels'. *Work Papers of the Summer Institute of Linguistics* 18:125-31. University of North Dakota.

ELKINS, Richard E.
1974 'A Proto-Manobo Word List'. *Oceanic Linguistics* 13:604-41.

GALLMAN, Andrew Franklin
1974 A Reconstruction of Proto-Mansakan. M.A. thesis, The University of Texas at Arlington.

HEALEY, Alan
1969 'Review of *A Lexicostatistical Classification of the Austronesian Languages*'. *Linguistics* 52:111-25.

HOENIGSWALD, Henry M.
1950 'The Principal Step in Comparative Grammar'. *Language* 26:357-64.

1960 *Language Change and Linguistic Reconstruction*. Chicago: University of Chicago Press.

ILETO, Reynaldo Clemeña
1971 *Magindanao, 1860-1888: The Career of Datu Uto of Buayan*. Data Paper Number 82, South-east Asia Program. Cornell University: Department of Asian Studies.

LEE, Ernest W.
1962 'On Non-syllabic High Vocoids in Maguindanao'. *Studies in Linguistics* 16:65-72. Buffalo: University of Buffalo.

LLAMZON, Teodoro A. and Ma. Teresita Martin
1976 A Subgrouping of 101 Philippine Languages. Paper given before the First International Conference on Comparative Austronesian Linguistics, Honolulu, Hawaii. Now published in: N.D.Liem, ed. *South-east Asian Linguistic Studies*, vol. 2:141-72. *PL*, C-42.

McFARLAND, Curtis Daniel
1974 The Dialects of the Bikol Area. Ph.D. dissertation, Yale University.

McKAUGHAN, Howard P.
1958 *The Inflection and Syntax of Maranao Verbs*. Manila: Institute of National Language.

McKAUGHAN, Howard P. and Batua A. MACARAYA
1967 *A Maranao Dictionary*. Honolulu: University of Hawaii Press.

MAJUL, Cesar Adib

1973 *Muslims in the Philippines.* Second edition. Quezon City: University of the Philippines Press, published for the Asian Center.

PALLESEN, A. Kemp

1977 Culture Contact and Language Convergence. Ph.D. dissertation, University of California at Berkeley.

REID, Lawrence A., ed.

1971 *Philippine Minor Languages: Word Lists and Phonologies. Oceanic Linguistics*, Special Publication No.8. Honolulu: University of Hawaii Press.

1973 'Diachronic Typology of Philippine Vowel Systems'. In: T.A. Sebeok, ed. *Current Trends in Linguistics*, vol. II: 485-505. The Hague: Mouton.

SALEEBY, Najeeb M.

1905 *Studies in Moro History, Law, and Religion. Department of the Interior Ethnological Survey Publications* 4/1. Manila: Bureau of Public Printing.

SWADESH, Morris

1955 'Towards Greater Accuracy in Lexicostatistic Dating'. *IJAL* 21:121-37.

THOMAS, David and Richard GIESER

1973 A Decimal Classification for Philippine Languages. In: Andrew B. Gonzalez, ed. *Parangal Kay Cecilio Lopez*, 64 - 70. *Philippine Journal of Linguistics* Special Monograph Issue No.4, Quezon City: Linguistic Society of the Philippines.

THOMAS, David and Alan HEALEY

1962 'Some Philiipine Language Subgroupings: A Lexicostatistical Study'. *Anthropological Linguistics* 4/9:21-33.

VOEGELIN, C.F. and F.M. VOEGELIN
1965 Languages of the World: Indo-Pacific Fascicle Four. *Anthropological Linguistics* 7/2.

1973 *Index of the World's Languages, Part 1.* Washington, D.C.: U.S. Department of Health, Education, and Welfare.

WILKINSON, R.J.
1932 *A Malay-English Dictionary (Romanized).* Mytilene, Greece: Salavopoulos and Kinderlis.

ZORC, R. David
1971 Proto-Philippine Finder List. Mimeo. Cornell University.

1972 'The Western Subgroup of Bisayan'. *Oceanic Linguistics* 11/2: 110-39.

1974a 'Towards a Definitive Philippine Wordlist - the Qualitative Use of Vocabulary in Identifying and Classifying Languages'. *Oceanic Linguistics* 13:409-55.

1974b 'Internal and External Relationships of the Mangyan Languages'. *Oceanic Linguistics* 13:561-600.

1977 *The Bisayan Dialects of the Philippines: Subgrouping and Reconstruction.* (Ph.D. dissertation, Cornell University, 1975). *PL*, C-44.