To Ingrid, Pippa and James

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# FOREWORD

It gives me considerable pleasure to have been asked to write the Foreword for Malcolm Ross's *Proto Oceanic and the Austronesian languages of western Melanesia.*

Malcolm Ross came to Papua New Guinea as an English teacher with an abiding interest in linguistics. At Keravat National High School, and later at the Goroka Teachers' College campus of the University of Papua New Guinea, he began (among a number of other projects) the work of collecting data in the Austronesian languages of PNG and neighbouring areas to the east.

The result is this massive comparative study, a revised version of his doctoral thesis. The breadth and depth of this work are amazing, and, for what is probably the first time, a region previously seen as a bit of a linguistic 'mess' has been given a comprehensive comparative treatment.

This volume is a most significant contribution to Austronesian linguistics, and I am confident that it will remain a seminal work in the field for a very long time to come.

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I am grateful too to my family and other friends who have prayed for me over the past months and years, and I have often meditated on how one thanks God for answered prayers - for answered they have been - without falling into cliché. I have also come to appreciate more and more the validity for the scholarly enterprise of C.S. Lewis' observation (in his book *Miracles*) that 'each [human mind] has come into Nature from Supernature: each has its tap-root in an eternal, self-existent, rational Being, whom we call God.' With these thoughts in mind, I borrow my words from the Apostle Paul: Εὐλογητὸς ὁ Θεὸς καὶ Πατὴρ τοῦ Κυρίου ἡμῶν Ἰησοῦ Χριστοῦ.

# ABBREVIATIONS

## LANGUAGES AND GEOGRAPHICAL ENTITIES

| | | | |
|---|---|---|---|
| AN | Austronesian | PMM | Proto Meso-Melanesian |
| CEMP | Central/Eastern Malayo-Polynesian | PNG | Papua New Guinea |
| | | PNg | Proto Ngero |
| CMP | Central Malayo-Polynesian | PNGe | Proto New Georgia |
| EMP | Eastern Malayo-Polynesian | PNgVZ | Proto Ngero/Vitiaz |
| PAd | Proto Admiralties | PNHG | Proto North Huon Gulf |
| PAN | Proto Austronesian | PNI | Proto New Ireland |
| PAP | Proto Arawe/Pasismanua | PNN | Proto Nehan/North Bougainville |
| PBEL | Proto Bel | PNS | Proto North-West Solomonic |
| PCEMP | Proto Central/Eastern Malayo-Polynesian | POC | Proto Oceanic |
| | | PPT | Proto Papuan Tip |
| PCEO | Proto Central/Eastern Oceanic | PSB | Proto South-West New Britain |
| PCH | Proto Choiseul | PSCH | Proto Schouten |
| PCMP | Proto Central Malayo-Polynesian | PSHG | Proto South Huon Gulf |
| | | PSS | Proto South-East Solomonic |
| PCP | Proto Central Papuan | PSV | Proto South Vanuatu |
| PCPa | Proto Central Pacific | PTAB | Proto Tabar |
| PEAd | Proto Eastern Admiralties | PTN | Proto Tungak/Nalik |
| PEO | Proto Eastern Oceanic | PVZ | Proto Vitiaz |
| PEMP | Proto Eastern Malayo-Polynesian | PWO | Proto Western Oceanic |
| | | PWZ | Proto Willaumez |
| PHBU | Proto Hote/Buang | PYS | Proto Ysabel |
| PHG | Proto Huon Gulf | SHWNG | South Halmahera/West New Guinea |
| PMAD | Proto Madak | | |
| PMGN | Proto Mengen | WM | Western Melanesia(n) |
| PMK | Proto Markham | | |

## GLOSSES

| | | | |
|---|---|---|---|
| 1, 2, 3 | first, second, third person | ACC | accomplished |
| 1E | first person plural exclusive | ART | article |
| 1I | first person non-singular inclusive | AbsNP | absolutive noun phrase |
| | | BEN | benefactive |

| | | | |
|---|---|---|---|
| C | construct suffix | PM | pivot marker |
| CD | conditional | POSSM | possessum |
| CL | classifier | POSSR | possessor |
| CONT | continuative | POSTP | postposition |
| CS | causative | PP: | portmanteau possessive pronoun |
| D | dual | PREP | preposition |
| D: | disjunctive pronoun | PREPV | prepositional verb |
| DEM | demonstrative | Q | quadral/paucal |
| DES | desiderative | QM | quantity marker |
| DIR | directional enclitic | R | realis |
| E | exclusive | RCP | reciprocal |
| ErgNP | ergative noun phrase | RD | reduplication |
| exp | expected (in notes on examples) | REM | remote |
| FUT | future | S | singular |
| I | inclusive | S: | subject pronominal prefix/proclitic |
| INDEF | indefinite article | SD: | disjunctive pronoun - short form |
| INT | intentive | SEQ | sequential |
| IRR | irrealis | SM | sentence-medial enclitic |
| k | kind of (in word meanings) | s.o. | someone (in word meanings) |
| L | ligature | s.t. | something (in word meanings) |
| LOC | locative phrase | SUB | clause subordinator |
| NEG | negative | SUBJ | subject |
| NOM | nominalising suffix | T | trial |
| O: | object pronominal suffix/enclitic | TA | tense/aspect marker |
| OBJ | object | TEMP | temporal phrase |
| OBLP | oblique proform | THC | thematic consonant |
| OBLQ | oblique noun phrase | TM | topic marker |
| P | plural | TOP | topicalised noun phrase |
| P: | possessive pronominal suffix | TR | transitive suffix |
| PASS | passive | VA | valency-augmenting morpheme |
| PCL | possessive classifier | VM | verb marker |
| PF | perfect(ive) | w | with (in word meanings) |
| PIV | pivot | | |

CHAPTER 1

PRELIMINARY MATTERS

## 1.1 INTRODUCTION

The purpose of this work is to elucidate the higher-order genetic relationships of the Austronesian (AN) languages of the Papua New Guinea (PNG) region.

There is today a widespread acceptance among Austronesianists of the 'Oceanic hypothesis', according to which all the Austronesian languages of Oceania east of a line drawn from north to south through the western Pacific are descended from a single proto language, today named 'Proto Oceanic' (POC).[1] Its descendants are known simply as the 'Oceanic languages'. This line divides Chamorro (Mariana Islands) and Belau (formerly Palau) from the rest of Micronesia and bisects the north coast of the island of New Guinea at 138°E longitude.

The first version of the Oceanic hypothesis was set out by Dempwolff (1927, 1937), who showed that all 'Melanesian' and Polynesian languages were descended from one proto language (1937:190-194). Dempwolff's 'Melanesian' languages included not only the Austronesian languages of Melanesia but also those of Micronesia (other than Chamorro and Belau) (1937:164). However, although Dempwolff knew the location of the Micronesian section of the boundary between non-Oceanic and Oceanic languages, he did not have the data to determine where this boundary divided eastern Indonesia or New Guinea,[2] and its exact location remained unclear until the 1970s, when Grace (1971a) showed that the languages of the Sarmi coast (see Map 1) were clearly Oceanic and Blust (1978b) showed that none of the Austronesian languages of Cenderawasih Bay reflected all the innovations which define the Oceanic group (see section 3.2).[3]

For linguistic reasons I have extended my area of interest beyond the political borders of Papua New Guinea to include the island groups of the Shortlands, Choiseul, New Georgia and Ysabel in the Solomon Islands, since a major linguistic boundary[4] separates them from all Oceanic languages further east (Tryon and Hackman 1983:56-64), but no such boundary lies between them and AN languages spoken in the North Solomons Province of PNG (Ross 1986). Similarly, at the western extreme of this area, the Oceanic languages of the Jayapura Bay and Sarmi Coast groups on the north coast of the Indonesian province of Irian Jaya are apparently not separated from those of the north coast of PNG by a major linguistic boundary (available data are too scant to be sure), but certainly *are* separated by a major boundary from the languages to their west, namely the boundary between Oceanic and non-Oceanic Austronesian languages. The region between these two boundaries I will call Western Melanesia (WM), and its Oceanic languages 'West Melanesian Oceanic' or 'WM Oceanic' (Map 1). Note, however, that the term WM Oceanic is used as a term for a regional collection of languages, not for a genetic grouping.

1
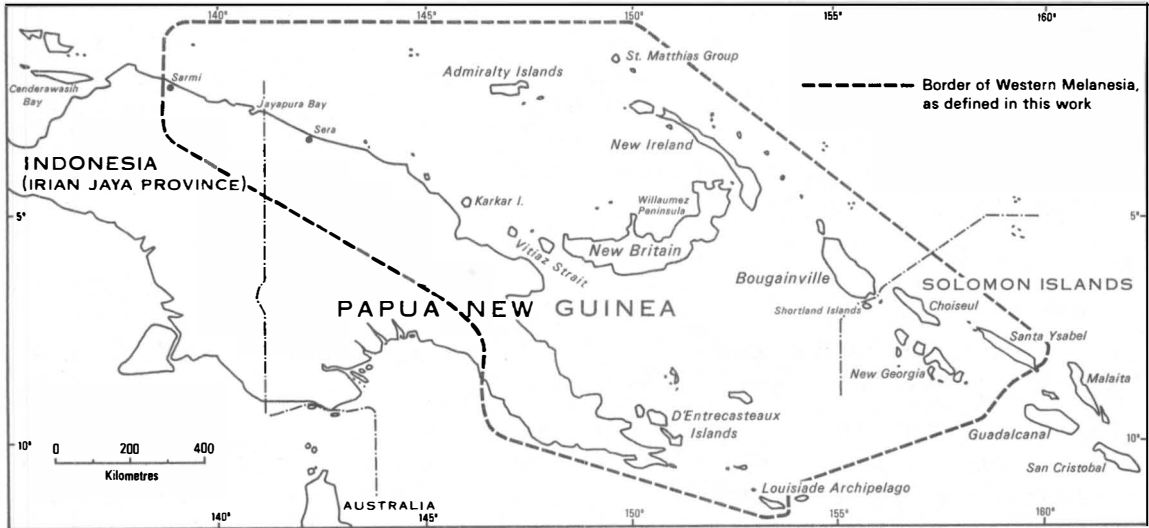
MAP 1: THE LOCATION OF WEST MELANESIAN OCEANIC LANGUAGES

The typological heterogeneity of the WM Oceanic languages has often been commented on, and the degree to which this is attributable to contact with non-AN speakers is still a matter of mild controversy. As I outline in Chapter 2, there are two points of view regarding the subgrouping of WM Oceanic languages. The first is that POC diffused into an extensive dialect chain so quickly that WM Oceanic languages are in essence not amenable to subgrouping at any level above relatively small, localised groups. The second is that the Oceanic 'family tree' will prove to be more stratified than hitherto recognised, because the data which would permit the recognition of larger groups have simply not been available.

It is clear that these questions raise some theoretical and methodological issues. To seek answers, it is necessary to adopt a model which will allow, among other possibilities, for diversification through contact, through dialect differentiation, and/or as a result of geographical separation.

Although this work is not primarily descriptive, the methods adopted are data-oriented, and so the next section deals with data-related matters. Because of the questions I have just referred to, considerable space is devoted in the succeeding sections of this chapter to the theoretical assumptions with which I have endeavoured to work and the methodological approaches which have arisen from them.

## 1.2  SOURCES OF DATA

The data corpus for this work was collected in the period 1976 to 1982 during residence in Papua New Guinea. Appendix A lists a total of 218 Oceanic languages in WM, (201 of them in Papua New Guinea, 17 in the western Solomon Islands), for which data were used in the research reported here.

The listing of the 201 languages located in PNG is as complete as I can make it, but it is not a checklist or the outcome of a survey. For surveys the reader is referred to Dutton (1973), Laycock (1973), Z'graggen (1975), Johnston (1980) and McElhanon (1984). The 17 languages of the

western Solomon Islands are a sample chosen from Tryon and Hackman (1983). In comparison with other scholars, my enumeration is fairly conservative: on a number of occasions I treat as dialects of the same language what others have treated as two or more languages. The rule of thumb I have used to distinguish between dialect and language is a crude one: if the intra-clausal morphosyntax of two communalects is the same or differs only in small details, I have counted them as dialects of the same language.

Appendix A records all the languages for which data were available to me, regardless of whether I consulted informants or not. Of the 201 PNG languages listed, six are extinct or nearly so, and data were collected from informants for 149 (and also for five languages of the western Solomon Islands and two from the South-East Solomonic group). A total of 319 informants were consulted, and for each language a minimum of 400 to 500 lexical items and sufficient sentence material (200 sentences or more, and various paradigms) for a short grammar sketch were collected. The grammatical material is largely concerned with intra-clausal morphosyntax and a few basic inter-clausal relationships (relativisation, co-ordination, reported speech, and conditions).

The languages for which informants were consulted are evenly spread across PNG Oceanic language groups. For almost every language in Appendix A where an informant was not consulted, other sources of data were available. These are listed in Appendix B. They vary enormously in quality, but in all cases, they were adequate to determine the relationship of the language to those for which data had been collected from informants.

Appendix B also lists languages for which data sources were consulted in addition to informants. Coverage of WM Oceanic languages by published sources is very patchy. In some areas, for example the south coast of New Britain, there was very little previous material and I have relied almost entirely on informant-based material. In others, a mission lingua franca (e.g. Yabem, Gedaged, Tolai, Motu) has received considerable attention, and its neighbours almost none. Except in cases were the source is a scholarly grammar or dictionary based on thorough fieldwork, I have relied primarily on my own field notes; this is especially true in the area of morphosyntax.

## 1.3 MATTERS OF PRESENTATION

### 1.3.1 PRESENTING DATA

#### 1.3.1.1 SYMBOLS

Although a number of the languages cited in this work have accepted orthographies, I have chosen to ignore these and to write all data in one orthography for ease of comparison. This means, for example, that the *j* of the German-based orthographies of Yabem and Gedaged becomes *y*, Yabem *c* becomes *ʔ*, Gedaged *z* becomes *ɬ*, and so on; the *ng* of English-based orthographies becomes *ŋ*. Unless otherwise indicated, the following symbols have their expected phonetic values: ð, *f*, ɣ, *h*, *k*, *l*, *m*, *n*, *ŋ*, *ñ*, *p*, *r*, *s*, *t*, *w*, *x*, *z*, *ʔ*, *i*, *e*, *ɛ*, *ə*, *a*, *æ*, *o*, *ɔ*, *ʌ*, *u*. A *v* usually denotes a voiced bilabial (rather than labio-dental) fricative. The voiced stops *b*, *d*, *g* are prenasalised in some languages, but prenasalisation is not written unless it is phonemically distinctive.

Other orthographic symbols (with values in IPA) are:

| β | *[ɓ]* | prenasalised voiced bilabial trill |
| *c* | *[ts], [tʃ]* | voiceless alveolar or palatal affricate |

| *j* | *[dz], [dʒ]* | voiced alveolar or palatal affricate |
| *q* | *[q]* | backed velar voiceless stop |
| *y* | *[j]* | palatal glide |
| *ḷ* | *[ḷ]* | voiceless alveolar lateral |
| *w̥* | *[w̥]* | voiceless labial glide |
| *ɨ* | *[ɨ]* | high central vowel |

The digraph *dr* is used (as in Fijian) for the prenasalised voiced alveolar trill. Digraphs are also used for the velarised and labiovelar consonants *pw, bw, vw, mw, kw, gw, xw, ŋw* and the aspirated consonants of Santa Ysabel *ph, mh, th, nh, lh, rh, ñh, kh, ŋh*.

Diacritics are used only for rare phonemes. Where a contrast between two rhotic consonants is needed, the flap is written as *r*, the trill as *r̃*.

Where a palatal lateral contrasts with an alveolar lateral, the palatal lateral is written *lʸ*.

Where there is a contrast between two sets of velars, backed velars (other than the voiceless stop *q*) are written with a macron: *ḡ, ŋ̄, ȳ*.

On occasions where a contrast requires it, an underscore is used to indicate a mid-high vowel: *i̲, u̲,* each lower than and contrasting with its high counterpart without an underscore.

Front rounded vowels are symbolised as *ö* and *ü*.

The contrast between high and low tone which occurs in certain Huon Gulf languages is indicated by leaving high tone unmarked and using a grave accent for low tone: *à*.

Symbols for reconstructed phonemes are chosen following the conventions above, with two exceptions retained from the tradition of Oceanic reconstruction: *q* symbolises what was probably a glottal stop (not a backed velar), and *ʀ* symbolises a rhotic consonant, discussed in section 3.3.

## 1.3.1.2 COMPARATIVE DATA

In the presentation of comparative data, elements not relevant to the comparison are bracketed,[5] reduplicated elements are separated by a hyphen, and a hyphen at the beginning or end of a morpheme indicates a bond with another morpheme. For example:

Gedaged *fau(n)* 'new'

where (*n*) is a fossilised suffix,

Manam *wau-wau* 'new'

Tawala *wou-* 'new'

where the adjective requires a person suffix, such as *-na* third person singular or *-hi* third person plural.

Glosses are given according to the conventions described by Geraghty (1983a:8-11), although my abbreviations differ from his. Briefly, a noun modifying a gloss is enclosed in brackets. If it refers to a subject or possessor, it precedes the gloss; if to an object, it follows the gloss. A plus sign after the noun indicates that it is a member of a set (e.g. the gloss '(basket +) old' indicates that a set of

items of which 'basket' is a member, probably inanimates, may function as subject of the stative verb glossed as 'old'). Abbreviations used in glosses are:

| | |
|---|---|
| s.o. | someone |
| s.t. | something |
| w | with |
| k | kind of |

In glossing a pronoun I use a capital letter indicating its class, followed by a colon and the pronoun's person and number. Thus P:1IP means first person plural inclusive possessive pronominal suffix. Abbreviations used in glossing pronouns are:

| | |
|---|---|
| D: | disjunctive |
| SD: | shortened form of disjunctive |
| S: | subject prefix or proclitic |
| O: | object suffix or enclitic |
| P: | possessive suffix |
| PP: | portmanteau possessive |
| 1S, 2S, 3S | first, second, third person singular |
| 1IP, 1EP | first person inclusive, exclusive plural |
| 2P, 3P | second, third person plural |

D, T, Q, replace P in dual, trial and quadral/paucal forms respectively.

Where cognate sets follow a proto form, the gloss of the proto form applies to the members of the cognate set unless otherwise indicated. Thus in what follows, the POC gloss '(canoe) paddle' applies to each of the items which follow it except those followed by a different gloss (in this case '[s.o.] paddle [canoe]'):

(1.1)     POC *pose '(canoe) paddle' > Lusi pore, Lusi -uore '(s.o.) paddle (canoe)', Bariai pode, Tuam poz, Malai pos, Gitua poze, Gitua woze '(s.o.) paddle (canoe)'

The bracketing conventions used in proto forms are:

(x)       it cannot be determined whether x was present; e.g. *manu(y) 'bird' means that the proto form was either *manu or *manuy.

(x,y)     either x or y was present; e.g. *(p,v)ale 'house' means that the proto form was one of either *pale or *vale.

[x]       the item is reconstructible in two forms, with and without x; e.g. [ma]maca 'dry' means that both *mamaca and *maca are reconstructible.

[x,y]     the item is reconstructible in two forms, one with x, the other with y; e.g. *[ka,ma]raŋo 'dry' means that both *karaŋo and *maraŋo are reconstructible.

The first of these conventions is sometimes used in cases where comparative evidence and canonic forms imply the presence of a reconstructible segment, but the available data do not include a diagnostic reflex. For example, Proto Admiralty *um(a) 'house' is inferred from POC *ʀumaq and from the fact that, after loss of POC final *-q, the resulting word-final *-a is normally retained in Proto Admiralty, although the data for this etymon include no reflex from a language which would normally retain it.

Because a large number of languages is cited in this work, full language names are normally used, with only obvious abbreviations (e.g. 'N.' for 'North'). Where it is necessary to specify the dialect from which an item is drawn, the dialect name is shown in brackets after the language name. Thus

Keapara (Hula) *kera* 'nape'

indicates that *kera* is from the Hula dialect of Keapara.

The language names adopted in this work are usually those found in Wurm and Hattori (1981). Although these names are not always the locally most acceptable, it is more practical to retain the set of names used in a single reference work than to introduce confusing alternants. In a few cases where a language has become known in the literature by a name or a spelling other than that used by Wurm and Hattori the better known name or spelling is used, with a cross-reference to Wurm and Hattori's name in the appendices and when the language is first mentioned in Chapters 5 to 9. Only in south New Britain, where the work of Johnston and his associates (Johnston ed. (1980)) has substantially improved on Wurm and Hattori's map, have I departed significantly from the latter's nomenclature.

Notes on unexpected reflexes are sometimes included in examples. In

Bugotu *poji* 'squeeze' *[-j-* for exp *\*\*-d-]*

'exp' means 'expected', and the double asterisk marks *\*\*-d-* as a non-occurring segment (whereas *\*-d-* would be a reconstructed segment).

### 1.3.2 SOUND CORRESPONDENCE TABLES

Tables of consonant correspondences are provided for each cluster of languages discussed. Where vowels differ from those reconstructible for POC, the changes often entail conditioning which is not amenable to presentation in a correspondence table. On the rare occasions that these changes are relevant to the discussion, they are described in the text.

I arrived at the consonant correspondences shown in the tables by creating for each putative group of languages a computer file containing all the cognate sets I could recognise, regardless of whether or not POC or PAN reconstructions were known to me for these items. The computer file then served as input to a program which I had written for the specific purpose of generating listings of all cases of consonant (or vowel) correspondences found in that file. The generated listings and the data from which they were derived were then inspected and the consonant correspondence tables inferred from these. A result of this procedure is that, since the correspondences were inferred from the whole data corpus, rather than searching for reflexes of known Oceanic etyma, the tabulated correspondences themselves are often well supported, but in the case of many correspondences, some of the cognate sets on which the correspondence is based do not reflect a known POC or PAN etymon. In areas where the rate of lexical change has evidently been high (e.g. south-west New Britain), this means that we have firmly based sound correspondences but only a limited number (sometimes as few as two or three) of cognate sets reflecting etyma known elsewhere. This sometimes means that examples given in the text are more sparse than I would like, although the correspondence set on which they are based is well supported by the data corpus.

The correspondence tables are governed by the conventions which usually apply to such tables, together with a few more, as follows.

Word-initial, -medial, and -final environments (as they occur in the present-day language) are indicated by hyphens, e.g. *v-; -w-; -p*. Where the reflex is the same in all known environments, no hyphens occur, e.g. *p*. Where one reflex is shown without hyphens, accompanied by a reflex with a hyphen, this means that the former occurs in all known environments except that indicated by the hyphen. For example, *v; -p* means that the proto phoneme is reflected as *v* word-intially and -medially, but as *p* word-finally.

Other environments are indicated in the usual way, e.g. *w/_o*. A formulation such as *s/i*, which contains no 'slot' before or after the environment, means '*s* before or after *i*'.

Occasionally the environment is an unstressed (as opposed to a stressed) syllable. This is indicated by an upper-case superscript U (= 'Unstressed'), e.g. *b/$^U$*.

It is sometimes necessary to refer to an environment in the proto language (rather than the present-day language), and this is indicated by an asterisk. For example, *k/_*#* means that the reflex of the proto phoneme is *k* where the proto phoneme was word-final in the proto language (but is not necessarily word-final in the present-day language because, for example, of the addition of an echo vowel).

Where there is more than one reflex of a proto phoneme and these alternate in the same environments, these reflexes are separated by a comma, e.g. *p-, f-*. A comma is also used to separate more than one environment of one reflex, e.g. *w/_o, u*.

In a few cases, a reflex is considered to be the result of extensive borrowing from a related language, i.e. it is, in the terminology of Biggs (1965), an indirectly inherited reflex. Such reflexes are shown in brackets after the directly inherited reflex, e.g. *r (s)*.

It sometimes happens, particularly with reflexes of the velarised POC phonemes *\*pw, \*bw, \*mw*, and *\*w*, that the reflex is a plain (not velarised) consonant accompanied by rounding of the preceding or following vowel. This rounding is symbolised by a superscript *o*. For example, *m°* symbolises a reflex *m*, followed by a rounded vowel, as when POC *\*mwata* 'snake' is reflected as *mota*.

Similarly, a superscript *i* indicates raising of the following vowel.

There are a number of cases where it is necessary to show two distinct correspondence sets reflecting one proto phoneme, because a conditioned split has occurred. In such cases the two sets are labelled to indicate the conditioning (e.g. fortis, lenis) and this is explained as necessary in the text.

In cases where there is no known example reflecting a correspondence, the lacuna is indicated by a full-stop. A row of three full-stops (...) means 'not applicable': that is, no member of this correspondence set occurs in this language, and, for reasons given in the text, none is expected.

## 1.4 SOME THEORETICAL ASSUMPTIONS

The interpretation of data in this work is based on certain theoretical assumptions about ways in which the Oceanic languages of Melanesia have changed and diversified. Essentially, I have made three assumptions.

Firstly, languages have often diversified by *dialect differentiation*, which has occurred as a language has spread geographically so as to be spoken in more than one settlement. This has often

been accelerated by the tendency of Melanesians to identify themselves with their local community rather than with all other speakers of the same language (Grace 1975), so that certain peculiarities of their communalect tend to become an emblem of that identification. The linguistic evidence that a group of communalects has arisen from a proto language by dialect differentiation consists firstly of innovations shared by all members of the group (and probably inherited from the proto language) and secondly of innovations which link communalects in a chain or network. Within a chain, for example, communalect A shares one or two innovations with B; B shares one or two (other) innovations with C (but not with A); C shares innovations with D; and so on. This occurs because an innovation may arise in any communalect of the chain and spread to its neighbours, so that the geographical domains of various innovations may overlap. I use the term *linkage* to refer to a group of communalects which have arisen by dialect differentiation, and make an informal difference between two varieties of linkage: a *chain*, where communalects are typically spread along a coastline, each related most closely to its neighbour on either side, and a *network*, where communalects are scattered over a land area or an archipelago, typically having neighbours on more than two sides, and often sharing different innovations with several of these.

My second assumption is that there have been other cases where diversification has occurred by *separation* rather than by dialect differentiation:[6] for geographical or social reasons, contact between two or more communities speaking the same communalect has been severed or rapidly reduced. There are again innovations shared by all members of the group and probably directly inherited, but here there are no chaining innovations. Each of the member communalects may have made innovations not shared with the others, and where these communalects have themselves diversified (by dialect differentiation or separation), the resulting group of communalects shares a set of innovations which marks it off from its relatives. I use the term *family* to refer to a group of communalects which have diversified from a single language by separation, rather than by dialect differentiation.

The distinction between a linkage and a family has implications for the reconstruction of proto languages, a task which is vital to the elucidation of genetic relationships among languages. (cf. section 1.6.2). Whilst a proto language ancestral to a family has a fairly clear status (it is the parent communalect which existed before separation), the status of a proto language ancestral to a linkage is potentially ambiguous. Is it the parent communalect prior to any dialect differentiation, or is it the language at some time after differentiation but before its component communalects become mutually unintelligible?

If it is the former, then there is no way of knowing whether an innovation shared by all member languages of the linkage was present in the proto language or has arisen since differentiation and subsequently spread through the linkage. If, on the other hand, 'proto language' is used to refer to the language *after* differentiation, then two difficulties confront us. Firstly, since communalects become mutually unintelligible gradually, and not at some determinate point in time, there is no criterion by which to decide which stage of development the term 'proto language' should be applied to. Secondly, if 'proto language' refers to a set of already differentiated communalects, then a unitary proto language cannot sensibly be reconstructed.

In this work, 'proto language' is generally used to refer to a reconstructed communalect which is for practical purposes treated as unitary, whilst terms like 'ancestral dialect network' and 'ancestral chain of communalects' are used to talk about the early stages of a linkage. A proto language is usually reconstructed only where its descendant languages all share a number of innovations: it is more likely that a collection of shared innovations reflects inheritance from a unitary proto language

then that these innovations have spread through a network after differentiation. There is one significant exception in this work, namely Proto New Ireland, the status of which is discussed in sections 8.3.1 and 8.5.

The last of the three assumptions to be presented in this section is that innovations (ranging from lexical borrowing to the adoption of syntactic rules) may pass from one communalect to its neighbour even in cases where the two communalects are different, and sometimes unrelated, languages. This allows us, where communalects *are* related, to account for changes of subgroup membership over time like that proposed by Geraghty (1983a:381-383), where, after Proto Polynesian had separated from it, the Proto Tokalau Fijian chain became more strongly linked with the rest of the Fijian chain by fresh innovations which spread into Proto Tokalau Fijian. This assumption also allows us to account for Maisin (described by Strong 1911, Ray 1911, Capell 1976b and Ross 1984), an Oceanic language of the Papuan Tip cluster (Chapter 6), which has undergone so much innovation induced by contact with one or more non-Austronesian neighbours that its genetic membership remained a matter for debate until Lynch (1977a) showed that it is historically an Oceanic Austronesian language.

Languages which, like Maisin, have undergone considerable innovation through contact with genetically unrelated neighbours are fairly common in Melanesia (see the lists in Lynch 1981 and Grace 1985). Such innovation arises as a result of bilingualism (Laycock 1979:94): because, as mentioned above, language diversification is maximised by the sense of belonging to the village rather than the language group, communication with neighbouring communities requires varying degrees of bilingualism, so that villagers may well come to regard their neighbours' language as a part of 'the pool of linguistic resources accessible to the particular village' (Grace 1981:264). One outcome of this situation is that villagers retain their ancestral communalect as an emblem of identity but come to be more 'at home' in the language of their neighbours, at which stage features of the latter pass as innovations into the ancestral communalect (Ross 1985) and it becomes 'mixed'. Note that this 'mixing' is *not* the same phenomenon as pidginisation, although it has been described as such by several scholars (most recently by Capell 1975 and Thurston 1982): pidginisation requires contact between unstable jargons, whereas 'mixing' requires bilingualism in two stable languages (Whinnom 1971:104-108; Mühlhäusler 1974:16-17).

## 1.5 GENETIC TREES

The assumptions outlined above are a rather eclectic mixture of schools of thought which have their origins a century ago in Schleicher's 'family tree' model, Schmidt's 'wave' model, and Schuchardt's 'language mixing' model. The eclecticism is justified by the fact that each offers useful insights into the ways in which the Oceanic languages of Melanesia have diversified. However, only the family tree model has a ready means of formalising its findings in a diagram, and I have endeavoured to extend the conventions of the genetic tree to capture something of the insights provided by the other two models.

The traditional family tree diagram does not distinguish between separation and dialect differentiation (and perhaps implies that diversification is always by separation). The genetic trees in this work show *separation* as a branching node:

Proto X

／＼

A          B
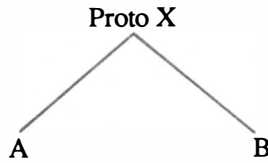
i.e. communalects A and B are descended from Proto X by separation.

*Dialect differentiation* is shown as a double horizontal line:
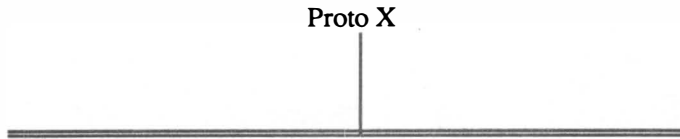
Proto X

i.e. Proto X differentiated into the dialect linkage represented by the double line. Where the linkage is labelled, the label is italicised.

Where the communalects of a linkage develop into discrete languages, this is shown as follows:

A          B          C
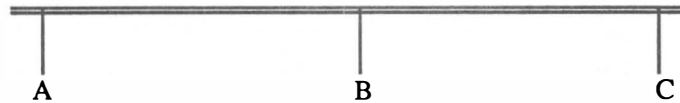
Cases also occur where a separation occurs within a dialect linkage, so that it splits into two linkages:

Conversely, as in the Tokalau Fijian case, two related linkages may become one:

I have not used nodes or other devices to show the relationships within low-order groups of present-day languages, as this work is not concerned with these relationships: the members of a linkage or family are simply listed one beneath the other. For example:

Proto Magori

| Lala | Magori |
| Doura | Yoba |
| Kuni | Bina |

Where I can pinpoint a source of innovations which lies outside the immediate linkage or family to which the innovating language belongs, this is shown by an arrow. Thus if Z is the source of innovations in B, this appears as:

```
                        Proto X
                           |
                           |
                           A
           Z ----->        B
                           C
```
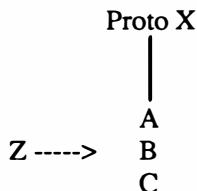
Cases of this kind occur in the genetic trees in Chapter 6.


## 1.6 METHODOLOGICAL CONSIDERATIONS

### 1.6.1 LEXICOSTATISTICS VS THE COMPARATIVE METHOD

The assumptions made in section 1.4 about language diversification in Melanesia have a direct bearing on the choice of methods used in the interpretation of raw data. Basically, there are two methodological procedures open to us. The first is the lexicostatistical method, and the second the 'classical' approaches of comparative linguistics, embracing both the family tree and wave models.

The majority of attempts to achieve genetic classifications of WM Oceanic languages have depended on applications of lexicostatistics – understandably so, since the multiplicity of languages has required a method giving a quick classification, and the lexicostatistical approach requires far less data and less analysis than the comparative method. There are published lexicostatistical surveys which between them cover most of the Oceanic-speaking areas of WM.[7] However, they suffer from two difficulties, one practical and the other theoretical.

The practical difficulty is that different surveys have used different word lists, so that surveys of neighbouring areas can be related to each other only in an approximate manner. The theoretical problem arises from the assumption that innovations may pass from one communalect to its neighbour, so that items of vocabulary may pass between two Oceanic languages which are not necessarily each other's closest relatives, and thereby distort a lexicostatistical classification. Weinreich (1963:2) observes that speakers who are bilingual in related languages may employ 'automatic conversion formulae'. These embody the sound correspondences between the two languages, such that speakers replace the phonemes of a lexical item in one language with the corresponding phonemes of the other when they transfer it between languages. As a result, borrowings become undetectable and the *kind* of genetic inheritance (i.e. by direct inheritance, diffusion through a linkage, or borrowing from a more distant relative) which cognate percentages reflect is therefore an unknown.

That borrowings of this kind do occur can be inferred where the results of applying the lexicostatistical and comparative methods are in conflict: language A has its highest percentage of shared cognates with language B, and yet the comparative method shows that languages A and C share a number of innovations which language B does not share.

Circumstances of this kind are illustrated by two cases. In the first, Tubetube (Chapter 6), spoken on the Engineer Islands of the Milne Bay Province is included by Lithgow (1976) in a group with the languages of Normanby Island to its north, because its highest percentage of shared cognates is apparently 49 per cent with Duau of Normanby. In the terminology of this work, it would be a member of the Dobu-Duau network. In grammar, however, it differs hardly at all from Sariba of the Suauic network (and only little from other members of that network), but differs considerably from the Dobu-Duau languages. Genetically, it is demonstrably a member of the Suauic network (Lithgow

gives no cognate percentage for Tubetube and another Suauic language), not the Dobu-Duau network, but has borrowed lexicon from the latter.[8]

The second example is from New Ireland (Chapter 8), where Lihir shares its highest percentage of cognates, 58 per cent, with Patpatar. Lihir is accordingly included by Beaumont (1972) in his 'Patpatar-Tolai' group. It is clear, however, on both phonological and morphological grounds that the nearest relatives of Lihir are nearby Tabar and Notsi, but these are grouped by Beaumont with Nalik and other languages in his 'North New Ireland' group, as Tabar shares 48 per cent (Notsi 45 per cent) cognates with Nalik (but Tabar shares 50 per cent with Lihir!). This subgrouping too is contradicted by the comparative evidence, which indicates that Notsi, Tabar and Lihir form a closely knit subgroup, defined by phonological and morphological innovations, only loosely related to the group which includes Patpatar, and only rather more distantly related to the group which includes Nalik. The lexicostatistics-based subgroup boundary thus cuts through a closely knit subgroup, allocating its members to two quite different larger groups.

The comparative method entails the identification of shared innovations and their interpretation as evidence of linkage and/or family membership, as outlined in section 1.4. Like the lexicostatistical method, it is also subject to the difficulty that innovations may be borrowed[9] between neighbouring languages which are not necessarily each other's closest relatives. However, there is some agreement among historical linguists that linguistic units can be arranged in a rough hierarchy ranging from the least borrowable to the most borrowable, approximately as follows:

a) phonemes[10]

b) bound morphemes

c) non-bound functors

d) syntax of non-bound units and syntactic typology

e) lexical items belonging to closed sets

f) lexical items belonging to open sets

Note that the material of lexicostatistics occupies level (f), the level of greatest borrowability, whilst the effective application of the comparative method depends on shared innovations at lower levels in the hierarchy, i.e. innovations which are more likely to be jointly inherited than borrowed from language to language.

There are obviously relationships between different units in the hierarchy above. Thus the extensive borrowing of lexical items from one language to another *may* result in the transfer of phonemes from one language to the other if automatic conversion formulae do not operate.[11] Catford (1974) documents such a case, and within the Oceanic languages Biggs (1965) has shown how massive borrowing of lexis from a Polynesian source into the non-Polynesian Oceanic language of Rotuma resulted in two sets of reflexes of the phonemes of Proto Oceanic in Rotuman. However, Biggs' analysis of reflexes enables him to identify the borrowed set, leaving the way clear for the further application of the comparative method to Rotuman by Pawley (1979) and the elucidation of its genetic relationship. Similar, but less extreme, cases of double correspondence sets are found in the Papuan Tip cluster (Chapter 6). However, it is in each case possible to separate borrowed reflexes of proto phonemes from directly inherited reflexes, and to interpret both in reconstructing the language's history.

We might expect that a similar relationship would exist between the borrowing of syntactic rules and the transfer of bound and free functors from language to language. However, although the borrowing of syntactic rules from language to language can occur on a scale sufficient to change a language's whole syntactic typology,[12] in WM Oceanic cases where this has occurred there has not been a detectable borrowing of functors. Thus the languages of the Bel family in the Madang Province (Chapter 5) have moved from an earlier SVO typology to quite a rigid SOV typology borrowed from neighbouring non-Austronesian languages, to the extent that some of them have borrowed a contrast between sentence-medial and sentence-final enclitics to the verb phrase (a contrast typical of languages of the Trans New Guinea phylum). But these enclitics are derived from native material, namely former conjunctions (Ross 1987). Similarly the postpositions of these languages (which have replaced earlier Oceanic prepositions) are typologically non-Austronesian, but derived, at least in some cases, from Oceanic inalienable nouns of location.

Since the comparative method allows an estimate of where borrowings are likely to occur and permits us to identify at least some of these, it provides a means of pushing our knowledge of genetic relationships beyond what has been indicated by lexicostatistical surveys, and is accordingly the method I have adopted here. Because of the disadvantages of applying the lexicostatistical method in the sociolinguistic situation of WM Oceanic and the likelihood that it would tell us little that it has not already told us, I have not employed lexicostatistics in this work.

Within the framework of the comparative method, I have made only limited use of lexical innovations (i.e. level (f) above). Lexical innovations are of two kinds: cases where a new item has replaced an old one, and cases where an unpredicted phonological change has taken place in a single item. A case of replacement is subject to the danger that, with our limited knowledge of WM Oceanic lexicons, a cognate of the replacement may later be found in a language outside the group where we believed the replacement was uniquely shared, thereby nullifying the innovation. For this reason I have generally ignored cases of apparent shared replacement, although they appear to be frequent in WM Oceanic languages. The second type of lexical innovation, an unpredicted phonological change in a single item, is potentially of considerable value (Greenberg 1957:51), provided that we also find ample cognates where the change has *not* occurred and thereby reduce the likelihood of future refutation. However, such innovations are by definition rare. They are also subject to borrowing in the Melanesian situation, and I have therefore used them only as support for innovations less liable to borrowing.

The major disadvantage of the comparative method is that it is cumbersome: it requires the tabulation and analysis of large quantities of data to arrive at the sound correspondences and morphosyntactic correspondences from which shared innovations are identified. This problem was partly overcome here by the use of a mainframe computer to assist in the analysis of sound correspondences.[13]

### 1.6.2 INFERENCES BASED ON DIACHRONIC THEORY

The identification of innovations which are shared by a given set of languages presupposes our ability to reconstruct the proto language from which those languages are descended. However, this entails a certain risk of circularity. If a set of related languages consists of two subsets, A and B, and the languages of subset A share a set of features AA, the languages of subset B a complementary set of features BB, we are confronted with the question of whether the proto language X, ancestral to A and B, had the features AA or the features BB. If it had AA, then BB are innovations, and the

languages of subset B are candidates for genetic subgrouping (that is, are descendants of a proto language descended by separation from proto language X), but the languages of subset A, reflecting only shared retentions, are not; if the proto language had the features BB, then the converse is true.

There are essentially two ways in which this 'chicken and egg' situation can be avoided. The first I have discussed elsewhere (Ross 1982a): it is that we may seek evidence as to which set of features was present in proto language X by examining data from languages which we are confident are not descended from X but from one or more of its sister-languages (that is, languages descended from the same higher-order proto language as X). This method is applied in the reconstruction of Proto Oceanic (Chapter 3), where evidence from the South Halmahera and West New Guinea groups of languages is used because these languages are held to be descended from Proto South Halmahera/West New Guinea, a sister-language of Proto Oceanic. The two sister-languages are putative descendants of Proto Eastern Malayo-Polynesian.

The other means which assists in determining which of two sets of complementary features should be reconstructed for the proto language is to appeal to theories of diachronic change. For example, if the languages of subset A have the phonemes $b$, $d$ and $g$, and these correspond to the phonemes $v$, $r$ and $\gamma$ in the languages of subset B, most practitioners of historical linguistics would agree that the proto language X more probably had the phonemes $b$, $d$, and $g$, since the spirantisation of voiced stops is far more common cross-linguistically than the stopping of voiced spirants (two such subsets occur in the languages of the Ngero group: see Chapter 5). Unfortunately, the 'theory' of diachronic change is not really a theory, as it consists of cross-linguistic generalisations like this one, generalisations whose causation is incompletely understood and which therefore are not consistently interrelated. However, I have used two kinds of pre-theoretical assumption about the nature of diachronic change in order to make reconstructive inferences, and they are outlined below.

The first of these is related to the earlier assumption that innovations may pass from one language to another even when these are not related, resulting in language 'mixing' (section 1.4). If we can recognise a 'mixed' language, this implies that we can perceive a difference between natural changes (which could arise without the borrowing of an innovation from another language) and unnatural changes (which could only occur in the system of the borrower language by introduction from without).[14] Our hierarchy of borrowability (section 1.6) implies that unnatural changes, because they entail borrowing, will occur nearer the more borrowable end of the hierarchy. Since lexical borrowings are not system-changing, we may exclude these from consideration, and expect that syntactic borrowings are the most likely area of unnatural change. Because such changes are unnatural, they are liable to trigger a succession of further changes in the system of the language (Mühlhäusler 1985).

The most salient area of syntactic change is in the order of clause constituents. Since change normally arises via synchronic variation, generalisations about variation in the order of clause constituents should provide a basis for categorising changes in clause constituents as more or less natural. Steele (1978) shows on the basis of cross-linguistic data that the following variations in constituent order occur naturally in languages (her categories of 'not uncommon', 'uncommon' and 'non-existent' variations are omitted here):

| Dominant constituent order | VOS | VSO | SOV | SVO |
|---|---|---|---|---|
| Very common variations | VSO SVO | VOS | OSV | |
| Common variations | | SVO | SVO | |

This tabulation implies the possibility of natural change from other clause constituent orders to SVO, but not vice versa, and of no natural change from any other order to SOV. When we encounter cases where the evidence indicates a change from SVO to SOV, it is a reasonable inference that the change is an unnatural one due to borrowing.[15] When, however, a change moves from SOV to SVO, there is a possibility that the change has occurred without borrowing (although borrowing cannot be excluded).

Since there is, for example, a high correlation cross-linguistically between SVO order and prepositions and between SOV order and postpositions (Greenberg 1966a: Appendix 2; Hawkins 1979) (a correlation which is also generally reflected in WM Oceanic languages), the assumption that a change in clause constituent order is liable to trigger other changes of constituent order appears reasonable.

Conversely, where we find that an unusual set of constituent orders is retained (as occurs in a number of WM Oceanic languages: see Chapter 4), we may infer that this is likely to be the result of shared innovation, since the independent development of such a set in different languages is improbable.

The second set of assumptions used in making reconstructive inferences applies to natural changes, like the spirantisation of voiced stops mentioned above. Less borrowable units, namely bound morphemes and phonemes, confront us with questions as to what the most likely kinds of natural change are, and under what circumstances less frequent kinds of natural change occur.[16]

In morphology, one reconstructive principle is 'Watkins' Law' (Arlotto 1972:154-158), according to which a verb paradigm, if it is restructured, will be restructured by analogy with its third person singular member, as this is cross-linguistically the semantically least marked member of the paradigm. Koch (1985) suggests that this 'law' can be extended to predict that it is the semantically least marked member of any paradigm which will provide a basis for the analogical restructuring of that paradigm. This 'law' accounts for the evolution of Vitiaz Strait reflexes of the POC prepositional verb *pani 'give' (section 4.5.4).

In the case of phonology, there is reasonable agreement among linguists as to which natural changes occur more commonly across languages. Although no theory to date provides the degree of explanatory power which is needed to take reconstructive inference far beyond the pre-theoretical level, I have gleaned various principles from Stampe (1969, 1979) and Foley (1977), largely on the basis of whether or not they appear to have useful application. These gleanings are as follows:

a)   Sound changes apply to cross-linguistically definable classes of sounds (e.g. the vowels, the voiced stops) in cross-linguistically definable classes of environments (Stampe, Foley).

b)   A sound change affects the members of a class successively, never simultaneously (Foley).

c)   A sound change operates successively in different environments, never simultaneously (Foley).

d)   Within each class of sounds, we are usually able to identify a weakest and a strongest member, and an approximate hierarchy from the weakest to the strongest (thus among the voiced stops, *g* is the weakest, *b* the strongest) (Foley).

e) Within a set of environments, we are able to define a weakest and a strongest member, and an approximate hierarchy from weakest to strongest (the weakest environment is word-final, the strongest, for our purposes, word-initial) (Foley).

f) Sound changes may be categorised into context-insensitive and context-sensitive changes:[17]

    i) Context-insensitive changes are not dependent on the strength or weakness of a neighbouring sound. They may be sub-categorised into weakenings and strengthenings. These are characterised by three features:

        – a weakening affects the weakest member of the relevant class of sounds first, whilst a strengthening affects the strongest member first;

        – a weakening operates first in the weakest environment to which it is applicable, whilst a strengthening operates first in the strongest;

        – a weakening simplifies the articulation of speech; a strengthening makes speech segments more perceptible (Stampe).

    ii) Context-sensitive changes *are* dependent on the strength or weakness of a neighbouring sound. They may be sub-categorised into assimilations and dissimilations. These are characterised by three features:

        – an assimilation affects the strongest member of the relevant class of sounds first, whilst a dissimilation affects the weakest member first;

        – an assimilation operates first in the weakest environment to which it is applicable, whilst a dissimilation operates first in the strongest;

        – an assimilation simplifies the articulation of speech; a dissimilation makes speech segments more perceptible.

Weakenings and assimilations appear to be more frequent than strengthenings and dissimilations in WM Oceanic languages.

As an example of these principles, we find cross-linguistically that if voiced stops are lenited (weakened) to voiced fricatives, it always the weakest member, $g$, which is lenited first, whilst if voiceless stops are spirantised (a strengthening), it is always the strongest member, $p$, which is spirantised first. It is these two diachronic generalisations which result in Gamkrelidze's (1978) demonstration that if a consonant system lacks one voiced stop, it will be $g$ that is missing (with a likelihood of its replacement by $\gamma$), and if it lacks a voiceless stop, this will be $p$ (with a possibility of its replacement by $f$).

We also find, as a generalisation valid for WM Oceanic languages, that weakenings which affect classes of sounds defined by manner of articulation affect them in the sequence:

Velar       Labial       Alveolar

Thus $k$, $p$, $t$ undergo lenition to $\gamma$, $v$, $r$ in that order.[18]

One more phonological generalisation of interest appears to be valid, and this is that changes of the kinds just outlined are more likely to occur if there are holes in the system to accommodate the sounds resulting from the change (Martinet 1955; Anderson 1973:133-4). Thus the lenition of POC *$k$ and *$p$ to $\gamma$ and $v$ in a large number of Oceanic languages, apparently independently, reflects not only the

fact that lenition is a natural change, but that the POC phoneme paradigm evidently lacked voiced fricatives entirely.

### 1.6.3 DIACHRONIC THEORY AND GEOGRAPHY

As the example in the last paragraph indicates, a consequence of applying diachronic theory to the reconstruction of the history of languages is the recognition that because certain changes are natural and there is space in the phoneme system to accommodate them, they are likely to occur independently in different languages. The higher the likelihood of a change occurring independently, the less its usefulness for subgrouping purposes.

Recall, however, our assumption (section 1.4) that the diversification of languages in Melanesia occurs both by separation and by dialect differentiation. Although we sometimes encounter a situation in which a group of languages (e.g. the Central Papuan family) is clearly set off as a group by a set of innovations, what we often find is that languages are chained by innovations into a linkage (e.g. the linkages of the Milne Bay Province). This raises a question of interpretation: if two or more neighbouring languages share an innovation which has a high likelihood of independent occurrence, and are not marked off as a family by a clear set of innovations, do we discard the innovation for interpretative purposes, or treat it as a piece of evidence for a linkage?

If the languages were not neighbours, and we had no other reason to regard them as closely related, we would discard the innovation. The question is therefore whether we take account of geography, and assume that because languages are neighbours, they are likely to be related. If we assume this, then it is sensible to assume that a shared innovation is either inherited from the period before differentiation or that it has originated in one member of the linkage and diffused to the others: i.e. it is sensible to treat it as a piece of evidence for a linkage.

This position is close to Grace's (1986) 'principle of shortest moves', which is 'that in the absence of evidence to the contrary, it is to be assumed that each new Oceanic settlement was made from the geographically closest Oceanic-speaking place then in existence.' It follows from this that 'the task of the comparative linguist will then become that of identifying cases where varieties are out of place – where the linguistic relations do not conform to their geographical location – and of providing supporting arguments'. This appears at first sight to be a reversal of the traditional allocation of burden of proof in comparative linguistics. In the family tree model, shared innovations are used to establish subgroups, and evidence is not used for any other purpose. Under Grace's proposal, it appears initially that the main use of evidence will be to demonstrate that neighbouring languages are *not* each other's closest relatives. However, Grace goes on to say that 'it is desirable to design our strategy so that the allocation of burdens of proof is symmetrical', i.e. evidence will be used in both these ways – both to confirm that neighbours belong to the same linkage or family and to show a language is 'out of place', because it belongs to another linkage or family.

Lincoln's (1977) work on the languages of the Rai Coast illustrates this position well. He shows that each language's closest neighbours in both directions along the coast are usually not its closest relatives. He achieves this by providing evidence (in this case, lexicostatistical evidence, but evidence in the form of shared innovations gives the same result for these languages: see Chapter 5) that some of the languages can be allocated to the Ngero and Korap groups, whose members are today spread apparently randomly across the Vitiaz Strait area. Thus on the one hand, subgroups are established and, on the other, the principle of shortest moves is shown not to apply in this case.

The position of symmetrical burdens of proof has an interesting effect on our use of some kinds of evidence. For example, Milke (1958) claimed to identify a large subgroup of Oceanic languages on the basis of the merger of POC *d (or *r in the orthography used here) and *R. As I show in Chapter 5, this merger is not as widespread as Milke believes. However, it occurs in a number of areas of WM Oceanic, many of which are more or less contiguous with each other, and then in a geographically quite separate area of northern Vanuatu. The principle of shortest moves is assumed to apply to the contiguous languages of WM Oceanic, and the merger of *r and *R is taken as supporting evidence for a linkage, or, given the size of the area, a chronological sequence of linkages. This holds except where stronger evidence supports a counter-claim. The same holds for the area of the merger in Vanuatu. But the principle of shortest moves clearly does *not* apply to the relationship between the two areas of *r and *R merger: since the merger, apparently of two rhotic consonants, is one which is naturally liable to occur independently, it is discarded as evidence for subgrouping northern Vanuatu with WM Oceanic (unless other evidence to support that grouping can be produced).

CHAPTER 2

WESTERN MELANESIAN OCEANIC IN OUTLINE

## 2.1 INTRODUCTION

In this chapter I shall try to perform three related tasks. The first is to show that the homeland of the POC speech community was in WM, and that a reasonable inference can be made as to roughly where it was. The second is to provide an outline of some of the unresolved questions about the nature of WM Oceanic genetic relationships. The third is to sketch the groupings into which WM Oceanic languages appear to fall – not in an attempt to summarise the findings reported in this work but rather to note some landmarks to aid the reader's orientation in the chapters which follow.

## 2.2 THE HOMELAND OF THE POC SPEECH COMMUNITY

The principle of shortest moves suggests that POC's closest non-Oceanic relatives are to be sought in the Cenderawasih Bay/Bird's Head area of Irian Jaya. Blust (1978b, 1984c) offers evidence that the AN languages of this area and of South Halmahera belong to an AN subgroup which he calls South Halmahera/West New Guinea (SHWNG), and that this subgroup of AN is indeed more closely related to the Oceanic subgroup than any other is. Together, SHWNG and Oceanic make up what he calls the Eastern Malayo-Polynesian (EMP) subgroup of AN. He has also shown that the Central Malayo-Polynesian subgroup of the Sula Archipelago, the central and southern Moluccas, and the Lesser Sunda Islands as far west as Bima combine with EMP to form a higher-order Central/Eastern Malayo-Polynesian (CEMP) subgroup (Blust 1982, 1984c). He proposes the genetic tree in Figure 1.

Under the principle of shortest moves (section 1.6.3), we would also expect the Sarmi Coast of Irian Jaya to have been the first Oceanic-speaking region settled from a non-Oceanic speaking area, and therefore to have been the homeland of POC (Grace 1986) (see Map 1). Among early Oceanic settlements, we would expect the north coast of the island of New Guinea and its offshore islands to have been colonised from west to east.

As I will endeavour to show in Chapter 5, this expectation is not fulfilled. Instead, settlement appears to have occurred from the Vitiaz Strait (between New Guinea and New Britain; see Map 1) westwards at least as far as Sera (110 km east of the Irian Jaya/PNG border). Whether the Jayapura Bay and Sarmi Coast groups of Irian Jaya represent a further extension of this settlement is unclear because of inadequate data.
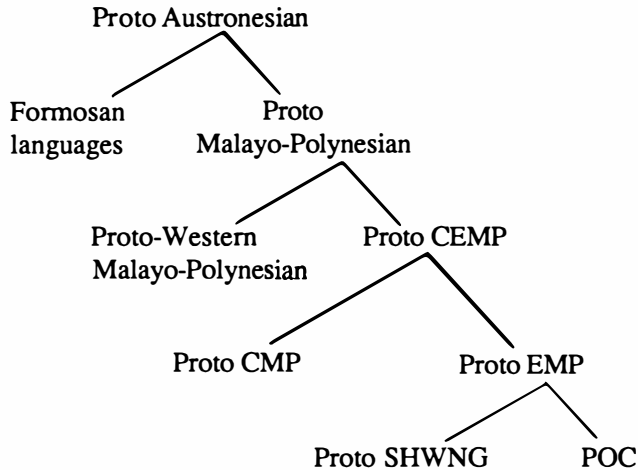
FIGURE 1: GENETIC TREE OF AUSTRONESIAN SUBGROUPS (AFTER BLUST)

This implies that the islands in and the coasts around the Vitiaz Strait are prime candidates for the homeland of POC. This candidacy receives additional support from the extreme heterogeneity of the Oceanic languages of the area. Dyen (1965:15) points out the high probability that the region around a homeland will be occupied by a larger number of descendant groups, and that the size of these groups will grow, and their density per area be thereby reduced, the further one moves away from the homeland. Within present-day canoe-travelling distance of the Siasi Islands in the Vitiaz Strait, we find the following Oceanic language groups:

a)   Ngero/Vitiaz Strait (to which the Siasi Island languages themselves belong) (Chapter 5);

b)   Huon Gulf (Chapter 5);

c)   South New Britain (Chapter 5);

d)   Bali-Vitu (Chapter 8);

e)   Willaumez (Chapter 8).

Whilst I shall suggest later that these groups have various degrees of genetic relationship with each other, these relationships would not place them together in a conventional first-order Oceanic subgroup. Furthermore, the first three groups listed are themselves internally heterogeneous.

At this point it is necessary to make a distinction between 'Pre-Proto Oceanic' (Pre-POC) and Proto Oceanic itself. Dempwolff hypothesised the existence of POC because all its putative descendants appeared to share certain innovations. It is sensible to suppose that these innovations occurred after POC separated from non-Oceanic AN languages and before its own break-up. I shall reserve the term 'Proto Oceanic' for the language which we reconstruct as the ancestor of today's Oceanic languages, that is, the stage of the language immediately before its break-up. The term 'Pre-POC' will cover the period from its separation from non-Oceanic languages until the typically Oceanic innovations were complete.

The possibility that an area in or near Vitiaz Strait is the homeland area of POC raises the question of how Pre-POC speakers could have reached the Strait from Cenderawasih Bay, the easternmost area in which non-Oceanic AN languages are spoken today. Two alternative answers are (i) that non-Oceanic languages were once spoken further east, but displaced by the westward drive of Oceanic speakers from the Vitiaz Strait; (ii) that Pre-POC speakers made their way from Cenderawasih Bay to the Vitiaz Strait by way of small settlements on the coast and offshore islands, traces of which have since been almost obliterated by subsequent population movements. I say 'almost', because a possible tiny trace of Pre-POC is found in Waskia (Ross with Paol 1978) of Karkar Island, the only non-AN language found on one of the offshore islands, and in related languages on or just inland from the mainland coast within sight of Karkar.

Whilst the Waskia lexicon includes many borrowings from Takia, the Oceanic language with which it shares Karkar Island, it also includes a number of AN items from another source. Takia, like all present-day Oceanic languages on the north coast of New Guinea, has lost PAN/POC final consonants. A few AN borrowings in Waskia, however, retain them, suggesting that the other source may have been Pre-POC:

(2.1)  PAN                    Waskia      Takia

 *beʀek* 'pig'  *buruk* *bor*
 *kapuʀ* 'lime'  *kaur* *kau*
 *niuʀ* 'coconut' *naur* *niu*

The Waskia items in (2.1) have cognates in other nearby languages of the Madang-Adelbert Range sub-phylum, some of which also retain their final consonant: Bunabun, Ukuriguma *buruk* 'pig'; Bunabun, Malas *kawur*, Bepour *afur*, Moere *fur* 'lime'; Bepour *niwor* 'coconut' (Z'graggen 1980a). We also find Waskia *madar* 'bandicoot', a reflex of PCEMP *ma(n)ser* 'marsupial rat' (Blust 1982). Takia also has the word *madar*, but as it has no cognates in nearby languages and retains PCEMP final *-r*, it appears to have been borrowed from Waskia.

Another possible relic consists of reflexes of Pre-POC *kasuadi* 'cassowary', preserved as Waskia *kausar*, Dimir *sawar*, Korak *kasu*, Pila, Saki *kasiwar*, Pay *usar*, Amele *esil*, Rempi, Yoidik *asau* (Z'graggen 1980a, 1980b). All these reflexes have in common the preservation of Pre-POC *-s-*, which has become *-y-* or *-Ø-* (cf. example 5.138) in Takia and other Oceanic languages of the area, as in Gedaged *kiwaḷ*, Matukar *iwar* 'cassowary'.

There are therefore five AN borrowings in the Waskia data which certainly did not originate in any of the north coast's present-day Oceanic languages. Each retains a feature reconstructible for Pre-POC but not for any later proto language reconstructible for any part of the north coast. Although it is not the only possibility, the hypothesis that these items reflect pre-POC is a strong one.

It would perhaps be well to add that the fragments of data which have just been discussed are the only linguistic evidence we have from WM of AN languages which pre-date the establishment of the POC speech community. Since Ray (1926) the suggestion has been abroad that the AN languages of Oceania are the outcomes of multiple incursions by AN-speakers into Melanesia. A more recent version of this theory is outlined by Capell (1976a), and it continues to be referred to by writers in other disciplines (e.g. Bellwood 1978; Serjeantson 1985:133-134). However, the AN languages spoken in Oceania today are readily explicable in terms of Dempwolff's Oceanic hypothesis (section 1.1) and indeed better explained by it than by a multiple incursion theory.

1 SARMI COAST (W.Irian)

2 JAYAPURA (W.Irian)

3

4 RAI (SIASI) (Rai Coast, Vitiaz Straits, N.W.New Britain)

5

6 LAMOGAI (New Britain)

7

8 MENGEN (New Britain)

9

10 TUMUIP (New Britain)

11

12 ADMIRALTIES & WESTERN IS.

13

14 COASTAL HUON GULF

15

KIMBE (New Britain)

ARAWE (New Britain)

WHITEMAN (New Britain)

TOLAI-NEW IRELAND

ADZERA (Morobe)

BUANG (Morobe)

SEPIK-MADANG

16 HOTE (Morobe)

17

18 NEHAN (NISSAN)

19

20 CHOISEUL

21

22 KIA (W. Isabel)

23

24 SOUTHEAST SOLOMONIC

25

26 SANTA CRUZ

27 SOUTHERN NEW HEBRIDES

28 ?

29 REMOTE OCEANIC

S.E.PAPUAN (Milne Bay, Central & Northern Provinces, possibly more than one group)

BOUGAINVILLE-BUKA (Possibly more than one group)

NEW GEORGIA

CENTRAL ISABEL

NEW CALEDONIA & LOYALTY IS. (Possibly more than one group)

?

NUCLEAR MICRONESIAN

CENTRAL PACIFIC

NORTH HEBRIDEAN (C. & N. Vanuatu)

ROTUMAN       FIJIAN       POLYNESIAN

FIGURE 2: PAWLEY AND GREEN'S (1985) SUBGROUPING OF OCEANIC LANGUAGES

2.3 QUESTIONS ABOUT THE GENESIS OF WM OCEANIC LANGUAGES

Pawley (1981) holds the view that when POC speakers left their homeland they dispersed rapidly over an area stretching from New Britain (in the middle of the WM region) to San Cristobal in the south-eastern Solomon Islands (beyond the eastern boundary of WM). He infers from the large number of apparent first-order Oceanic subgroups in the area that the proto language must have been spoken without substantial variation throughout this region, and that this chain of communalects then broke up into smaller segments which became the various readily recognisable small groups of languages in WM. His view of Oceanic subgrouping is based on Grace's (1955) listing of known Oceanic subgroups, and has appeared in several versions. The most recent (from Pawley and Green 1985:172) is replicated here as Figure 2. I have chosen this version not only because it is more recent, but also because it gives a fuller coverage of WM Oceanic languages than the diagram in Pawley (1981:279).

Lynch (1981) makes the counter-proposal that POC was spoken over a smaller area, presumably within the WM region, and that the upper echelons of the Oceanic genetic tree may well have fewer first-order subgroups and be more stratified than Pawley suggests. Among other things, the two proposals entail different views of the likely outcome of research into Oceanic subgrouping, especially in WM. By Pawley and Green's (1985) estimate, the grouping of languages in WM had in the previous decade not progressed at a rate which would suggest the likely discovery of larger subgroups in the future. By Lynch's estimate, a number of recent attempts at wider subgrouping in the region were showing considerable promise of a more stratified genetic tree. It is with these wider implications in mind that I address the question of how many (and what kind of) discrete genetic groups of Oceanic languages can be identified in WM.

Pawley and Green point out that, even if fewer and larger first-order subgroups were established, the pattern of their geographic spread would remain important: 'If there were, say, six first-order subgroups, but with widely dispersed seams, then there would still be no clearly defined centre of diversity or most probable dispersal centre' (1985:172). I have already indicated above that I believe that a dispersal centre can be established. It is nonetheless important to show how this centre functioned: the variety of languages around the Vitiaz Strait may establish a centre, but it does not refute Pawley's New-Britain-to-San-Cristobal hypothesis. This would require us to show that the eastward dispersal of Oceanic communalects occurred in a manner other than the rapid formation of a long dialect chain.

Pawley's and Lynch's proposals differ, however, in more than their predictions about the future of research into Oceanic subgrouping. Rather they are motivated by different theories of how the diversity of Oceanic, and especially WM Oceanic, languages came to be. In Pawley's view, the difference between the causes of Melanesian diversity and those of Polynesian homegeneity is largely one of time-depth, whilst for Lynch the difference is a qualitative one, in that he sees Melanesian diversity as the result of a long history of contact between Oceanic and non-AN languages, a factor absent from Polynesia. Lynch distinguishes between the 'many-languages-per-island-group' kind of diversity, which both Pawley and he agree on, and the 'many-groups-per-region' kind of diversity, which Lynch sees as explicable only by contact. Implicit in Lynch's view is the idea that larger subgroups, which one might expect to be obvious despite the greater time-depth of WM Oceanic languages, may have been rendered less obvious by the contacts of their member-languages with non-AN neighbours.

Lynch hypothesises on the basis of this theory that the languages of eastern Oceania will prove to be a lower-order subgroup of one of the first-order Oceanic subgroups in WM rather than, as is often assumed, a first-order subgroup in their own right. This question has increased in interest since Lynch's (1981) paper because of two recent contributions to Oceanic linguistics. The first is Grace's (1985) reminder that a language which *looks* different from others is not necessarily less closely related to them genetically: it may have changed faster. The second is Lynch and Tryon's (1985) paper at the same conference, which exemplifies Grace's point by proposing a grouping of all the languages of Central-Eastern Oceania (i.e. all Oceanic languages outside WM) including those which indeed look different from typical eastern Oceanic languages. Whilst the concern of this work is with the Oceanic languages of WM, the possibility of a Central-Eastern Oceanic grouping embracing all non-WM Oceanic languages increases the importance of what we may learn from WM Oceanic about the subgrouping of Oceanic as a whole.

At the risk of appearing simplistic, I shall reduce the questions raised by the discussion above to four, and attempt answers to them in the course of this work:

a) Is there a dimension to the diversity of WM Oceanic languages which is better explained as a function of contact with speakers of other languages than as a function of time alone?

b) How many discrete groupings of Oceanic languages can be identified in WM?

c) Is there a specific area in WM from which its Oceanic languages can be shown to have dispersed? And how did such dispersal occur?

d) Is there a group of languages represented in WM of which the Eastern or Central-Eastern Oceanic languages form a subgroup?

## 2.4 A FIRST IMPRESSION OF WM OCEANIC GROUPING

In deciding how to structure the presentation of this work, I encountered a logistic problem of which variants are common enough in linguistic prehistory. If I was to present an elucidation of the genetic relationships of Oceanic languages, then I would first need to reconstruct POC as a basis for determining which features of today's languages might on one hand be considered innovatory, and therefore criteria for subgrouping, and which on the other hand might be considered retentions (and perhaps evidence for exclusion from a subgroup; Grace 1985:12). However, insofar as this reconstruction differed from or added to that of other scholars, it would be based in part on evidence from the very languages that I was wanting to subgroup. Should I therefore present that evidence first, begging questions about POC and leading up to its reconstruction? Or should I present the reconstruction first, and lead up to the subgrouping? In view of the purpose of this work, the conclusions of which primarily concern subgrouping, I have chosen the latter mode of presentation. It means, however, that the reconstruction of POC in Chapters 3 and 4 entails evidence from languages which are discussed in later chapters. It is for this reason that I provide below a list of the groupings referred to in the discussion in the next two chapters. It is intended to be no more than a map and compass for the reader: it should not be interpreted as a summary of subgrouping, as this interpretation entails inferences about the nature of the groups which will in some cases be invalid.

The largest groups of languages which I recognise in Chapters 3 and 4 are *clusters*. Loosely defined, a cluster is a large group of languages which appear to have some kind of genetic links with

each other at a level lower than that of the Oceanic subgroup itself. Four clusters are recognised in WM:

a) North New Guinea cluster;

b) the Papuan Tip cluster;

c) the Meso-Melanesian cluster;

d) the Admiralties cluster.

The boundaries of the four clusters are shown in Map 2. More detailed maps appear in the four chapters describing each of the clusters, together with genetic tree diagrams which embody a rough summary of the relationships of the languages to each other.
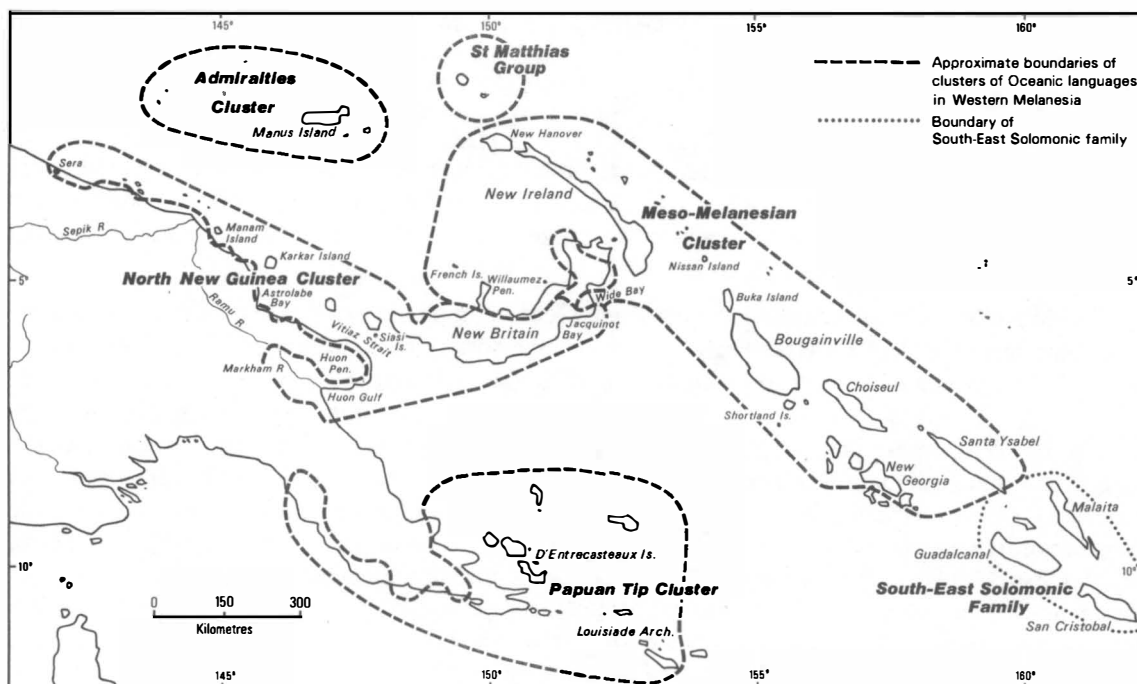


MAP 2: THE FOUR CLUSTERS OF WM OCEANIC LANGUAGES

There is one tiny group of languages, the St Matthias group, to the north of New Ireland, which is within WM but has been assigned to none of these clusters. If it is more closely related to languages in one of the four clusters, then this relationship is with the Admiralties cluster.

The North New Guinea cluster is perhaps best understood as four spokes of a (very misshapen) wheel, two of them long, two short. The axle of the wheel is in the Siasi Islands in the Vitiaz Strait, and the long spokes stretch respectively along the north coast of New Guinea and through its offshore islands as far as Sera, about one hundred kilometres east of the border with Irian Jaya, and along the south coast of New Britain as far as Jacquinot Bay and a few kilometres beyond. The two shorter spokes stretch along the north coast of New Britain as far as the base of the Willaumez Peninsula, and

in the opposite direction south-westwards around the coast of the Huon Gulf and inland up the Markham valley and over the mountains which border the south coast of the Gulf.

More clearly definable groups occur within the North New Guinea cluster as we move away from the centre of the wheel (Map 3). On the Sera spoke of the wheel the section from Sera to Manam Island (with one member west of Manam) is occupied by the Schouten chain, whilst the section from Karkar Island around the coast of Astrolabe Bay is sporadically inhabited by speakers of Bel family languages. On the spoke which ends beyond Jacquinot Bay, the area around and inland of the bay itself belongs to the languages of the Mengen family, and the rest of the south coast of New Britain west of Jacquinot Bay, together with much of its hinterland, is occupied by speakers of languages of the South-West New Britain network. Along the spoke of the wheel which stretches into the Huon Gulf, the whole area beyond the south-eastern tip of the Huon Peninsula consists of the languages of the Huon Gulf family. This leaves an area of geographical confusion in the centre of the wheel in and around the Vitiaz Strait and along the spoke which extends to the base of the Willaumez Peninsula. This area includes two sets of languages interspersed with each other: the Ngero family and the remaining languages of the area which I have labelled 'residual Vitiaz', for reasons which will emerge later.

The Papuan Tip cluster consists of all the Oceanic languages of Papua, most of which are located in the islands of the D'Entrecasteaux and Louisiade archipelagos. However, a distinct group within the cluster is formed by the Central Papuan family (recognised by Pawley 1975), on the south coast of mainland Papua New Guinea (Map 7).

The Meso-Melanesian cluster consists of the Oceanic languages of the rest of the WM region, stretching from Bali and Vitu (the French Islands) in the north-west to Maringe (eastern Santa Ysabel in the Solomon Islands) in the south-east (Map 12). It includes what Chowning (1969) labelled as the 'Kimbe languages', but these are treated here as two groups: (i) the languages of Bali and Vitu, and (ii) the Willaumez chain, occupying the Peninsula and the coast of New Britain to the east of it. The Meso-Melanesian cluster also includes the languages of New Ireland, the Gazelle Pensinsula (north-east New Britain), Buka and Bougainville, and (in the western Solomon Islands) the Shortlands, Choiseul, the New Georgia group and Ysabel, and most of the small offshore islands of all of these. It also includes the Tomoip language, south-west of Wide Bay on New Britain. In Bougainville and parts of the New Georgia group, Oceanic languages are interspersed with non-AN languages. Within this area, the most easily definable groups again lie at the extremes: the Lavongai/Nalik chain at the northern end of New Ireland and on New Hanover, and the large North-West Solomonic linkage (described by Ross 1986) occupying Nissan Island, Buka, the AN-speaking coastal areas of Bougainville, the Shortlands, Choiseul, most islands in the New Georgia group, and Santa Ysabel. For convenience's sake I have labelled the languages of New Ireland other than the Lavongai/Nalik chain as 'other New Ireland languages', and have included within this group the languages of the Gazelle Peninsula of New Britain and Tomoip. The status of this group, and of the proto language reconstructed for it, is discussed in Chapter 8.

The Admiralties cluster consists of all those languages of the Admiralty Islands and Western Isles which Blust (1978a) has placed in a first-order Oceanic subgroup. The cluster is divisible into a western and an eastern group. The western group contains the languages of the scattered small islands to the west of the larger island of Manus, and the eastern group the languages of Manus Island itself, its near offshore islands, and the islands to the south-east (Map 14).

The groups referred to in this discussion are listed below for ease of reference, but with the repeated reservation that this is not a summary of findings:

a) North New Guinea cluster

  i)    Schouten family

  ii)   Bel family

  iii)  Mengen family

  iv)   South-West New Britain network

  v)    Ngero family

  vi)   residual Vitiaz languages

  vii)  Huon Gulf family

b)  Papuan Tip cluster

  i)    Central Papuan family

  ii)   languages in south-east Papua and its offshore island groups

c) Meso-Melanesian cluster

  i)    Bali-Vitu

  ii)   Willaumez chain

  iii)  Lavongai/Nalik chain

  iv)   other New Ireland languages

  v)    North-West Solomonic

d)  Admiralties cluster

  i)    western Admiralties family

  ii)   eastern Admiralties family

e)  St Matthias group

Although all the groups of languages listed above are referred to at some point in this work, some receive far more attention than others. Since the purpose of this work is the investigation of higher-order genetic relationships among WM Oceanic languages, the attention given to a language or group of languages is determined by two factors. The first is the extent to which that language or group provides evidence concerning higher-order genetic grouping. The second is the degree of recognition and acceptance which that grouping has received among scholars. Thus relatively little space is given to the Papuan Tip cluster, as this is generally well accepted, whilst rather more is given, for example, to the languages of the Meso-Melanesian cluster, whose internal and external relationships have in part received little attention and in part been, in my view, misinterpreted.

PROTO OCEANIC PHONOLOGY

## 3.1 RECONSTRUCTIVE PRESUPPOSITIONS

Much previous reconstruction of POC has been based on the assumption that POC broke up into a large number of primary subgroups spread across Oceania, and that the probable forms of POC can best be reconstructed by using data from a large area of Oceania. In practice, this has meant the use of little WM data, as they were not available. If, however, we hypothesise that the homeland of POC was in the neighbourhood of the Vitiaz Strait, and that WM includes the greatest diversity among Oceanic languages, then data from WM language groups assume greater importance in the reconstruction of POC. At the same time, there is broad agreement among scholars that many languages of eastern Melanesia, together with those of Micronesia and Polynesia, belong to a single grouping. Pawley's (1972) Eastern Oceanic hypothesis, his Remote Oceanic hypothesis (1977), and Lynch and Tryon's (1985) Central-Eastern Oceanic hypothesis differ only with regard to the limits of this grouping, and as to whether or not certain groups of languages belong to it. These are the languages of the South-East Solomonic group, of Utupua and Vanikoro, of the South Vanuatu group, and of New Caledonia.

On the basis of these considerations, POC is better reconstructed using data from a range of heterogeneous WM groups together with data from the agreed 'core' group of languages in central/eastern Oceania and from the four groups just named. The reconstruction in this work falls short of this ideal, but only in that no account is taken of the languages of Utupua and Vanikoro and of New Caledonia.

The data base for WM groups is that on which the later chapters of this work are based, and the sound correspondences referred to here are presented in detail in those chapters. For the agreed 'core' group of central/eastern Oceanic languages, I have for convenience's sake adopted the Eastern Oceanic hypothesis, using PEO reconstructions in Geraghty's (1983a) orthography drawn mostly from his and Levy's (n.d.) work. However, bearing in mind that the languages of the south-east Solomons may not belong to the 'core' I have also made direct use of south-east Solomons data, drawn mostly from Tryon and Hackman (1983).[19] The languages of the 'core' are also represented by Geraghty's (1983a) Proto Central Pacific reconstructions and on occasion by northern Vanuatu data from Tryon (1976). Southern Vanuatu is represented by reconstructions based on Lynch's (1978c, 1982b) work.[20]

For the reasons outlined in section 1.6.2, I have also used data from the SHWNG group to corroborate some aspects of the reconstruction of POC.

The result of these procedures is a reconstruction of POC which is not radically different from previous reconstructions, but is, I believe, more solidly founded and varies from them in features which are of significance when we seek to understand the prehistory of WM Oceanic.

## 3.2 PAN AND POC

The proto phoneme paradigms reconstructed by Dempwolff (1934-38) for PAN and POC have both undergone some modifications since their publication, and in their presently accepted forms and orthographies correspond to one another as shown in Table 1. The bracketed nasals in the table reflect oral/nasal grade 'cross-over', to which we return presently: 'cross-over' refers to the fact that we cannot predict from a PAN etymon whether its Oceanic reflexes will reflect the relevant consonants in their 'nasal grade' (that is, preceded by a homorganic nasal) or their 'oral grade' (without a nasal).

### TABLE 1: POC AND PAN PROTO PHONEMES

| POC | PAN | | | | |
|---|---|---|---|---|---|
| *(m)p, ŋp* | *(m)p* | *(m)b* | | | |
| *(n)t* | *C* | *(n)t* | *T* | | |
| *(n)d* | *(n)d* | *(n)D* | *r* | | |
| *l* | *l* | | | | |
| *(n)s* | *(n)s* | *(n)c* | *(n)Z* | *(n)Z* | *nj* |
| *j* | *j* | | | | |
| *(ŋ)k* | *(ŋ)k* | *(ŋ)g* | | | |
| *m, ŋm* | *m* | | | | |
| *n* | *n* | | | | |
| *ñ* | *ñ* | | | | |
| *ŋ* | *ŋ* | | | | |
| *w* | *w* | | | | |
| *q* | *q* | | | | |
| *R* | *R* | | | | |
| *y* | *y* | | | | |
| *Ø* | *S* | | | | |
| *a* | *a* | | | | |
| *o* | *e* | *aw* | | | |
| *i* | *i* | *uy* | | | |
| *e* | *ay* | *ey* | | | |
| *u* | *u* | | | | |

Incorporated into Table 1 are three findings which postdate Dempwolff's reconstruction:

A. A number of scholars, from Dempwolff (1920) onwards, have recognised that some Oceanic languages have both plain and velarised reflexes of the PAN labials *(m)p/*(m)b and *m, and references to this topic in the literature have been surveyed by Blust (1981a). Taking account of these velarised reflexes, Haudricourt (1951) proposed the reconstruction of velarised proto phonemes for POC, whilst Grace (1969) reconstructed *ŋp (nasal-grade stop) and *ŋm, corresponding to plain *mp and m (Grace p.c.).[21]

B. Wolff (1974) showed that PAN *d and *r merged as POC *d.

C. Blust (1978a) found that PAN *ñ and *j, formerly thought to have merged in POC with PAN *n and the sibilants respectively, were retained in POC.

Milke (1968) reconstructed forms with an extra POC proto phoneme *nj in order to account for a third palatal reflex in several Oceanic languages. However, Lichtenberk (1978) points out that the reconstruction of POC *nj is problematic: it is not related to POC *j, nor is there any evidence that it is the nasal-grade partner thereof, and correspondences to it in Central Pacific languages are sporadic and irregular (Blust 1976). Because of these problems, some scholars (e.g. Blust 1984a) have continued to treat its apparent reflexes as reflexes of POC *(n)s. We return to this matter below (section 3.6.1).

The phonological innovations (all except the last two are mergers) which are shared by all Oceanic languages are extracted from Table 1 and shown below in the form of PAN/POC sound correspondences:

| (3.1) | PAN | | | | | POC |
|---|---|---|---|---|---|---|
| i) | (m)p | (m)b | | | | (m)p, ŋp |
| ii) | C | (n)t | T | | | (n)t |
| iii) | (n)d | (n)D | r | | | (n)d |
| iv) | (n)s | (n)c | (n)Z | (n)Z | nj | (n)s |
| v) | (ŋ)k | (ŋ)g | | | | (ŋ)k |
| vi) | e | aw | | | | o |
| vii) | i | uy | | | | i |
| viii) | ay | ey | | | | e |
| ix) | S | | | | | Ø |
| x) | m | | | | | m, ŋm |

However, this overstates the innovations attributable to POC, since (ii), (iii), (vii), (ix), and part of (iv) – namely the mergers of PAN *(n)s and *(n)c, and of PAN *(n)z and *(n)Z – are also reflected in the SHWNG languages and are therefore attributable to PEMP (Blust 1978b). Available SHWNG data include no reflexes of PAN *(ŋ)g, and so we cannot tell whether (v) had already occurred in PEMP or not. Innovations at present attributable to POC itself are therefore:

| (3.2) | PEMP | | | POC |
|---|---|---|---|---|
| i) | (m)p | (m)b | | (m)p, ŋp |
| iv) | (n)s | (n)z | nj | (n)s |
| vi) | e | aw | | o |
| viii) | ay | ey | | e |
| x) | m | | | m, ŋm |

## 3.3 THE CONVENTIONAL POC PHONEME PARADIGM

If we arrange the POC phonemes of the previous section as a paradigm, we have a system probably as shown in Table 2.

### TABLE 2: POC PROTO PHONEME PARADIGM (UNREVISED)

|          | velarised bilabial | bilabial |     | alveolar |     | palatal | velar |     | post-velar |
| -------- | ------------------ | -------- | --- | -------- | --- | ------- | ----- | --- | ---------- |
| stop     | ŋp                 | p        | mp  | t        | nt  | j       | k     | ŋk  | q          |
| trill    |                    |          |     | d        | nd  |         |       |     |            |
| sibilant |                    |          |     | s        | ns  |         |       |     |            |
| nasal    | mw                 | m        |     | n        |     | ñ       | ŋ     |     |            |
| liquid   |                    |          |     | l        |     |         |       |     | R          |
| glide    | w                  |          |     |          |     | y       |       |     |            |

Two decisions embodied in the table perhaps need explanation. The first is the treatment of POC *d and *nd as alveolar trills. The choice of *d as the symbol for this phoneme rests on its PAN forebears. Throughout WM Oceanic languages, the South-East Solomonic group (Tryon and Hackman 1983), Vanuatu (Tryon 1976), and the Central Pacific (Fijian and Polynesian: Geraghty 1986), the most common reflex of POC *d is [r]. The SHWNG languages also reflect it as a liquid (South Halmahera [l], West New Guinea [r]), suggesting that it was already [r] in PEMP.

Circumstantial support for this interpretation comes from the fact that in almost every Oceanic language, the reflexes of POC *mp, *nt, and *ŋk are voiced, usually [b], [d] and [g], and it is therefore difficult to see where POC *d and *nd could fit into the stop series.

If POC *d was indeed [r], then it is sensible to attribute the value [nr], which naturally becomes [ndr], to POC *nd. This remains its value in a number of communalects of Manus Island and south-east Malekula and in Fijian, whilst throughout much of Oceania it has merged with POC *nt as [d].

The second decision needing explanation is the treatment of POC *R as a post-velar. Reflexes of POC *R can be divided into two groups, liquids and [y]/[h]/zero, as follows:

A. Liquid reflexes:

1. throughout the WM Oceanic area (except in the Admiralty Islands and the St Matthias group) POC *R often merges with *d and is reflected as [r] or [l];

2. in the South-East Solomonic family, POC *R merges with *l and is reflected as [l] or [r] (Tryon and Hackman 1983);

3. in the Torres and northern Banks Islands of Vanuatu, POC *R merges with *d and is reflected as [r] (Milke 1958; Tryon 1976).

B. Glide or zero reflexes:

1. in the Admiralty Islands POC *ʀ is reflected as *[h], [y], [w]* or zero, and in the St Matthias group as zero (Chapter 9);

2. in Kove (north-west New Britain: Chapter 5) and in the Buang languages (inland of the Huon Gulf: Chapter 5), one of the reflexes of POC *ʀ is *[h];*

3. in much of Vanuatu, POC *ʀ is reflected as zero (Tryon 1976);

4. in all Central Pacific languages (Fijian and Polynesian), POC *ʀ is reflected as zero (Geraghty 1983b).

The same pair of changes also affected Proto SHWNG *ʀ: it became South Halmahera *∅, West New Guinea *r. Hence POC evidently inherited the phonetic value of *ʀ from PEMP. The widespread and overlapping distribution of the two reflexes indicates that both reflect natural changes occurring to POC *ʀ independently in different areas. The most likely candidate for *ʀ is accordingly a uvular liquid *[ʀ]*, for which strengthening to an alveolar liquid *[r]* (with subsequent lateral articulation as *[l]* in some languages) and weakening to *[h]* (with subsequent loss in some languages) are both natural changes. Hence POC *ʀ is assigned to the postvelar order of the paradigm.

The system shown in Table 2 contains a peculiarity which requires comment. Although the stops at three of the six putative points of articulation form pairs (*p/*mp, *t/*nt, *k/*ŋk), those at the other three points (*ŋp, *j, *q) stand alone. It is proposed in section 3.6 that *j was in fact a member of a POC pair, but this still heaves *ŋp and *q without partners. As noted above, *ŋp is a nasal-grade stop. Although Haudricourt (1951) apparently believed that a full series of POC velarised bilabials should be reconstructed, neither Grace (1969) nor subsequent contributors to POC reconstruction have found evidence for filling the resulting gap in the system with an oral-grade counterpart of nasal-grade *ŋp, and this asymmetry remains unexplained (cf. section 3.7).

The absence of a nasal-grade counterpart of POC *q allows a more principled explanation, and casts some light on its probable phonetic value. If *q had been a backed velar stop, then we would expect it to have had a nasal-grade counterpart. Since the latter is not reconstructible, *q is more appropriately interpreted as a glottal stop,[22] an interpretation which its numerous zero and glottal stop reflexes certainly permit. The term 'post-velar' in Table 2 therefore covers both uvular and glottal points of articulation.

## 3.4 ORAL GRADE AND NASAL GRADE

### 3.4.1 THE 'CROSS-OVER' HYPOTHESIS

In connection with Table 1 we noted the problem of oral-/nasal-grade cross-over. Dempwolff reconstructed parallel sets of oral and prenasalised obstruents in both PAN and POC. However, he noted (1927; referred to briefly in 1937:125-126) that Oceanic reflexes are prone to 'cross over': in a given etymon, he claimed, some languages will reflect an obstruent as if it were a POC oral stop, whilst other languages will reflect the same obstruent as if it were a POC prenasalised stop.[23] Since Grace (1959:27) these reflexes have been known as 'oral grade' and 'nasal grade'. Five oral-/nasal-grade pairs are reconstructed for POC: *p/*mp, *t/*nt, *k/*ŋk, *d/*nd, and *s/*ns.

Although the phenomenon of cross-over has received frequent mention in the literature (e.g. by Grace 1959:26-27, 1969, 1978; Milke 1961; Milner 1963; Blust 1972, 1978a:78-79), there has been little examination of the data in connection with it. Where investigation has occurred, it has concerned POC *s/*ns, but not the three stop pairs and POC *d/*nd.

I have tabulated reflexes of POC *p/*mp, *t/*nt, *k/*ŋk, and *d/*nd from a number of Oceanic language groups, and found a situation which is other than the Oceanic linguist's lore suggests. It is indeed impossible to predict from a PAN etymon whether the POC reconstruction will have an oral- or a nasal-grade reflex, but it is usually possible to reconstruct the grade of the POC etymon without ambiguity, i.e. for these four pairs of proto phonemes, there is little cross-over among the languages investigated.

These languages consisted of all the members of the following low-order groups for which data were available (i.e. almost all members: see Appendices A and B): Mussau, Schouten, Bel, Ngero, residual Vitiaz, Huon Gulf, Papuan Tip, Bali-Vitu, Willaumez, Lavongai/Nalik, other New Ireland, North-West Solomonic, and South-East Solomonic. POC etyma containing one or more of the eight proto phonemes under investigation were listed, and for each etymon each of these language groups was checked to see (i) whether its member languages reflect the etymon, and, if so, (ii) whether, on the basis of the sound correspondences worked out for that group, the etymon reflects the oral or the nasal grade. When it was discovered that on the basis of these languages, the consonant grade of the POC etymon could be reconstructed unambiguously, a further, less formal check was made of the languages of north and central Vanuatu, the Central Pacific (Geraghty 1983a, 1986), and the Admiralties. It was found that the first two groups agreed with those already investigated as to consonant grade. In the case of the Admiralties, many nouns showed word-initial nasal grade where cognates in other groups agreed in reflecting the oral grade. However, this is explicable as a local change affecting certain noun-initial oral-grade consonants (section 9.3.3.2). The Admiralties show no disagreement with other groups on the POC consonant grade reconstructible in other environments. Some of the findings of this investigation are set out in Tables 3 to 10. I have limited the presentation to etyma with non-Oceanic cognates, in order to be certain that they are reconstructible in POC, and have presented them in the form of PAN/PMP and Pre-POC reconstructions – 'Pre-POC', because the conventional orthography for POC more nearly represents a stage of the language earlier in POC's history (section 3.7). Against each etymon is given the number of language groups (maximum: 10)[24] in which it was found with the grade reconstructed in Pre-POC, and in brackets the number of groups which reflect the opposite grade. For reasons of space, supporting data are not given here but are in part accessible through the index of reconstructions at the end of this work.

Tables 3 to 10 contain 126 examples of PAN segments which are reflected as one of Pre-POC *p, *mp, *t, *nt, *k, *ŋk, *d, or *nd. We note that oral-grade reflexes (96) far outweigh nasal-grade (30), and that the nasal grade proto phonemes Pre-POC *nt (2) and *ŋk (4) are much rarer that *mp (15) and *nd (15).

### TABLE 3: ETYMA CONTAINING *p IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *p- | | *p- | | |
| paʀi | stingray | paʀi | 6 | |
| peñu | turtle | poñu | 7 | (*mp: 2) |
| panaq | shoot | panaq | 5 | |
| penuq | full | ponuq | 8 | |
| *b- | | *p- | | |
| be(ʀ)say | paddle | pose | 10 | |
| batu | stone | patu | 10 | |
| bulan | moon | pulan | 6 | |
| bituqen | star | pituqun | 4 | |
| baqeʀu | new | paqoʀu | 9 | |
| buʀuk | rotten | puʀu(k) | 4 | (*mp: 1) |
| balay | public building | pale | 5 | |
| banua | settlement | panua | 7 | |
| babaq | underside | papaq | 4 | |
| babinahi | woman | papine | 6 | |
| bulu | body hair | pulu | 6 | (*p/mp: 1) |
| baʈuk | skull, shell | patu | 6 | |
| buqaya | crocodile | puqaya | 8 | |
| *-p- | | *-p- | | |
| apuy | fire | api | 7 | |
| qipaʀ | affines | qipaʀ | 7 | |
| lipen | tooth | lipon | 8 | |
| qapuʀ | lime | qapuʀ | 6 | |
| *-b- | | *-p- | | |
| qabaʀat | N.W. monsoon | qapaʀat | 7 | |
| ʀabi | evening | ʀapi | 9 | |
| qabuk | ash, dust | qapu | 6 | |
| qabaʀa | shoulder | qapaʀa | 6 | |
| ʀebek | (bird) fly | ʀopok | 10 | |
| ta(m)buri | Triton shell | tapuʀi | 9 | |
| qubi | long yam | qupi | 8 | |
| tebuSu | sugarcane | topu | 10 | |
| tuba | Derris root | tupa | 4 | |

TABLE 4: ETYMA CONTAINING *mp IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *p- | | *mp- | | |
| pusej | navel | mpuso | 2 | (*p: 2,*p/mp: 2) |
| panij | wing | mpanij | 2 | (*p: 1) |
| punay | pigeon | mpune | 2 | (*p/mp: 1) |
| *b- | | *mp- | | |
| biʀbiʀ | lips | [mpi]mpiʀ[i] | 3 | |
| bekas | excrete | mpekas | 2 | (*p: 1) |
| beʀek | pig | mpoʀok | 8 | (*p/mp: 1) |
| beŋbeŋ | butterfly | mpompoŋ | 2 | |
| baluj | pigeon | mpaluj | 8 | |
| buaq | areca nut | mpuaq | 10 | |
| beŋi | night | mpoŋi | 9 | |
| *-p- | | *-mp- | | |
| ta(m)pu | grandparent | tumpu | 9 | |
| ka(m)pit | hold | kampit | 4 | |
| *-b- | | *-mp- | | |
| ʀaŋbia | sago | ʀampia | 5 | |
| tubuq | grow, swell | tumpuq | 6 | |
| laba | big | lampa | 3 | |

Of the 126 examples, 21 have reflexes which do not conform to the majority. Note, however, that in only one case, PAN *pusej 'navel' (see below), is there any difficulty in establishing the grade of the POC segment. In the other 20 cases, the majority of witnesses agree on the grade they reflect, and in 16 of these cases, only one group of languages is in disagreement with the others.

Whilst I cannot explain – in a proper sense – these disagreements, there are indications that they are due to local factors, not to any peculiarity of POC phonology. For example, in the three central New Ireland languages Tabar, Notsi and Lihir (Chapter 8) the three disjunctive pronouns PAN *kami D:1EP, *kita D:1IP, and *kam[iS]u D:2P have all acquired the nasal-grade reflex g- (for expected *k or zero)[25]: the limited environment of this change suggests that it involves some kind of analogical levelling in the pronoun paradigm, and has nothing to do with POC.

Similarly, Lavongai/Nalik *dina 'mother' (for expected **tina), probably reflects a local morphological process. Its reflexes are Lavongai rina-, Nalik dina-. However, Nalik voices initial t- of kin terms regularly (Nalik dama- 'father' < PAN *tama; dua- 'older sibling' < POC *tuqa[ka], so that we are left only with Lavongai rina- unexplained.

## TABLE 5: ETYMA CONTAINING *t IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *t-/C- | | *t- | | |
| Cau | man | tau[mataq] | 8 | |
| tama | father | tama | 10 | |
| tina | mother | tina | 8 | (*nt: 1) |
| ta(m)pu | grandparent | tumpu | 9 | |
| tV-Sia(n)ji | same-sex sibling | taji | 7 | |
| taliŋa | ear | taliŋa | 10 | |
| tian | belly | tia | 3 | |
| tinaqe | intestines | tinaqe | 8 | |
| tuhud | knee | tudu | 6 | |
| Caqi | excrement | taqe | 9 | |
| tuma | body louse | tuma | 6 | |
| tuna | eel | tuna | 5 | |
| ta(m)buʀi | Triton shell | tapuʀi | 9 | |
| tiʀem | oyster | tiʀom | 2 | |
| tali(c,s)ay | Terminalia sp. | talise | 8 | |
| tebuSu | sugarcane | topu | 10 | |
| teŋeʀ | mangrove | toŋoʀ | 8 | |
| tunu | bake, burn (s.t.) | tunu | 3 | |
| tanem | plant (s.t.) | tanom | 4 | |
| taneq | earth | tanoq | 2 | |
| taʀaq | chop, adze (s.t.) | taʀaq | 3 | |
| tali | cord | tali | 3 | |
| tasik | sea | tasik | 5 | (*nt: 2) |
| *-t-/-C- | | *-t- | | |
| PEMP natu | child | natu | 8 | |
| maCa | eye | mata | 10 | |
| qatay | liver | qate | 10 | |
| qu(t,ʈ)in | penis | quti | 8 | |
| kuCu | hair louse | kutu | 8 | |
| qaCeluʀ | egg | qatoluʀ | 7 | |
| uʀita | octopus | kuʀita | 6 | |
| qatep | sago thatch | qatop | 4 | |
| qutan | bush, forest | qutan | 3 | (*t/nt: 1) |
| atas | top | atas | 5 | |
| batu | stone | patu | 10 | |

## TABLE 6: ETYMA CONTAINING *nt IN PRE-POC

| PAN/PMP | | Pre-POC | |
|---|---|---|---|
| *-nt- | | *-nt- | |
| punti | banana | punti | 9 |
| -nta | P:1I | -nta | 8 |

## TABLE 7: ETYMA CONTAINING *d IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *d-/D- | | *d- | | |
| dawa | affine | dawa | 5 | |
| daqey | forehead | daqe | 4 | |
| Duyuŋ | dugong | duyuŋ | 5 | |
| daSun | leaf | daun | 8 | |
| daqan | branch | daqan | 8 | |
| duʀi | thorn | duʀi | 1 | (*nd: 1) |
| daqani | daytime | da[qa]ni | 4 | (*nd: 1) |
| DuSa | two | dua | 10 | |
| *-d-/-D-/-r- | | *-d- | | |
| quDaŋ | crayfish | qudaŋ | 5 | |
| tuhud | knee | tudu | 6 | |
| kuDen | cooking pot | kudon | 4 | |
| [ma]qudip | alive | maqudip | 7 | |
| [ma]tuDuʀ | sleep | [ma]tuduʀ | 4 | |
| garis | scratch | kadis | 5 | |
| tuDuq | (water) drip | tudu | 4 | |

TABLE 8: ETYMA CONTAINING *nd IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *d-/D- | | *nd- | | |
| daʀaq | blood | ndaʀaq | 6 | (*d: 1) |
| diŋdiŋ | house partition | ndindiŋ | 4 | |
| danum | fresh water | ndanum | 2 | (*d: 1, *d/nd: 1) |
| damaʀ | torch, Pleiades | ndamaʀ | 5 | (*d: 1) |
| Diʀi | stand | mandiʀi | 4 | |
| diŋdiŋ | cold | mandindiŋ | 4 | |
| *-d-/-D- | | *-nd- | | |
| [lin]DeSem | night | [do,ti]ndom | 3 | |
| panDan | pandanus | pandan | 6 | |
| mada | (banana) ripe | manda | 3 | |

TABLE 9: ETYMA CONTAINING *k IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *k- | | *k- | | |
| kami | D:1E | ka[m]i | 8 | (*ŋk:1) |
| kita | D:1I | kita | 8 | (*ŋk:1) |
| kam[iS]u | D:2P | ka[m][i]u | 8 | (*ŋk:1) |
| kumis | beard | kumis | 5 | |
| kulit | skin | kulit | 6 | |
| kutkut | finger | kuku | 6 | |
| kaʀat | bite | kaʀat | 9 | |
| kuCu | hair louse | kutu | 8 | |
| kayu | tree | kayu | 9 | |
| kasaw | rafter | kaso | 4 | |
| kuDen | cooking pot | kudon | 4 | |
| kiʀam | axe | kiʀam | 9 | |
| kaen | eat | kani | 8 | |
| *-k- | | *-k- | | |
| i-kaSu | D:2S | iko[e] | 7 | |
| ikan | fish | ikan | 8 | |
| wakaʀ | root | wakaʀ | 8 | |
| PEMP sakaʀu | reef | sakaʀu | 8 | (ŋk: 1) |

TABLE 10: ETYMA CONTAINING *ŋk IN PRE-POC

| PAN/PMP | | Pre-POC | | |
|---|---|---|---|---|
| *k-/g- | | *ŋk- | | |
| guruq | thunder | ŋkudu | 3 | (*k: 1, *k/ŋk: 1) |
| kabut | mist | ŋkapu | 2 | |
| *-k- | | *-ŋk- | | |
| -ŋku | P:1S | -ŋku | 10 | |
| baŋkaq | canoe | waŋka | 6 | |

Two disagreements involving Papuan Tip languages arise from the fact that doublet forms of PAN *beʀek 'pig' and *daʀaq 'blood' coexist side by side:

(3.3)  PPT *borok 'pig' > Bwaidoga, Sewa Bay bulukwa, Tubetube buluka, Kilivila bunuka, Budibud buruka

?PPT *poro 'pig' > Ubir, Arifama foro, Doga, Anuki, Are, Paiwa, Boianaki, Wedau poro, Kukuya pono, Tawala polo

(3.4)  PPT *daraq 'blood' > Doga dara-daragi-, Anuki dara-darayi-, Taupota dalaha-, Bwaidoga, Kalokalo dayagi-, Yamalele dayaga-, Molima dayavi-, Keapara (Hula) rala

?PPT *rara 'blood' > Arifama rara, Dobu lala, Keapara (Maopa), Sinagoro (Balawaia), Lala, Kuni lala, Magori, Ouma, Motu, Doura, Gabadi rara

In both cases, the first member of the pair is the expected reflex of the POC etymon, with the same grade as that reflected in other language groups, whilst the second member not only disagrees in the grade of the initial consonant but also lacks an expected final consonant. These second members appear to be local developments arising from borrowing, probably among languages of the Papuan Tip region, or, in the case of Central Papuan reflexes of PAN *daʀaq, from assimilation (section 6.2.1).

In two kinds of case 'cross-over' probably does have its origins in Pre-POC and earlier. The first kind of case consists of morphophonemic alternations, the other of PAN *pusej 'navel'.

### 3.4.2 MORPHOLOGICAL SOURCES OF NASAL GRADE

In the first kind of case, morphological processes resulted in morphophonemic alternation. PAN *buʀuk 'rotten' possibly illustrates this. The 'odd man out' is the South-East Solomonic group:

(3.5)  PAN *buʀuk 'rotten' >

Central Papuan: Mekeo funu-nu, Roro buru-buru, Gabadi vuru-vuru, Doura huru-huru

Lavongai/Nalik: Nalik (ma)furu

Central New Ireland: Lihir (ma)pul

<u>Willaumez</u>: Bulu *(ma)pulu*, Bola *(ma)vuru*, Bola (Harua), Nakanai, Meramera *(ma)vulu*

<u>S.E. Solomonic</u>: Gela, W. Guadalcanal, Talise *(ma)bulu*

The Central Papuan reflexes of PAN *buʀuk* reflect oral-grade Pre-POC *puʀu(k)*. The S.E. Solomonic reflexes, on the other hand, reflect Pre-POC *ma-mpuʀu(k)*, which is possibly a reanalysis of earlier *mam-puʀu(k)* containing a reflex of the prefix *maN-*. Western AN languages reflect a paradigm of (PAN ?) prefixes *N-*, *paN-*, and *maN-*, where *N-* causes the following morphophonemic changes (among others):

(3.6)  a. *N + *p- > *m-      *N + *t- > *n-        *N + *s-/c- > *ñ-    *N + *k- > *ŋ-

      b. *N + *b- > *m-      *N + *d-/D > *n-       *N + *g- > *ŋ-

      c. *N + *b- > *mb-     *N + *d-/D- > *nd-     *N + *z- > *ñz-     *N + *g- > *ŋg-

Original meanings are unclear, but *N-* and *maN-* seem to have been verb formatives, *paN-* a noun formative. The reflexes of these changes are well known in Western AN languages (see, for example, Schachter and Otanes 1972:220-221, 290-291 on Tagalog, Macdonald and Dardjowidjojo 1977:80-94, 101-2 on Indonesian) and are briefly illustrated below: [26]

(3.7)  Sundanese

    *N + *t- > *n-: PAN *(C,t,ᴛ)*awad* 'bargain' > *nawar*

    *N + *k- > *ŋ-: PAN *kirim* 'send' > *ŋirim*

    *N + *b- > *m-: PAN *beʀay* 'give' > *mere*

    Hiligaynon

    *maN + *p- > *mam-: PAN *patay* 'die' > *mamatay* 'for killing'

    *paN + *s- > *pañ:-: PAN *sembaq* 'worship' > *paŋimba* 'manner of worship'

    *paN + *k- > *paŋ-: PAN *kaSiw* 'tree' > *kahoy* 'tree', *paŋahoy* 'wood-gathering'

    Toba Batak

    *maN + *t- > *man-: PAN *takaw* 'steal' > *manakko*

    *maN + *s- > *mañ-: PAN *saruŋ* 'sheath' > *manaruŋ(i)* 'make sheath for'

    *maN + *b- > *mam-: PAN *bunuq* 'kill' > *mamunu*

    *maN + *d- > *mand-: PAN *deŋan* 'companion' > *mandoŋan(i)* 'accompany'

    Malay

    *maN + *s- > *mañ-: PAN *salin* 'exchange' > *məñalin*

    *maN + *b- > *mamb-: PAN *batu* 'stone' > *məmbatu* 'turn to stone'

    *paN + *d- > *pand-: PAN *deŋeʀ* 'hear' > *pəndeŋar(i)* 'hearer'

    *maN + *Z- > *mañZ-: PAN *Zauq* 'far' > *jauh* 'far', *məñjauh* 'withdraw'

The changes in set (a) of (3.6), which affect stem-initial voiceless obstruents, always result in homorganic nasal substitution; the changes which affect their voiced counterparts result either in homorganic nasal substitution, as in set (b), or in a nasal + stop sequence, as in set (c). Cases of homorganic nasal substitution are preserved sporadically in Oceanic languages (cf. Dempwolff 1937:133):

(3.8)    *N + *t- > *n-

PAN (?) *paN- + *takaw 'steal' > *panakaw > Pre-POC *panako 'steal' >

Bali-Vitu *vanayo*

Willaumez: Bulu, Bola *panayo*

S.E. Solomonic: W. Guadalcanal *vanayo*, Bauro, Kahua *hanayo*

PPN *fa(a)nako* (Biggs et al 1970)

(3.9)    *N + *s- > *ñ-

PAN (?) *N- + *[sep]sep 'suck' > *ñep-i > Pre-POC *ñopi >

N.W. Solomonic: Lungga, Nduke *ño-ñop(o)*, Roviana *no-nop(o)*

Compare:

PAN *[sep]sep 'suck' > Pre-POC *sopi >

Mussau: *ropi*

S. New Ireland: Konomala *sip* 'drink', Label *sop* 'drink'

S.E. Solomonic: Bugotu, Gela *sopi*, Dori'o *to- tofi-*, 'Are'are, Bauro, Faghani *to-tohi-*

(3.10)    *N + *k- > *ŋ-

PAN (?) *paN- + *kaen 'eat' > *paŋan (Blust 1984d:82) > Pre-POC *paŋan

Lavongai/Nalik: Lavongai *aŋan*, Tigak, Tiang *ŋan*, Kara, Nalik *faŋan*

Other New Ireland: Notsi *aŋan*, Kandas *uaŋon*, Duke of York *vaŋan*, Siar *aŋan*

S.E. Solomonic: Bugotu, Gela, Lengo, Logu *vaŋa*, Lau, N. Malaita, Dori'o *faŋa*, Kwara'ae *hoŋ*, Kwai, Langalanga *fana*, 'Are'are *hana-ha*, Oroha *hana*

PEO *vaŋa* 'feed' (Levy n.d.)

PSV *(na)vaŋan* 'food'/*-vaŋan* 'eat' (Lynch 1978c:766; 1983a)

PAN (?) *maN- + *kaen > *maŋan

Residual Vitiaz: Tami *maŋan* 'feed (animal)'

S.E. Solomonic: Arosi *maŋa*

(3.11)    *N + *b- > *m-

PAN (?) *N- + *buni 'be hidden' > *muni > Pre-POC *muni

Residual Vitiaz: Tami *-mu-muŋ* '(s.o.) hide', Takia (Megiar) *mun-mun* 'out of sight'

Lavongai/Nalik: Lavongai *mun* '(s.o.) hide'

S.E. Solomonic: Lau *muni* 'hide (s.t.)', Arosi *muni* 'be hidden'

Compare:

PAN *\*buni* 'hide' > Pre-POC *\*puni* '(s.o.) hide'

Huon Gulf: Sukurum *fum-bun*, Yalu *fµm-µn*, Numbami *uŋ(a)*, Hote *vun*, Manga Buang *vuun*

Papuan Tip: Ubir *(bi)buni* 'hide (s.t.)', Are *(bi-)buni(ei)* 'hide (s.t.)', Misima *(nua)bun* 'hide (s.t.)', Kuni *(si)funi* 'hide (s.t.)', Roro *(hore)buni*, Lala *vuni*, Motu *huni*

Lavongai/Nalik: Kara, Nalik *fun*, Tiang *uən*

S. New Ireland: Siar *fun*

(3.12)   *\*N + \*D- > \*n-*

PAN (?) *\*N- + \*Daŋ* 'shine' > *\*naŋ* > Pre-POC *\*naŋ* 'shine'

Huon Gulf: Sukurum *-niŋi-naŋ* 'shine'

Other New Ireland: Tabar *ŋaŋ* '(fire) burn' (*ŋ-* for exp *n-* by assimilation), Kandas, Duke of York, Siar *naŋ-naŋ* 'stars'

Bougainville: Taiof *naŋ*, Papapana *naŋ(ana)* 'moon'

Compare:

PAN *\*Da-Daŋ* 'shine' > Pre-POC *\*dadaŋ*

Papuan Tip: Ubir *raran*, Are, Paiwa *raran(i)*, Misima *lala* 'heat', Nimoa *lale*, Roro *rara*, Keapara (Maopa) *lala*

S.E. Solomonic: Bugotu *rara(ha)*, 'Are'are, S. Malaita *rara*, Kwaio *lala*

In the light of the foregoing examples, it is not improbable that Gela, West Guadalcanal, Talise *mabulu* 'rotten' (example 3.5 reflect Pre-POC *\*mampuʀu(k)* (< PAN (?) *\*maN + buʀuk*). Two points need to be made, however. The first concerns other reflexes in example (3.5). The Bola, Harua, Nakanai and Meramera items reflect Pre-POC *\*ma-puʀu(k)*, i.e. without prenasalisation. This is attributable either to the presence of Pre-POC *\*ma-* 'stative verb formative', rather than *\*maN-*, or to analogical levelling. Lihir *mapul* and Bulu *mapulu* display *-p-* for expected Lihir *-h-* and Bulu *-v-*. This is the fortis grade of POC *\*p* and is perhaps a reflex of Pre-POC *\*-mp-* (section 3.5). The second point is that, whereas example (3.11) reflects the nasal substitution variant of the changes in (3.6b), Pre-POC *\*mampulu* reflects the prenasalising variant. However, there are two other examples apparently resulting from prenasalisation through the prefixing of *\*maN-*:

(3.13)   PAN (?) *\*maN- + \*diŋdiŋ* 'cold' > *\*mandiŋdiŋ* > Pre-POC *\*mandindiŋ*[27] 'cold'

Bel: Bilbil, Takia *madid*

Schouten: Manam *madidi*, Kaiep *marir*, Kairiru *meřiř*, Ulau-Suain *madid*

<u>S. New Ireland</u>: Tolai, Duke of York *madiriŋ* (-*r*- for exp second \*\*-*d*- by dissimilation ?)

<u>N.W. Solomonic</u>: Halia (Haku) *maririŋ*

(3.14)    PAN (?) \**maN*- + \**DIRI* 'stand' > \**mandiRi* > Pre-POC \**mandiRi*

<u>Ngero</u>: Bariai *mad-madid*

<u>Residual Vitiaz</u>: Kilenge, Maleu *mari*, Tami *moji*, Sio *madi*, Mangap *meder* (final syllable reflecting \*-*Ri* lost in Kilenge, Maleu, Tami and Sio)

<u>Huon Gulf</u>: Mari, Adzera *munti*, Wampur *monti*, Sukurum *mundi*, Dangal *mundik*, Wampar *mondeŋ*, Sirak *mindiŋ*, Yalu *mi̱di̱ŋ(te)*

<u>Bali-Vitu</u>: Bali *madi*, Vitu *madiri*

<u>Willaumez</u>: Nakanai *magiri*

The examples above indicate that some cases of apparent oral-/nasal-grade 'cross-over' are attributable to morphophonemic alternation in Pre-POC (whether it was still productive is not clear). However, this is not 'cross-over' in the sense of unpredictable variation, but the outcome of a reconstructible pattern in Pre-POC involving the alternation both of oral and prenasalised stops and of oral stops and their homorganic nasals.

### 3.4.3  THE POC WORD FOR 'NAVEL'

The other case of 'cross-over' attributable to POC is the case of PAN \**pusej* 'navel'. My data lead to the following possible reconstructions:

(3.15)    ? Pre-POC \**puso* >

<u>Residual Vitiaz</u>: Kilenge, Maleu *pusu-*

<u>Papuan Tip</u>: Are, Boianaki *puso-*, Kurada *pohi-*, Tubetube, Kilivila *poso-*, Misima *poho-*, Doura *puto-*, Motu *hudo-*, Keapara (Maopa) *vuro-*

<u>Bali-Vitu</u>: Bali *puzo-*, Vitu *puðo-*

(3.16)    ? Pre-POC \**piso* >

<u>Ngero/Residual Vitiaz</u>: Kove, Tuam, Malai, Gitua, Malalamai, Sio, Lukep, Ham, Bilbil *piso-*, Roinji *piso(a)-*, Wab *pise-*

<u>Huon Gulf</u>: Wampur *hio-*, Sukurum *fi-*, Yalu *fisi-*, Vehes *vroo-*, Manga Buang *varo*, Mapos Buang *vro*, Patep *plu*, Piu *pru*

(3.17)    ? Pre-POC \**mpuso* >

<u>Residual Vitiaz</u>: Malasanga *busu-*

<u>Bel</u>: Takia *buso-*, Takia (Megiar) *boso-*

<u>Residual Vitiaz</u>: Ulau-Suain *busu-*, Sissano *pu-*

<u>Papuan Tip</u>: Mekeo *fuko-*, Kuni *fudo-*, Roro *poto(ʔa)*, Sinagoro (Balawaia) *buro*

Willaumez: Bulu, Bola (Harua) *buro*, Nakanai, Meramera *buso*

N.W. Solomonic: Halia (Haku) *buso-so-*, Halia (Selau) *busu-*

S.E. Solomonic: W. Guadalcanal *boso-*, Lau, N. Malaita *buto-*, Kwara'ae *buta-*

(3.18)   ? Pre-POC *mpiso* >

Residual Vitiaz: Tami *biso-*, Nenaya *bisu-*

Bel: Biliau, Gedaged *biso-*, Mindiri *besu-*

Papuan Tip: Boianaki *buso-*, Wedau *buo-*, Tawala, Taupota *buho-*

N.W. Solomonic: Solos *biso-*

(3.19)   ? Pre-POC *puto* >

Papuan Tip: Gabadi *puko*

N.W. Solomonic: Banoni *pocu*

(3.20)   ? Pre-POC *mputo* >

Admiralties: Seimat *puto-*, Lou, Lenkau, Pak (*mara-n*)*poro-*, Titan (*kaca*)*βuto-*, Kele (*ke*)*βutu-*, Bohuai (*deke*)*poto-*, Lindrou (*su*)*budo-*, Loniu (*ko*)*putu-*

Schouten: Manam, Wogeo, Kairiru *buto-*

Other New Ireland: Tabar, Label, Kandas *buto-*, Sursurunga *butə-*, Barok *but-*

N.W. Solomonic: Nehan, Taiof, Teop, Varisi, Nduke, Kia *buto-*, Lungga *boto-*, Tinputz *pute-*

S.E. Solomonic: Talise, Lengo *buto-*, Logu *boʔo-*, Kwai, Langalanga *bo-*, Kwaio, Dori'o *boo-*, 'Are'are, Oroha, Kahua *poo-*, Bauro, Faghani *po-*, Arosi *(wai)po-*, S. Malaita *pwoo-*

Proto Fijian *buto-* (Geraghty 1986)

(3.21)   ? Pre-POC *mpito* >

Mussau *bito-*

Lavongai/Nalik: Tigak *vito-*

S. New Ireland: Patpatar, Tolai (Nodup), Duke of York, Siar *bito-*

PPN *pito-* (Geraghty 1983a:111)

There are three loci of variation in this etymon:

a)   the initial consonant varies between Pre-POC *p-* and *mp-*;

b)   the first vowel varies between Pre-POC *-u-* and *-i-*;

c)   the medial consonant varies between Pre-POC *-t-* and *-s-*.

Of the eight alternative reconstructions which this allows, only one, **pito*, is not attested. The distribution of reflexes shown in (3.15) to (3.21) is such that a group of languages will often reflect more than one form. This suggests either that the POC form had a built-in potential for variation, or

that POC had more than one form – or both. If we examine the distribution of the seven potential Pre-POC reconstructions by language groups, we find the following:

| | |
|---|---|
| *puso | 3 |
| *piso | 2 |
| *mpuso | 5 |
| *mpiso | 3 |
| *puto | 2 |
| *mputo | 5 + Proto Fijian |
| *mpito | 3 + Proto Polynesian |

The forms *piso and *puto are each reflected by only two language groups and are perhaps attributable to local variation. However, we are left with five reasonably well distributed forms. The best distributed are *mpuso (the expected nasal-grade outcome of PAN *pusej) and *mputo, and so we may reconstruct these for Pre-POC. I am able to offer no explanation of the variation between *-s- and *-t- other than to suggest that Pre-POC had doublet forms. There is, however, a possible explanation for the variation between apparent *mp- and *p- and between *-u- and *-i-. Blust (1981a) has noted the Oceanic tendency to form velarised labials. It seems possible that the initial labial was velarised in POC under the influence of *-u-, which then became *-i- by dissimilation, giving the forms *ŋpiso/*ŋpito. However, Pre-POC *ŋp is a segment of rare occurrence, and therefore liable to merge with another consonant. It is possible that this is a source of the reflexes which seem to reflect initial *p- (another is suggested in section 3.5).

Support for the velarisation hypothesis comes from velarised reflexes of PAN *pusej:

(3.22)  Papuan Tip: Duau, Bunama *pwesi* 'navel'

Vanuatu - Maewo: Marino *kpwito-*, Peterara *gito-* (Tryon 1976:200)

Vanuatu - Santo: Hukua, Valpei, Nokuku, Vunapu, Piamatsina *pwito-* (Tryon 1976:201)

### 3.4.4 LEXICALISATION OF POC NASAL GRADE

My claim in this section has been that for the four Pre-POC proto phoneme pairs *p/*mp, *t/*nt, *k/*ŋk, and *d/*nd, 'cross-over' is the exception rather than the rule, and that the 'grade' of each segment was lexicalised (i.e. fixed in each lexical item) in POC. Where cross-over does occur – and it is rare – it is attributable sometimes to local developments, not to POC, and sometimes to morphophonemic alternations, quite possibly fossilised by the time POC broke up.

In the case of medial consonants the 'grade' of lexicalisation seems to have been determined by inheritance: if the inherited etymon had a medial nasal + stop sequence, then Pre-POC reflected this with a nasal-grade consonant, as in:

(3.23)  PAN ʀaŋbia 'sago' > Pre-POC ʀampia

PAN *punti* 'banana' > Pre-POC *punti*

PAN *panɖan* 'pandanus' > Pre-POC *pandan*

PAN *baŋkaq* 'canoe' > Pre-POC *waŋka*

In the case of initial consonants, the factors determining the grade of lexicalisation are not clear, although morphophonemic alternation was presumably involved. What *is* clear is that lexicalisation of the grade of initial consonants occurred *after* Pre-POC separated from PEMP,[28] since Proto SHWNG sometimes lexicalised an etymon with the opposite grade from its POC cognate:[29]

(3.24)   Same: PEMP *b- > Proto SHWNG *b-, Pre-POC *p-

        PEMP *banua 'settlement' >

        Proto SHWNG *bnu > Weda, Buli, Sawai, Patani, Maba pnu

        Pre-POC *panua (cf. example 3.51)

(3.25)   Same: PEMP *b- > Proto SHWNG *-mb-, Pre-POC *-mp-

        PAN *mbembeŋ 'butterfly' > PEMP *kalə-mbombəŋ >

        Proto SHWNG *kalə-mbombəŋ > Weda taleboben, Buli aibobaŋ, Sawai kalaboben, Patani kalaplobon

        Pre-POC *[kali]mpompo(ŋ) > Gitua bobo(koro), Sio, Malasanga, Wogeo bobo, Biliau kalbob, Bilbil, Gedaged kilibob, Numbami kaimbombo

(3.26)   Different: PEMP *b- > Proto SHWNG *mb-, Pre-POC *p-

        PEMP *bitəl 'hungry' >

        Proto SHWNG *mbitel > Buli bi-bisil, Patani butul, Maba butol, Biak biser

        Pre-POC *pitol-o

(3.27)   Different: PEMP *t- > Proto SHWNG *nt-, Pre-POC *t-

        PAN *tazim 'sharpen' > PEMP *[maN-]tazim >

        Proto SHWNG *mntalim 'sharp' > Weda, Sawai, Patani mdalem, Buli dalim, Maba mdalim

        Pre-POC *tanjim (cf. example 3.84)

(3.28)   Same: PEMP *t- > Proto SHWNG *t-, Pre-POC *t-

        PAN *tebuSu 'sugarcane' > PEMP *təbu >

        Proto SHWNG *təbu 'sugarcane' > Weda, Maba teb, Buli top, Patani téb, Biak kob, Waropen kowu, Wandamen tobu, Serui Laut tovu

        Pre-POC *topu

I indicated in section 3.3 that the POC proto phonemes conventionally written as *d and *nd were very probably [r] and [ndr]. It is also clear that by the break-up of POC, voicing had replaced prenasalisation as the distinctive feature of the 'nasal-grade' stops conventionally written as *ŋp, *mp, *nt, and *ŋk, as I have found no daughter-language which provides counter-evidence. Since reconstructed sound changes gain considerably in transparency if we write proto languages with phonetically appropriate symbols, the following changes are made to POC orthography from this point:

| Conventional: | ŋp | mp | nt | ŋk | d | nd |
|---|---|---|---|---|---|---|
| New: | bw | b | d | g | r | dr |

I have set the proto phoneme pair Pre-POC *s/*ns aside in writing this section, and return to it in section 3.6 below.

## 3.5 FORTIS GRADE AND LENIS GRADE

A question which was left unanswered in section 3.4 was why scholars have believed that the pre-POC stops and pre-POC *d (= POC *r) were substantially affected by cross-over, when in fact they were not. Dempwolff gave no data to support his 1927 cross-over hypothesis, but the Fijian and Sa'a items with reflexes of POC nasal grade which he cited in 1937 were a mixture of (i) items with lexicalised nasal grade in POC (e.g. *boŋi 'night', *bune 'dove'; 1937:136, 157); (ii) doublets resulting from localised, post-POC, innovation (e.g. Fijian bonota/vonota 'dam (water)'; drau 'leaf'/rau 'leaves for thatch'; 1937:136); and (iii) a residue of items which have a nasal-grade reflex where my evidence indicates that the oral-grade consonant is reconstructible in POC (e.g. Fijian duva < *tupa 'Derris root'). Much of this residue has already been explained by Geraghty's (1983a:74-95) reconstruction of the process he calls Eastern Fijian apical prenasalisation, a process somewhat similar to Admiralties secondary nasal grade (section 9.3.3.2).

Another phenomenon has confused the cross-over question, however, namely that many Oceanic languages display a second pair of grades beside the oral-/nasal-grade contrast. This other pair of grades I call 'fortis' grade and 'lenis' grade, since the process which gave rise to the contrast is one which Ultan (1970), surveying consonant gradation, classes as 'lenition'.

The fortis-/lenis-grade contrast is important because it enables us to understand the problems of cross-over associated with POC *s and *j, to which section 3.6 is devoted. Specifically, it can be shown that just as Milke (1968) recognised three Oceanic correspondence sets reflecting PAN *s/c/z/Z (his POC *s, *z and *nj), thereby bringing an anomaly to the theory of Oceanic consonant grade (Blust 1976), so three correspondence sets can be recognised reflecting each of PAN *p/b and *k/g. These provide a context in which Milke's sets become part of a larger pattern, and the theory of Oceanic consonant grade can be expanded, removing the anomaly.

The effect of lenition is to create a second reflex, in the first instance a voiced fricative, of each of the POC voiceless stops *p and *k. Thus Geraghty (1986) reconstructs Proto Central Pacific (PCPa) *p and *v, both reflecting POC *p, and PCPa *k and *ɣ, both reflecting POC *k. PCPa *p and *v are inherited from Proto Eastern Oceanic and correspond with Levy's (1979) reconstructed Proto South-East Solomonic *p and *v (Geraghty 1983a:103-114). PCPa *k and *ɣ seem to be the result of a local split and do not correspond with Proto South East Solomonic *k and *ɣ as reflected by Levy (cf. Geraghty 1983a:157-160).

The same process has also occurred, affecting both POC *p and *k, in a number of WM Oceanic groups (and in Vanuatu, to judge from data in Tryon 1976), as follows: Vitiaz Straits, Huon Gulf, Papuan Tip, Bali-Vitu, Lavongai/Nalik, other New Ireland, and North-West Solomonic. The Schouten Island and Willaumez languages reflect the split in *p, but not in *k. Often the languages within a given group agree on the grade which they reflect in each etymon, but agreement between groups is more sporadic and is discussed below.

I shall suggest that the distribution of fortis and lenis reflexes of POC *p and *k indicates that the distinction is not reconstructible for POC, but that lenition occurred independently at different times and places after the break-up of POC.

Since the splits in POC *p and *k do not behave in quite the same way as each other, I examine them separately, providing a detailed analysis of reflexes of *p, then noting more briefly the respects in which the development of *k differs from it.

### 3.5.1 REFLEXES OF POC *p

From the existence of Oceanic languages (residual Vitiaz Strait, South New Britain, Admiralties) where POC *p- is usually preserved as p- it is clear that word-initial lenition of *p- had not occurred in POC. Whether the same is true of word-medial lenition of POC *-p- is unclear, since there do not appear to be any languages where it has not occurred. However, given (a) that the intervocalic environment is weaker than the word-initial (section 1.6.2) and the independent occurrence of lenition is most likely there, and (b) that the non-occurrence of lenition initially means that its intervocalic occurrence would be only sub-phonemic, I do not reconstruct phonemic lenition in any environment in POC.

### 3.5.1.1 NGERO/VITIAZ STRAIT REFLEXES OF POC *p

Some of the languages of the Ngero/Vitiaz Strait group provide an insight into the lenition process with regard to POC *p. These languages form a genetic group which can be divided into several subgroups (see Chapter 5 for more detail), two of which concern us here:

a)  the Ngero languages: Kove, Lusi, Bariai, Tuam, Mutu, Malai, Gitua and Malalamai;

b)  residual Vitiaz languages: Kilenge, Maleu, Sio, Tami, Barim, Lukep, Mangap, Malasanga, Nenaya and Roinji.

As its name indicates, (b) is not a genetic subgroup: its members are defined by their non-membership of other subgroups within the Ngero/Vitiaz Strait grouping.

Table 11 shows the reflexes of POC *p in groups (a) and (b). Word-initially, the Ngero languages have two correspondence sets reflecting POC *p-, a fortis set (leftmost column) and a lenis set (second column); the residual Vitiaz languages have only a fortis reflex.

Medially and finally, POC *p is reflected in both the Ngero and residual Vitiaz languages by only one correspondence set. The medial reflexes are all outcomes of lenition. Since the word-final reflexes also reflect POC *medial *-p-*, it is probable that they are also all outcomes of lenition, but have in some languages strengthened back to a stop after loss of the final vowel.

From this pattern of reflexes we may reconstruct the following history:

a)  word-medial POC *-p- underwent lenition in all items in all communalects of the Ngero/Vitiaz Strait network (POC *-p- > *-v-);

b)  Proto Ngero (PNg) separated from the rest of the network; at some time after this, *-v- became zero in the residual Vitiaz languages, except where loss of a final vowel inhibited its deletion;

c)   POC word-initial *p- underwent lenition in certain morphological contexts, resulting in a split into PNg *p- and *v-.

Thus the residual languages are more conservative, in that lenition has not affected them word-initially.

TABLE 11:  REFLEXES OF POC *p IN NGERO/VITIAZ STRAIT LANGUAGES

| POC | *p- | *p- | *-p- | *-p- |
|---|---|---|---|---|
| | fortis | lenis | | |
| PNg | *p- | *v- | *-v- | *-v |
| Kove | p- | Ø- | -Ø- | ... |
| Lusi | p- | u- | -Ø- | ... |
| Bariai | p- | u-, Ø- | -Ø- | ... |
| Tuam | p- | v- | -v- | -v |
| Mutu | p- | w- | -w- | -b |
| Malai | p- | v- | -v- | -b |
| Gitua | p- | v- | -v- | -p |
| Malalamai | p- | w- | -w- | -p |
| | | | | |
| Kilenge | p- | ... | -Ø- | ... |
| Maleu | p- | ... | -Ø- | ... |
| Sio | p- | ... | -Ø- | -u,-Ø |
| Tami | p- | ... | -Ø- | -u,-?,-p |
| Barim | p- | ... | -Ø- | -Ø |
| Lukep | p- | ... | -Ø- | -Ø |
| Mangap | p- | ... | -Ø- | -Ø,-u |
| Malasanga | p- | ... | -Ø- | -Ø |
| Nenaya | h-; Ø-/_o | ... | -Ø- | -p |
| Roinji | p-; Ø-/_o,u | ... | -Ø- | -p |

Before examining the ramifications of (c), I illustrate (a) and (b) :

(3.29)   POC *api 'fire' > PNgVZ *yavi

PNg *yavi > Kove eai, Tuam yav, Gitua, Malalamai yap

Residual: Barim, Lukep, Malasanga, Singorakai ei, Mangap you, Sio yɔ, Tami ya?, Nenaya, Roinji yap

(3.30)   POC *ʀopok '(bird +) fly' > PNgVZ *ʀovo

PNg *ʀovo > Kove -ho, Bariai -ro, Tuam -rov, Malai -rob, Gitua -rovo, Malalamai -rowo

Residual: Kilenge, Maleu, Tami -lo, Lukep -ro, Mangap -rie, Malasanga -ro(i), Sio -lou

The lenition of PNg word-initial *p- referred to in (c) above affects the majority of verbs, but apparently no other items. All nouns and the remaining verbs have the conservative reflex *p-. Examples of (fortis grade) PNg *p- are:

(3.31)    POC *padran 'Pandanus' >

PNg *pada > Bariai pada-pada, Tuam pan, Malai padan, Gitua pada

(3.32)    POC *pudi 'banana' >

PNg *pudi > Kove puði, Lusi puri, Bariai pud, Tuam, Mutu, Malai pun, Gitua, Malalamai pudi

(3.33)    POC *paqoʀu 'new' > PNgVZ *paqu >

PNg *paqu > Tuam, Mutu, Malai, Gitua pagu, Malamamai pou

(3.34)    POC *pala 'chop' >

PNg *pala > Tuam, Malai -pal, Gitua -pala

Verbs exemplifying root-initial lenis grade PNg *v- are:

(3.35)    POC *pipi 'squeeze' > PNg *vivi > Kove -vivi

(3.36)    PNgVZ *pipi 'dream' (cf. POC *nipi ) >

PNg *-vivi > Tuam -viv, Malai -vib, Gitua -vivi

(3.37)    POC *pasoq 'plant (tuber +)' >

PNg *-vasoɣ(i) > Tuam -vosoɣ, Malai -vazog(i), Gitua -vazok

The most important evidence that the lenition of word-initial POC *p- in the Ngero languages is morphosyntactically conditioned is the presence of several fossilised pairs, some of which reflect semantic contrasts arising from different morphosyntactic contexts:

(3.38)    POC *pose '(canoe) paddle' >

PNg *pose '(canoe) paddle' > Lusit pore, Bariai pode, Tuam poz, Malai pos, Gitua poze

PNg *-vose '(s.o.) paddle (canoe)' > Lusi uore, Bariai -ode, Gitua -woze

Lusi data in this and succeeding examples are from Goulden (1982)

(3.39)    POC *panaq 'bow' >

PNg *paneɣ 'bow and arrow' > Tuam paneg 'bow', Mutu pane 'arrow', Malai pane(natu) 'arrow', Gitua pane(ŋa) 'bow', Malalamai paneg(a) 'bow'

PNg *-vaneɣ 'shoot' > Tuam, Malai -vaneg, Malalamai -weneŋ

(3.40)    POC *patu 'stone' >

PNg *patu 'stone' > Lusi[a] patu

PNg *-vatu 'break open with a stone' > Lusi -uatu 'hit'

(3.41)  POC *potu* 'sea beyond the reef' >

PNg *potu* 'sea beyond the reef' > Lusi *potu*

PNg *-votu* 'go beyond the reef' > Lusi *-otu*, Bariai *-uot*

(3.42)  POC *pani* 'give'; benefactive prepositional verb > PNg *pani* benefactive prepositional verb > Kove *-pani* 'give', Malai *-(wam)pani* 'give', Gitua *pan* 'to, for' (preposition), Malalamai *pan* 'to, for' (preposition)

PNg *-vani* 'give' > Gitua *-van-*, Malalamai *-won*

(3.43)  POC *panako* 'steal','(do) illegally' >

PNg *panayo* ? 'illegal' > Kove *-panaho* 'steal'

PNg *-vanayo* 'steal' > Malalamai *-wanoyo*

The first member of each of these pairs is (or was once) an item other than a finite verb; the second is a verb derived from the same root. The nature of the conditioning here is not hard to perceive: when roots serve as verbs, they are preceded by a subject pronominal prefix which becomes part of the same phonological word as the root, resulting in the intervocalic lenition of the consonant. Thus *pose* '(canoe) paddle' was used with the prefix *i- S:3S* as *i-pose* 'he paddled'. Intervocalic lenition resulted in *i-vose*.


### 3.5.1.2 LENITION OF POC *p* IN OTHER LANGUAGES

The lenition of *p* occurs in other WM Oceanic groups in environments which are similar to those in the Ngero languages but whose range is less clearly defined.

In the course of trying to understand the origins of the fortis/lenis contrast, I listed 122 POC items containing *p* which had reflexes in languages in at least two of the following groups: Huon Gulf, Central Papua, Bali-Vitu, Willaumez, Lavongai/Nalik, other New Ireland, North-West Solomonic and South-East Solomonic. The results can be summarised as follows:

a)  Of the 122 items,

i) 14 (or 11 per cent) agree among the two or more groups reflecting them in having fortis reflexes of POC *p*;

ii) 66 (or 54 per cent) agree among the two or more groups reflecting them in having lenis reflexes of POC *p*;

iii) 42 (or 34 per cent) have a mixture of fortis and lenis reflexes of POC *p* among the two or more groups reflecting them;

b)  of the 14 items which agree in having fortis reflexes of POC *p*, none are word-medial cases of *p*;

c)  of the 66 items which agree in having lenis reflexes of POC *p*, 34 are word-medial cases of *p*;

d)  of the 42 items which have a mixture of fortis and lenis reflexes POC *p*, only 6 are word-medial cases of *p*;

Figures of this kind are admittedly open to various interpretations, but note firstly that lenition has evidently proceeded a long way in this small corpus, and secondly that it has proceeded to virtual completion word-medially. These groups of languages resemble the Ngero group in that lenition occurred first word-medially, as we would expect (section 1.6.2). They differ from it, however, in that lenition has also affected many cases of word-initial *p-, going beyond the morphosyntactic conditioning of the Ngero languages.

Examples of word-medial lenition of POC *p in languages other than the Ngero group are:

(3.44)   POC *papine 'woman', *ta-pine, *ma-pine, *pai-pine 'woman' (?) >

Residual Vitiaz: Mangap waine, Nenaya hain, Roinji pain, Sio taine

PBEL *pain > Wab, Bilbil, Gedaged, Matukar pain, Biliau paen, Mindiri pen, Takia pein

PSCH *vaine, *taine, *[ta]maine > Medebur wain, Manam aine, Bam ain, Wogeo vaine, Kis win, Kaiep main, Kairiru moin, Ulau-Suain tein, Ali tamiñ, Tumleo tamen, Sissano tameñ, Sera tameiŋ

PPT *vavine, *wavine, *waivine (variation unexplained) > Arifama babin, Doga, Are babine, Anuki, Paiwa, Boianaki, Wedau, Taupota, Garuwahi, Kakabai, Dawawa wavine, Tawala wawine, Kukuya, Diodio, Bwaidoga, Kalokalo, Yamalele, Fagululu, Molima, Bosilewa vavine, Dobu, Sewa Bay, Tubetube waine, Duau, Bunama wahine, Suau (Daui), Bohutu waihin, Gumasi vavina, Kilivila vivila, Muyuw vin, Nimoa vaini, Magori vaini, Keapara (Hula), Sinagoro (Balawaia), Gabadi vavine, Motu hahine, Roro babine

Vitu, Bali tavine

PWZ *tavine > Bulu, Meramera tavine, Bola (ŋa)tavine, Nakanai tavile

PLN *fafin, *tefin > Lavongai ain(a), Kara tefin, Tiang ten, Nalik rəfin

PNI *vavine > Notsi ainə, Tabar vevine, Lihir uien, Lamasong ene, Barok une, Tangga fifin, Konomala fafni, Patpatar hahin, Minigir, Tolai vavina, Label hane, Bilurvaina, Kandas ino, Siar fain

PNS *vavine > Petats hihin, Halia (Haku) hahine 'cross-sibling', Taiof fafine 'cross-sibling', Hahon, Papapana vavine 'cross-sibling', Torau baina, Mono hahine 'cross-sibling', Vaghua vavene 'cross-sibling', Varisi vavani 'cross-sibling', Sengga, Babatana vavini- 'cross-sibling', Vangunu vavene 'cross-sibling'

PEO *vavine, *tavine (cf. Tryon 1976:230-234)

PSS *vavine, *vaivine > Bugotu, Gela, Talise vaivine, Birao vaviŋe 'cross-sibling', Malango, Lengo vavine 'cross-sibling', Longgu vavune, Dori'o fafune, Bauro, Faghani, Kahua hehene, Arosi haihine

PSV *vavin(e)/*[na]vin(e)/*na-tavine (Lynch 1978c)

(3.45)   POC *api 'fire' (cf. example 3.29) >

PBEL *yav(i) > Wab yab, Biliau yau, Mindiri, Ham, Bilibil, Gedaged ya, Takia yai, Matukar yau

PSCH *yavi > Medebur yo, Manam eu(a), Bam yeu, Wogeo you(a), Kis yu(o), Kaiep ju(o), Terebu you, Kairiru yaw(os), Ulau-Suain ya, Ali liəp, Tumleo yiep

PHG *yavi > Numbami yawi, Yabem, Bukawa ya, Kela yap, Kaiwa yev, Kapin ya, Mari, Wampur zah, Sukurum saf, Adzera zaf, Yalu cif, Wampar zif

PPT *yavi > Yamalele yavi-yavi 'warm', Dobu yai-yai 'warm', Suau (Gadaisu) yafi, Magori evi, Motu lahi

PWZ *yavi > Nakanai havi, Meramera wavi

PLN *if '(fire) burn' > Kara, Nalik (fa)if 'burn (s.t.)', Nalik (ka)if 'fire'

PNI *yavi > Notsi ie, Lihir ieh, Barik ya, Sursurunga iahi-ah, Tangga if, Konomala, Siar iaf, Patpatar, Label iah, Minigir iavi, Tolai, Bilur iap, Tolai (Nodup) eav(u),

PNS *avi > Taiof (w)af, Banoni (z)ai, Piva (vi)avi

PEO *avi (Levy, n.d.) > Gela avi 'burnt by fire'

(3.46)   POC *qupi 'long yam' >

Residual Vitiaz: Kilenge, Maleu (na)kiu (metathesis), Mangap kiu (metathesis), Barim, Malasanga kui-kui, Nenaya, Roinji gui

PSCH *qui > Kaiep uo, Kairiru u, Ali ui, Tumleo uyi

PHG *yuvi > Kela guwi

PPT *quvi > Doga ubi, Anuki, Boianaki, Paiwa, Bwaidoga (Iduna), Kalokalo, Gawa kuvi, Are kubi, Gumasi kui, Yamalele ʔuvi, Kilivila kupi (-p- for exp **-v- unexplained), Muyuw kuv, Mekeo (u)ʔui

Bali, Vitu yuvi

PWZ *yuvi > Bulu, Bola yuvi, Nakanai huvi

PNI *uvi > Notsi ui, Tabar uvi, Lihir uih, Barok o, Konomala uf, Patpatar, Label uh, Minigir, Tolai (Nodup) uv(u), Tolai, Kandas up

PNS *quvi > Taiof uf, Papapana, Uruava, Vangunu uvi, Hahon, Teop voi (metathesis), Tinputz voe (metathesis), Banoni (v)ivi, Torau ui, Mono uhi, Kokota, Maringe (n)ufi, Blablanga (nh)ufi

PEO *quvi (Levy n.d.) >

PSS *huvi > Bugotu, Gela, Lengo uvi, 'Are'are uuhi, S. Malaita, Arosi uhi

PSV *n-up (Lynch 1978c:730; 1982b)

(3.47)   POC *ʀopok 'fly' (cf. example 3.30) >

Mussau loo

PBEL *rowo > Biliau, Mindiri -ro(i), Bilibil -ro, Gedaged -ʃau, Takia -rou

PSCH *rowo > Medebur -re(r), Manam -ro(yo), Bam-ruou, Wogeo -rowo, Kaiep -ro, Kairiru -ruo, Ulau-Suain-rue, Ali -ro, Tumleo -luau, Sissano -loə, Sera -lo

PHG *ʀovok > Numbami -low(a), Kaiwa -luep, Hote (Misim) -yovak Yabem -lup, Kela -rop, Sukurum -ruap

PPT *rovoq > Maisin (Marua) -ruf(i), Arifama, Are -robo, Ubir -rob, Anuki -rowog(a), Paiwa, Boianaki, Wedau, Dawawa -rovo, Tawala -lowo, Kurada -lovo, Suau (Daui) -loho, Bohutu -lofo, Kilivila -yo, Muyuw -yow, Misima -ou, Nimoa (w)o, Sudest yowo, Ouma, Magori revo, Keapara (Maopa), Lala -lovo, Sinagoro (Balawaia) -loyo, Motu, Doura -loho, Gabadi -ro, Roro -robo, Kuni -lobo, Mekeo -nopo

Bali rovok(o)

PWZ *rovo > Bola (kadi)rovo bird, Nakanai, Meramera lovo

PLN *ro > Lavongai ŋo(i), Tiang io-io

PNI *rovoy > Label rohoi, Kandas ro, Duke of York rovo, Siar rofoi

PNS *rovo > Nehan lu-luh, Solos noh, Petats loh, Taiof ruaf, Hahon navo, Tinputz no, Teop naovo, Papapana naovo(e), Torau ro, Mono loho

PEO *ʀovo (cf. Tryon 1976:475-477) >

PSS *lovo > Bugotu ðovo, Gela, W. Guadalcanal, Talise, Birao, Longgu lovo, Malango lo-lovo, Lau, N. Malaita, Kwai, Langalanga, Kwaio, Dori'o lofo, Kwara'ae loh, S. Malaita, Oroha, Arosi roho

(3.48)   POC *p-ipi, *n-ipi, *m-ipi 'dream' (cf. example 3.36) >

Residual Vitiaz: Lukep, Malasanga mi

PBEL *mi(i) > Ham -mi-

PHG *vivi, *mivi, *nivi > Numbami -(ni)niwi, Kaiwa -(eŋk)mev, Vehes -ñevi(n), Manga Buang -mavi(n), Patep -vvi(a), Piu -vave, Yabem -(i?)mi, Bukawa -(e?)mbi, -(eŋ)mbui

PPT *nivi > Bunama -nivi-nivi, Kurada -nihi-nihi, Magori, Keapara (Hula), Gabadi -nivi, Sinagoro (Balawaia) -nuvi, Motu, Doura -nihi, Roro, Kuni -nibi, Mekeo -nipi

Vitu -(maŋi)nuvi, Bali (moŋeni)nipi (-p- for exp *-v-)

PNS *mivi > Maringe mifi

Reflexes of POC medial *-p- as -p- are rare.  Where they occur, as in Kilivila kupi 'yam' (example 3.46) and Bali (moŋeni)nipi 'dream' (example 3.48) above, other members of the cognate sets show that they are unexplained sporadic strengthenings, rather than directly inherited reflexes of POC *-p- (Note that Mekeo -p- is the lenis reflex of *-p-: see Table 30).

Examples of word-initial lenition of POC *p- in languages other than the Ngero group are:

(3.49)   POC *pasoq 'plant (tuber' +) (cf. example 3.37) >

PSCH *vaz(o) > Kairiru -vyas, Tumleo -uəs, Sissano-as

PHG *[va]soɣ > Kaiwa -vro, Hote (Misim) -vaðo, Manga Buang -warooh, Mapos Buang -varoh

PPT *vazo > Maisin (Marua) -wa, Are, Paiwa -bao(ni), Tawala -wago(ya), Dobu -aso, Keapara (Maopa) -varo-varo, Sinagoro (Balawaia) -varo, Motu -hado, Gabadi -vago(ida), Lala -(va)vado, Roro -bato, Kuni -bado

Vitu vaðoɣ(i), Bali vazoɣ(i)

PWZ *vaso > Bulu, Bola varo

PLN *fasu > Kara, Nalik fasu

PSS *vaz-i > Gela vahi, Lau hasi, Arosi hasi

(3.50)  POC *pudi 'banana' >

Mussau, Tenis uri

PSCH *udi[a] > Medebur, Bam, Kaiep, Ulau-Suain ud, Manam udi, Kairiru uř, Ali ur, Tumleo wuər, Sissano wur, Sera bur

PHG *vudi > Numbami undi, Kela (a)uŋ, Bukawa hùŋ, Kaiwa, Vehes, Manga Buang, Mapos Buang vud, Hote vuŋ, Piu yud, Silisili fun

PPT *vudi > Diodio, Bwaidoga, Dobu, Tubetube udi, Molima vudi, Duau, Bunama hudi

PWZ *vudi > Bulu, Bola, Meramera vudi, Nakanai vugi

PLN *fud > Tigak ur, Kara fut, Nalik fud(u)

PNI *vudi > Notsi udi, Tabar vudi, Lihir uin, Sursurunga, Label hun, Lamasong ud(u), Madak, Barok, Bilur, Kandas, Nduke of York un, Patpatar hudu, Minigir, Tolai vud(u), Siat fun

PNS *vudi > Solos hut, Petats, Taiof fur, Halia (Selau) wur, Teop vuri, Uruava, Lungga vudi, Torau udi

PEO *vudi (Levy n.d.) >

PSS *vudi > Bugotu, Gela, W. Guadalcanal, Lengo vudi, Talise vuci, Birao, Malango vuji, Longgu vugi, Lau, N. Malaita fudi, 'Are'are husi, S. Malaita husi, Arosi hugi, Bauro, Faghani, Kahua huki

[a] Tumleo, Sissano w, Sera b reflect an onglide *[w] before PSCH word-initial *u- and *o-, and do not reflect POC *p-.

(3.51)  POC *panua 'settlement' >

PSCH *vanua 'village' > Manam anua, Bam anu 'earth', Wogeo vanua, Kis una, Kaiep wanu, Terebu banu, Kairiru vanu

PHG *vanu(a) 'house' > Yabem, Bukawa andu, Labu hanṵ

PPT *vanua 'village' > Kakabai vanua, Diodio, Bwaidoga (Iduna), Kalokalo manua (m- for *v- unexplained), Yamalele vanuga, Dobu, Sewa Bay anua,

Keapara (Maopa), Sinagoro (Balawaia), Gabadi, Lala *vanua*, Motu *hanua*, Kuni *banua*, Mekeo *panua*

Vitu *vanua* 'garden', Bali *vanua* 'island'

PNI *\*vanua* > Label *\*hanua*, Siar *fanu*

PNS *\*vanua* > Nehan *wan*, Halia (Haku) *han*, Taiof *fan*, Teop *van*, Uruava *(dodo) vanua*, Vangunu *vanua* 'house'

PEO *\*vanua* 'land' (Levy n.d.) >

PSS *\*vanua* > Bugotu *vanua* 'land, island', Malango *vanua*, Lengo *vanu*, Kwara'ae *haon*, Kwaio *fanua*, 'Are'are *hanua*, S. Malaita *hanue*, Bauro *henua*, Faghani, Kahua *hinua*

PSV *\*na-vanu(a)* (Lynch 1978c:728)

(3.52)  POC *\*pat[i]* 'four' >

Mussau *(g)at(a)*

PSCH *\*vati* > Manam *wati*, Kis *(e)wa(ni)*, Kairiru *vyat*

PHG *\*vat* > Numbami *wat(a)*, Yabem *aʔ(li̲)*, Bukawa *ha(le)*, Kela *(ŋ)a(e)*, Kaiwa *(ai)vat*, Hote (Misim) *va*, Kapin *vi̲y*

PPT *\*vati*, *\*vat^a* > Ubir *bat*, Arifama, Doga, Anuki, Are *bat(a)*, Dobu *(ʔ)at(a)*, Duau *(e)hat(a)*, Suau (Daui) *hati*, Gumasi *(ai)vasi*, Kilivila *-vasi*, Muyuw *-vas*, Misima *(e)pat*, Nimoa *-pak*, Sudest *-vari*, Ouma *vahi*, Magori *vati*, Keapara *vai-vai*, Sinagoro (Balawaia) *vasi-vasi*, Motu, Doura *hani*, Gabadi, Lala *vani*, Roro *bani*, Mekeo *pani*

Vitu *vat(a)*, Bali *vaa*

PWZ *\*va(t)* > Bulu, Bola, Nakanai *va*, Meramera *(i)va*

PLN *\*fat* > Lavongai *(pu)at*, Tigak *(po)iat*, Kara *(kala)fat*, Tiang *(tal)at*, Nalik *(urula)fat*

PNI *\*vati* > Notsi, Lamasong *et*, Tabar *vati*, Sursurunga *hat*, Tangga *fet*, Konomala *fat*, Madak *wet*, Barok *(ta)vat*, Patpatar, Label *hat*, Minigir *(ai)vat*, Tolai (Nodup) *(ai)vati*, Bilur, Kandas, Duke of York *vat*, Siar *(i)at*

PNS *\*vati* > Nehan *(to)wati*, Solos *het*, Halia (Haku) *(to)hac*, Taiof *fac*, Papapana *(tau)vasi*, Banoni *(to)vaci*, Uruava *uasi*, Torau *(e)vati*, Mono *(e)hati*, Vaghua *(ka)vac*, Varisi *(ka)vasi*, Ririo *vec*, Sengga, Babatana *vati*, Blablanga, Maringe *fati*

PEO *\*vati* (Geraghty 1983a) >

PSS *\*vati* > Bugotu, Gela, W. Guadalcanal, Talise, Birao, Malango, Lengo *vati*, Longgu *vai*, Lau, N. Malaita, Kwai, Langalanga, Kwaio, Dori'o *fai*, Kwara'ae, 'Are'are, S. Malaita, Oroha, Arosi, Bauro, Faghani, Kahua *hai*

PSV *\*vat* (Lynch 1978c:728)

ᵃ Motu, Doura, Gabadi, Lala, Roro, Mekeo share -n- from Proto West Central Papuan *vani for exp *vati.

(3.53)   POC *picanᵃ 'how many?' >

Mussau (ga)isa

PSCH *viza > Medebur (a)ij, Manam ira, Bam ir, Wogeo visa, Ulau-Suain s-is-is, Ali (taha)is

PHG *visa > Numbami wisa, Bukawa hi(ŋŋa), Kaiwa (ai)vir, Hote (Misim) viðe, Manga Buang vir(is)

PPT *viza > Maisin (Marua) viis(i), Ubir bia(m), Arifama bia(ba), Doga bia(mo), Anuki, Paiwa via, Boianaki visa, Wedau bia(ɣa), Tawala (a)biha, Dawawa bisa, Yamalele (ai)via, Molima (e)visa, Dobu (e)isa, Sewa Bay isa, Duau, Bunama, Suau (Daui) hisa, Tubetube isa, Kilivila -vila, Muyuw -vin, Misima (e)hila, Nimoa fie, Sudest biye, Ouma, Keapara (Hula), Sinagoro (Balawaia) vira, Motu hida, Doura (au)hita, Gabadi, Lala vida, Roro bita, Kuni bida, Mekeo pika

Vitu ðiva (metathesis), Bali ziva (metathesis)

PWZ *visa > Bulu, Bola, Nakanai riva (metathesis), Meramera visa

PLN *fisa > Lavongai, Tigak (po)isa(n), Kara (tala)fisa(n), Tiang isə, Nalik (u)sfa (metathesis)

PNI *visa > Notsi, Lamasong, Madak isa, Tabar visa, Sursurunga is, Tángga fis, Konomala sifə (metathesis), Barok use(n), Minigir (ai)visa, Tolai (Nodup) (ai)via, Label isa, Bilur (i)via, Kandas is, Duke of York (tea)vi(n), Siar (i)is

PNS *viza > Nehan (to)wiha, Solos, Halia (Haku) (so)his, Taiof fis, Teop (to)vihi, Mono (re)hila, Vaghua (a)vsa, Varisi, Ririo, Babatana (ava)via, Sengga (ata)via, Lungga, Roviana, Vangunu (ka)visa, Kia, Kokota, Laghu (n)iha(u), Blablanga (n)iha, Maringe (n)iha(i)

PEO *viza (Geraghty 1983a:134) >

PSS *viza > W. Guadalcanal, Birao visa, Talise, Malango(e)visa, Longgu (e)vita(ai), N. Malaita fita(do), Kwara'ae hit(ru), Kwaio fita, 'Are'are hita(ʔore), Arosi siha (metathesis), Bauro, Faghani (i)hita, Kahua (ki)hita

ᵃ POC *c < PAN *j (cf. section 3.6.1).

Of the few instances of POC *p- where all known reflexes are fortis, examples (3.54) to (3.56) are among the most widely distributed in languages where *p- normally has a lenis reflex.

(3.54)   POC *puti 'bladder' >

PPT *poti > Are poti, Tawala, Motu, Sinagoro (Balawaia) posi

PNI *puti > Tabar puti

(3.55)   POC *paka 'leaf, frond' >

PPT *paka > Boianaki paka 'coconut palm'

PLN *paka* > Lavongai *pa*, Tigak *paka-k*, Kara, Tiang *paka*

PNI *paka* > Tabar *paka-paka*, Lihir *peke(lolo)*, Sursurunga *pəkə*, Tangga *pa*, Konomala *paka(i)*, Patpatar, Label, Bilur, Siar *paka*

PNS *paka* > Tinputz *pa(h)*, Teop *paka*

(3.56)   POC *potu* 'bulge' >

Vitu *potu* 'mountain'

PLN *put* > Lavongai, Tigak, Kara *put* 'mountain'

PNI *potu* > Tabar *potu*, Lihir *pot-pot*, Madak *put* 'mountain'

PEO *potu* (Geraghty 1983a:111)

A comparison of examples (3.54) to (3.56) with examples (3.49) to (3.53) shows that the fortis reflexes of POC *p* are far less widely distributed that the lenis. Whilst it is curious that these items, with widely scattered reflexes, should retain (or have re-acquired) a fortis reflex of POC *p-*, it is also possible that further research would uncover cognates with lenis reflexes, and that these examples are not different in kind from (3.57) to (3.65) below, which have a mixture of fortis and lenis reflexes of POC *p-*.

Items with a mixture of fortis and lenis reflexes of POC *p-* can be roughly divided into three categories. The first consists of items apparently of the same kind as the Ngero group examples (3.38) to (3.43) above, where variation in consonant grade is attributable to a one-time productive contrast between non-verb and verb:

(3.57)   POC *panaq* 'bow' (cf. example 3.39) >

PSCH *pana* 'bow' (?), *panak(i)* 'shoot' > Medebur *pan* 'bow'/*-penak* 'shoot', Manam *-pana* 'shoot', Bam *-pa* 'throw', Wogeo *-fan* 'throw', Kairiru *faŋ-faŋ* 'quickly'

PHG *[v,p]aney* 'shoot' > Numbani *-wani*, Hote (Misim) *pen*, Manga Buang, Mapos Buang *-vaneh*, Kapin *-nex*, Wampur *hani*, Sukurum, Dangal, Wampar *-fani*, Adzera *-faniŋk*, Yalu *-faniŋ*

PNI *[v,p]ana[ki]* 'shoot' > Tabar *panek(o)* 'shoot'/*pane-panek(o)* 'bow', Lihir *puen* 'shoot'/ *pu-pen-pen* 'bow', Sursurunga *panki* 'shoot', Tangga *uan* 'shoot'/*pan-uan* 'arrow', Tolai (Nodup) *panaki* 'shoot, arrow', Bilur *panak* 'shoot', 'bow', Duke of York *panak* 'shoot'

PNS *vana* 'shoot' > Nehan *wan*, Solos *ha-hana*, Petats, Halia (Haku), Mono *hana*, Taiof *fana*, Hahon, Teop *vana*, Tinputz *van*

PSS *vana* 'hunt', 'shoot', *vana-si* 'shoot at' > Gela *vana* 'shoot'/ *vanahi* 'shoot at', Lau *fa-fana* 'hunt', Kwaio *fana* 'hunt', Kwara'ae *hansi(a)* 'hunt', 'Are'are *hanasi(a)* 'hunt'

PSV *na-vana(q)* 'bow' (Lynch 1978c:766)

(3.58)   POC *pai* 'weave' >

PNg *vai* > Bariai *-wa-wai*, Tuam, Malai, Gitua *-va-vai*, Malalamai *-wa-wei*

PHG *vai > Numbami wa-wai, Yabem wà, Labu hi

Bali, Vitu -vai

PWZ *vai > Bulu, Bola, Meramera -vai, Nakanai -vei

PLN *pai > Lavongai pai

PNI *[p,v]ai > Konomala pai, Label hai, Siar (y)ai

(3.59)   POC *pilak 'lightning' >

PNg *pil(a) > Bariai pir 'thunder'

PSCH *vilak(i) '(lightning) strike' (?) > Medebur vilik 'lightning'

PWZ *vila > Bola vila

PLN *vilak > Nalik uilak

PNI *[p,v]ila > Lihir iel-iel, Sursurunga, Tangga, Konomala pil, Patpatar hile, Label hil

PNS *pilaya > Nehan pil 'thunder', Solos pina 'thunder', Halia (Haku) pina(ŋu) 'thunder', Taiof pina(guru) 'thunder', Teop pira 'thunder', Banoni pina, Laghu fila, Kokota, Maringe file 'thunder'

PSS *pila > Talise pila-pila, Birao pila(kea), Lengo, Longgu pila(ðia), Bauro, Faghani hira(ia)

The variation in consonant grade in these examples is in accord with the hypothesis that one cause of the fortis/lenis distinction is a morphosyntactic contrast between non-verb and verb, although the distinction itself is barely preserved in present-day languages (but cf. Tangga uan 'shoot'/pan-uan 'arrow' in 3.57). In the following example, the lenis reflexes apparently result from the prefixing of POC *ma-, whilst PNS retains the fortis reflex:

(3.60)   POC *[ma]puta 'sleep' >

PPT *mavuta > Motu mahuta, Keapara (Maopa) mau

PWZ *mavuta > Nakanai mavuta

PNS *puta > Lungga, Nduke, Roviana, Hoava puta, Laghu puta(i)

The second category of items with mixed fortis/lenis reflexes of POC *p- is an extension of the first and is illustrated by examples (3.61) to (3.64). Its members are often verbs, but they include reflexes like PPT *vara 'sun' (3.61), where lenition occurs unexpectedly on a noun, and like the verbs for 'squeeze' (3.63) and (3.64), where it fails to occur. These reflexes are apparently attributable to the fact that lenition has spread beyond the word-medial environment to the word-initial, but has proceeded through the lexicons of WM Oceanic languages at different times and speeds and by different routes (so that, for example, Papuan Tip languages have more lenis reflexes of POC *p- than North-West Solomonic languages).

(3.61)   POC *paʀa '(sun) shine' >

PPT *vara > Bwaidoga (Iduna) vala-vala 'sun', Molima vala 'sun', Duau, Bunama hala 'sun', Nimoa para(e) 'sun', Sudest vara(e) 'sun'

PWZ *para > Bulu, Bola para, Bola (Harua) pala

PNI *para > Tabar para

PNS *para > Tinputz pa, Teop para, Hahon para-para 'moon', Ririo para(?at) 'star',

(3.62)  POC *piri 'twist' >

PPT *[p,v]iri > Sudest pili 'pigtail', Motu hiri 'twist into a knot', Roro biri, Kuni ba-bili '(s.o.) turn round'

PWZ *viri > Meramera (ta)vili(e) 'tie'

PLN *fir > Kara fi, Nalik fir

PNS *viri 'weave (mat)' > Nehan wir, Solos hin, Petats, Halia (Haku) hil, Taiof vir, Tinputz, Teop vin, Mono hili

(3.63)  POC *poros 'squeeze' >

PNg *poro > Gitua -poro

PSCH *por(o) > Bam -puor, Kairiru -fuor, Ulau-Suain -pul

PWZ *puro > Nakanai pulo, Meramera pul(e)

PLN *paros-i > Tigak pagosi

PNI *poros(i) > Tabar poroc(an), Lihir pulac, Madak -plok, Barok -olos, Siar poros

PNS *[p,v]oro[s-o] > Vaghua poro, Ririo puris, Vangunu piloso, Kokota fro, Laghu foro(i), Maringe foro

(3.64)  POC *pisaq 'squeeze (grated coconut)' >

PNg *pisa > Bariai -(ka)pisa, Tuam -piso, Malai -pis, Gitua, Malalamai -pisa

PSCH *pisa[ki] > Manam -pisaki, Bam -(ka)pis, Wogeo-fise, Kairiru -fis

PPT *piza(q) > Ubir -fi-fis(in), Are -pisa(i)

PNI *pusa > Patpatar pusa(ne), Kandas pus, Duke of York pua(i)

The third category of POC *p-initial items with mixed reflexes consists of items possibly attributable to inter-language or inter-group borrowing (cf. section 1.6.1). Thus example (3.65) includes Motu, Keapara (Hula) pai, Vitu pae, Nakanai pai, (for expected Motu **hari, Hula **vali, Vitu **vari, Nakanai **vali), and the irregular loss of POC *R, as well as the initial fortis reflex, may indicate borrowing (both features occur in Mussau and in the Admiralties). Similarly, the unexpected reflexes of POC *p- in Bali/Vitu bonu and PWZ *bonu in (3.66) suggest borrowing.

(3.65)  POC *pari(q) 'stingray' >

PNg *pari > Gitua par, Malalamai paḷ

PPT *vari > Are bari, Paiwa, Wedau vari, Tawala wali, Yamalele vali, Dobu ali, Kilivila vai, Motu, Keapara (Hula) pai (probably indirectly inherited, as the exp reflexes are Motu **hari, Hula **vali)

Vitu *pae* (indirectly inherited, for exp **(p,v)arī*)

PWZ (?) > Nakanai *pai* 'stingray's sting' (Chowning p.c.) (indirectly inherited, for exp **(p,v)alī*)

PNI *vari* > Tabar *vari*, Tangga *fe*

PNS *vari* > Varisi *vari*, Babatana *vare*

PEO *vaʀi* 'ray', 'skate' (Levy n.d.) >

PSS *vali* > Gela, Lengo *vali*, Lau, Kwaio *fali*, 'Are'are, Arosi *hari*, S. Malaita *hali*

PSV *va(l,ʀ)i(q)* (Lynch 1978c:728)

(3.66)   POC *poñu* 'turtle' >

PSCH *poñu* > Manam *poŋ*, Bam *puon*, Wogeo *foin*, Kaiep *fuin*, Terebu *pon*

PHG *von(u)* > Kela *uŋ*

PPT *vonu(q)* > Are *bonu(a)*, Boianaki *monu* (*m-* for exp *v-* unexplained), Wedau, Yamalele, Bunama, Kurada *vonu*, Diodio, Bwaidoga (Iduna), Duau, Kilivila, Suau (Daui), Tubetube *wonu*, Roro *bonu*

Bali, Vitu *bonu*

PWZ *bonu* > Bulu, Bola, Meramera *bonu*, Nakanai *bolu*

PLN *fun* > Lavongai, Tigak, Tiang *un*, Kara, Nalik *fun*

PNI *vonu* > Notsi, Lamasong *un*, Tabar *vo*, Lihir *on*, Barok *(u)vun*, Sursurunga, Patpatar *hun*, Tangga *fon*, Konomala *pun*, Minigir, Tolai (Nodup) *punu*, Tolai, Label, Kandas, Duke of York, Siar *pun*, Bilur *bun*

PNS *voñu* > Nehan *won*, Halia (Haku) *hun*, Taiof *fon*, Banoni *yom*, Babatana *vunu*, Lungga *voñu*, Nduke, Vangunu *vonu*

PEO *voñu* (Levy n.d.) >

PSS *voñu* > Bugotu *voñu*, Gela, W. Guadalcanal, Talise, Birao, Malango, Lengo, Longgu *vonu*, Lau, N. Malaita, Kwaio *fonu*, Kwara'ae *hun*, 'Are'are, S. Malaita, Oroha *honu*, Bauro *(a)vonu*, Faghani *hunu*

PSV *na-vo(u)* (Lynch 1978c:729)

### 3.5.1.3  DEVOICING OF POC *b*

Having established that oral/nasal consonant grade was lexicalised in POC (section 3.4.4), it is clear that there is a second, rarer, source of *p-* in WM Oceanic languages, namely the occasional devoicing of POC *b*. Examples are:

(3.67)   POC *buku* 'protuberance' >

PLN *buk* 'knee' > Kara (West) *buk(i)-*, Nalik *buk-buk*

PNI *buku > Notsi buk 'mountain', Tabar puku-puku 'knee', Lamasong (pap)buk 'joint', Sursurunga (kal)puk(də) 'joint', Tangga puk(a) 'joint', Patpatar buk 'swell, joint', Minigir, Tolai (Nodup) buku-buku 'joint', Label boko 'joint', Kandas, Siar buk 'elbow'

PNS *(b,p)uku > Sengga po-puku 'knee', Babatana pu-puku 'joint', Roviana puku(a) 'tie, knot', Blablanga pu-puku(nu) 'knee'

PEO *[b,p]uku 'swelling, knot' (Geraghty 1983a:112) >

PSS *puku > Bugotu puku 'swelling from blow, lump, knot, tumor' (Geraghty 1983a:112), Gela puku 'knot' (Geraghty 1983a:112)

Maewo: Navenevene buŋu- 'knee', Tam buk 'knee' (Tryon 1976:215)

(3.68)  POC *bekas 'excrete' >

PNg *beɣa > Kove -ve-vea, Gitua -bega

PSCH *beka > Wogeo (ra)beka 'faeces', Kairiru -(ta)beq

PNI *(b,p)eka > Tabar, Minigir peka, Tolai, Kandas, Bilur peke

PNS *beɣa[sa] > Nehan beh, Teop be-beaka, Tinputz pe-peak, Banoni beɣasa, Vaghua biɣa, Varisi beɣa

PEO *veka[z-] 'defaecate (on)' (Geraghty 1983a:267)

PSS *veɣa > Bugotu ve-veɣa, W. Guadalcanal veɣa, Longgu veʔa-veʔa, Kwaio feʔa, 'Are'are, Oroha heʔa, Faghani, Kahua heɣa

PSV *-v(e)ka(s) (Lynch 1978c:770)

(3.69)  POC *bune 'pigeon' >

PNg *bune > Tuam bun, Malai bun(umo)

PSCH *bune > Manam bune, Kis buni, Kaiep, Kairiru bun

PPT *bune > Are, Tawala, Bwaidoga, Dobu, Sewa Bay bune-bune, Kilivila bu-bona, Muyuw bwa-bun, Misima buni-buni, Keapara (Maopa), Motu pune

PNI *bune > Notsi bun(a), Madak bun-bun, Barok pun

The three cognate sets above reflect items with POC *b- (although PEO/PSS 'defaecate' do reflect a case of morphologically conditioned oral/nasal grade cross-over).  Tabar puku-puku 'knee', Sursurunga (kal)puk(də) 'joint', Tangga puk(a) 'joint', the North-West and South-East Solomonic reflexes of POC *buku, the New Ireland reflexes of *bekas, and Keapara (Maopa), Motu pune, Barok pun 'pigeon' all appear to reflect the devoicing of *b-.  Similar cases appear in earlier examples: Bulu mapulu, Lihir mapul 'rotten' (in 3.5) probably reflect POC *mabuʀu(k) (cf. Gela, W. Guadalcanal, Talise mabulu); Are, Boianaki puso-, Kurada pohi-, Tubetube, Kilivila poso-, Misima poho-, Bali puzo-, Vitu puðo-, all 'navel' (example 3.15), probably reflect POC *buso-, whilst Banoni pocu reflects POC *buto- (3.19).

### 3.5.1.4 POC *p: CONCLUSIONS

I have set out to show here that the fortis-/lenis-grade contrast in reflexes of POC *p in Oceanic languages can be explained without recourse to the reconstruction of that contrast in POC – or in any proto language superordinate to the genetic groups established in this work. Items where different language groups show a mixture of fortis and lenis reflexes of POC *p are explained by the hypothesis that lenition has occurred independently at different times and places in the history of Oceanic languages, sometimes through morphological conditioning. A smaller role in establishing the fortis/lenis contrast has probably been played by borrowing, and a smaller role still by the occasional devoicing of POC *b.

This leaves us, however, with the question of why the same sound change has occurred independently with such frequency. The answer probably lies in the fact that the POC phoneme paradigm (Table 2) had no fricatives (unless the trill *r is counted as a fricative). The intervocalic lenition of stops is a sound change which occurs frequently cross-linguistically, and the presence of gaps in the paradigm to accommodate its output would facilitate its occurrence.

### 3.5.2 REFLEXES OF POC *k

### 3.5.2.1 OVERVIEW

The behaviour of POC *k is in some respects predictable (because it resembles that of *p), in others rather surprising (see section 3.5.2.2). Its predictability lies in the facts that

a) there is no cause to reconstruct a fortis/lenis contrast for *k in POC;

b) there is some irregularity in reflexes, indicating that lenition has occurred independently at various times and places;

c) lenition is more common medially (examples 3.70 to 3.73) than initially (examples 3.74 to 3.78);

d) most groups of languages treat POC *k in the same way as they treat POC *p; thus the pattern of reflexes in the Ngero and Korap languages in Table 12 is very similar to that in Table 11 – Ngero languages have fortis and lenis reflexes word-initially but only lenis word-medially, and residual Vitiaz languages show no word-initial lenition.

The process of lenition in relation to POC *k seems commonly to have gone through the stages:

$$k \longrightarrow \gamma \longrightarrow ? \longrightarrow \emptyset$$

although the *$\gamma$ or *? stage was in some cases perhaps bypassed. Hence in reconstructed forms I use *k for the fortis (or only) reflex, *$\gamma$ or *q (for probable [?]) for the lenis reflex.

Of the following examples, (3.73), (3.77) and (3.78) display a larger than average collection of fortis reflexes (see also examples 3.55, 3.67 and 3.68), whilst the remainder in general have lenis reflexes in languages where lenition has occurred.

(3.70)   POC *pa[i]nako 'steal, (do) illegally' >>

Mussau *ainau*

PNg *panayo ? 'illegal'/ *vanayo 'steal' > Kove -panaho 'steal', Malalamai -wanoyo

Residual Vitiaz: Tami (m)inau 'steal'/(pi)pinau(adin) 'thief', Sio -panaw(e), Lukep -pino, Malasanga -puno, Roinji pana(i)

PSCH *-vanako > Manam -ena?o, Bam -nak, Wogeo -vanako, Kairiru -vanaq, Ulau-Suain -(ñam)ana(i)

PHG *-[p,v]ainayo > Numbami -wena, Kaiwa -vaina, Kapin -panay, Dangal -pina

PPT *vainaqo > Ubir bainau, Yamalele vainago, Kilivila veilau, Muyuw ven, Motu henao, Gabadi vainao, Lala vina?o, Roro bainau, Mekeo painau

Vitu, Bali vanayo

PWZ *[p,v]a(i)nako > Bulu, Bola panayo, Bola (Harua)vinako

PLN *fainau > Lavongai (t)ainau, Kara fenau, Nalik finau

PNS vaina(y)o > Nehan we-wenau, Uruava vainao

PSS *vanayo > W. Guadalcanal vanayo, Bauro, Kahua hanayo

PSV *vVnak(o) (Lynch 1978c:729)

TABLE 12: REFLEXES OF POC *k IN SOME VITIAZ STRAIT LANGUAGES

| POC | *k | *k- | *-k- | *-k- |
|---|---|---|---|---|
| | fortis | lenis | | |
| PNg | *k- | *∅- | *-y- | *-y |
| Kove | k- | ∅- | -∅-,-h- | ... |
| Lusi | k- | ∅- | -∅-,-h- | ... |
| Bariai | k- | ∅- | -∅- | ... |
| Tuam | ... | ∅- | -g- | -k,-y,-∅ |
| Mutu | ... | ∅- | -g- | . |
| Malai | ... | ∅- | -g-,-∅- | -∅ |
| Gitua | ... | ∅- | -g- | . |
| Malalamai | k- | ∅- | -g-,-∅- | -∅ |
| Kilenge | k-; -k- | . | -∅ | ... |
| Maleu | k-; -k- | . | -∅ | ... |
| Sio | k- | ... | -∅ | . |
| Tami | k- | ... | -∅-,-g- | . |
| Barim | k- | ... | -∅ | . |
| Lukep | k-; -g- | ... | -∅ | . |
| Mangap | k-; -k- | ... | -∅ | . |
| Malasanga | k- | ... | -∅ | . |
| Nenaya | k- | ?-,∅- | -∅ | . |
| Roinji | k- | y- | -∅ | . |

(3.71)  POC *ikan 'fish' >

PNg *iya > Kove iha, Bariai ia, Tuam ik, Gitua, Malalamai iya

Residual Vitiaz: Kilenge, Maleu (na)ia, Mangap ie, Malasanga ia

PSCH *ika > Medebur, Bam ik, Manam iʔa, Wogeo ika

PHG *i(ɣ)a > Numbami ia, Kaiwa, Yabem, Bukawa i

PPT *iqan > Ubir ian, Anuki igan(a), Are, Paiwa, Wedau, Taupota, Dawawa, Diodio, Dobu, Duau, Gumasi, Kilivila ian(a), Bwaidoga, Yamalele igan(a), Kalokalo iyan(a), Molima yivan(a), Tubetube ie, Muyuw in

Vitu (ɣ)iɣa, Bali iɣaŋ(a)

PWZ *ika > Bulu ixa, Nakanai ia, Meramera (a)iʔa

PLN *ian > Lavongai, Tigak ian, Kara (d)in, Tiang(d)iən, Nalik ian

PNI *ian > Tabar ia, Lihir (mac)ien, Barok en, Minigir en(i), Tolai en, Bilur i, Duke of York ian

PNS *iyan-a > Nehan, Taiof, Tinputz ian, Solos iean, Petats ien, Halia (Haku), Hahon, Teop, Papapana, Uruava, Mono iana, Piva (v)iyana, Lungga, Nduke, Roviana iyana

PSS *iya > Bugotu, Gela, Lengo iya, Longgu iʔa, Lau iia, Kwaio, Arosi iʔa, Bauro (a)iya

(3.72)  POC *[ma]takut 'fear' >

Mussau mataut(u)

PNg *mataɣuz-i 'fear (s.o.)' > Kove matauði, Gitua mataguz(a)

Residual Vitiaz: Kilenge matau, Mangap moto

PSCH *matakuzi 'fear (s.o.)' > Manam mataʔuri, Bam matakur, Kaiep matak

PHG *[ma]ta(ɣ)ut > Yabem ṭiʔ, Bukawa töʔ, Labu molo

PPT *mataqut > Kukuya, Diodio, Bwaidoga, Duau mataut(a), Taupota, Tawala matout(a), Molima mataʔut(a), Dobu mataut, Suau (Sariba), Tubetube mataus(i), Nimoa matok, Sudest mararu (second -r- unexplained), Gabadi mekau, Lala, Kuni makau

PLN *mataut > Kara mataut, Tiang motot, Nalik mitaut

PNI *mataut > Notsi mata, Sursurunga matut, Lamasong, Madak matat, Label mataut, Siar matut-ut

PNS *matayut-u > Petats matout, Halia (Haku) matutu, Roviana matayutu, Kia ma-mayu, Blablanga, Maringe mhayu

PSS *matayu > Bugotu, Gela, W. Guadalcanal, Talise, Lengo matayu, Longgu ma'u, Lau mo, Kwaio, 'Are'are, Oroha ma'u, Arosi ma-ma'u, Bauro, Faghani maayu, Kahua mayu

PSV *-metayut (Lynch 1978c:727, 764)

(3.73)   POC *wakaʀ 'root' >

Mussau ua(ŋ-ai), Tenis oa

PNg *way(a) > Tuam way

<u>Residual Vitiaz</u>: Kilenge, Maleu oke-oke, Lukep waga-

PSCH *wak(a) > Wogeo wag(ro), Ulau-Suain wa-

PHG *wakac > Numbami woka, Yabem, Bukawa waka', Kela waka(n), Kaiwa wakas, Wampur ua'(ian), Dangal wak

Vitu *vorak(a) (metathesis), Bali vakar(a)

PNI *wakar > Konomala, Label uakir, Minigir okor(i), Tolai okor, Bilur vakar(ai), Kandas wak-ak-or, Duke of York ak-ak-ar, Siar fakri

PNS *ayar-a > Nehan wan (for exp **ar: < New Ireland?), Halia (Selau) ara, Hahon, Teop ana, Banoni (b)ayara, Uruava, Torau (aŋ)ara, Nduke ayara, Kia (z)ayara, Blablanga (z)agra

PSS *waya > Bugotu, Lengo oya, Gela oya 'small roots', Bauro (a)vaya-, Kahua vaya-

PSV *na-waya- (Lynch 1978c:733)

(3.74)   POC *kayu 'tree' >

Mussau ai

PNg *(y)ai > Tuam, Malai, Gitua ai, Malalamai yei

<u>Residual Vitiaz</u>: Kilenge, Maleu (n)ai, Tami, Lukep, Malasanga kai, Sio kɔe

PSCH *kai > Medebur, Wogeo ka, Manam 'ai, Bam kai, Kis, Terebu, Ulau-Suain, Ali, Sissano, Sera ai, Kaiep kie, Kairiru qai, Tumleo iei

PHG *yai > Numbami ai, Yabem ka, Bukawa a, Kela ai, Kaiwa ei, Manga Buang haah, Patep, Kapin yay, Piu yyah, Mari, Wampur, Sukurum, Adzera gai, Silisili, Wampar ga'

PPT *qayu > Maisin (Marua) kaa, Arifama, Wedau, Kukuya, Diodio, Bwaidoga, Misima ai, Anuki, Boianaki, Kakabai, Kalokalo, Kilivila, Muyuw kai, Yamalele ai, Molima 'aiw(e), Dobu, Sewa Bay, Duau kaiw(e), Ouma 'au, Sinagoro (Balawaia) yau, Keapara (Hula), Motu, Doura, Gabadi, Lala, Kuni, Mekeo au

Vitu, Bali yai

PWZ *kai > Bulu yai, Bola kai, Meramera ai

PLN *Yai > Lavongai, Tigak, Nalik iai, Kara uai, Tiang uəi

PNI *ɣai > Notsi, Lihir *ie*, Tabar *ai*, Konomala, Label *uai*, Bilur *vai*, Siar *iai*

PNS *ɣayu > Piva ɣ*au*, Uruava, Torau, Mono *au*,

Sengga *azu*, Babatana ɣ*azu*, Lungga ɣ*ou*, Blablanga *gazu*, Maringe *gaju*

PSS *ɣai > Bugotu, Gela, Talise, Lengo ɣ*ai*, Longgu, Lau, Kwaio, 'Are'are, S. Malaita *ʔai*, Bauro, Faghani ɣ*ai*

PSV *na-ɣai(u) (Lynch 1978c:724)

(3.75)   POC *kani 'eat' >

PNg *-ɣani > Kove -*ani* 'eat'/(pa)hani 'feed' (Chowning 1986), Bariai -*an*, Tuam, Malai, Gitua, Malalamai -*gan*

<u>Residual Vitiaz</u>: Kilenge, Malasanga -*kan*, Sio -*ka*, Roinji -ɣ*aŋ*

PSCH *-kani > Medebur, Wogeo -*kan*, Kis -*ani*, Kaiep -*kaŋ*, Kairiru -*qan*, Ulau-Suain -*an*, Ali -*ʔeŋ*, Tumleo -*iən*, Sissano -*ʔañ*, Sera -*ʔaŋ*

PHG *-ɣani > Numbami -*ani*, Yabem -*èŋ*, Kela -*iŋ*, Kaiwa -*en*, Hote *(y)aŋ*, Manga Buang, Mapos Buang -*ha*, Patep, Kapin -ɣ*a*

PPT *qai/*qani > Bwaidoga (Iduna) -*ʔae*, Molima, Dobu -*ʔai*, Sewa Bay, Duau -*ai*, Kilivila, Muyuw -*kai*, Bina, Magori, Keapara (Hula), Motu, Doura, Lala, Kuni, Mekeo -*ani*

Vitu, Bali ɣ*ani*

PWZ *kani > Bulu ɣ*ani*, Bola *kani*, Nakanai *al-ali*, Meramera *ʔani*

PNI *Yani > Lihir, Tangga *ien*, Sursurunga *in-an*, Lamasong, Madak *an*, Patpatar, Tolai *ian*, Minigir *eani*, Label *en*

PNS *ɣani > Nehan *en*, Solos *hen*, Taiof *aiŋ*, Hahon, Teop *an*, Papapana, Torau *ani*, Mono *aaŋ*, Lengga, Roviana ɣ*ani*, Kia ɣ*ani-ni*

PSS *ɣani > Gela ɣ*ani(a)*, W. Guadalcanal ɣ*a-ɣani*, N. Malaita *ani*, Kwaio *ani-ʔani(a)*

PSV *[k,ɣ]an(i) (Lynch 1978c:725)

(3.76)   POC *kiʀam 'axe' >

Mussau *iem(a)*

PNg *(ɣ)iʀa > Gitua *ira*, Malalamai **ila*

<u>Residual Vitiaz</u>: Tami *kil*, Roinji *kila*

PSCH *kira > Bam *kir*, Kis *kila*, Kaiep *kir(i-tənon)*, Ulau-Suain *ir(tinañ)*, Tumleo *el(tanin)*

PHG *ɣiʀam > Numbami *ilam(a)*, Yabem, Bukawa *ki*, Kaiwa *il(kapkapul)*, Kote (Yamap) *iam*, Silisili *ge*, Wampar *geʔ*, Yalu *(a)ec*

PPT *qiram > Anuki, Are, Paiwa *kiram(a)*, Arifama *iram*, Tawala, Diodio *ilam(a)*, Kalokalo *kilam(a)*, Yamalele, Molima *ʔilam(a)*, Dobu *ʔila*, Duau *kila*,

Iwa, Gawa *kima*, Keapara (Maopa) *yiro*, Motu, Gabadi *ira*, Lala, Kuni *ila*, Mekeo *ina-ina*

Vitu, Bali *kira*

PWZ *\*kira* > Bulu, Bola (Harua) *kila*, Bola *kira*, Nakanai *ila*

PNI *\*iram* > Patpatar *ram*, Label *iram*

PNS *\*yiram-a* > Tinputz (Kurtachi) *(a)ilam* 'straight-bladed adze' (Blackwood 1935), Vangunu *hirama* 'cut (wood)', Maringe *(n)hirama axe*

PEO *\*kiʀa* (Geraghty 1983a:160)

PSS *\*yila* > Gela *yila*, Lau, Kwaio *ʔila*, 'Are'are *ʔire*, Arosi *ʔiira*

(3.77)  POC *\*kusupeq* 'rat' >

PNg *\*kuzuve* > Kove *kuðuke* (-*k*- probably from Bali, q.v.), Bariai *kuduke* (-*k*- probably from Bali, q.v.), Tuam *uzub*, Malai *uzuv*, Malalamai *kusi*

Residual Vitiaz: Kilenge *(na)kiwe*, Lukep *kuyu*, Malasanga *kui*, Roinji *kuyu-yu*

PSCH *\*kusive* > Wogeo *kusive*, Kaiep *ku*, Kairiru *qusiu*, Sera *bisi*

PHG *\*kusuv* > Kela *usug*, Kaiwa *uruv(guek)*

PCP *\*kur(u,e)ve* > Ouma *ureve*, Keapara (Maopa) *uruve*, Sinagoro (Balawaia) *kureve*, Lala *udube*, Kuni *idube*

Vitu *kuvuðe* (metathesis), Bali *kuvuzek(e)* (metathesis)

PWZ *\*kusuve* > Bulu, Bola *kuruve*, Nakanai *kusuke*

PLN *\*kusuf* > Tigak *kusi(a)*, Tiang *kuse*, Kara *kuf* (**-*s*-loss unexplained), Nalik *skif* (metathesis)

PNI *\*kusuve* > Lihir *kues*, Konomala *kusi*, Lamasong, Madak *kisap*, Barok *kisuo*, Minigir *kusuva*, Label, Siar *kusup*, Bilur *kue*, Duke of York *kaupa*

PNS *\*kusu* (loss of **-*ve* unexplained) > Nehan *kih*, Solos, Taiof, Banoni *kiso*, Teop *kuho*, Hahon *kuso*, Vaghua *köj*, Varisi *kuzu*, Ririo *kuj*, Maringe *(na)kusi*

PSS *\*yuzuve* > W. Guadalcanal, Talise *yusuve*, Lengo *ðuŋuve* (metathesis), Lau, N. Malaita, Kwaio *ʔasufe*, 'Are'are, S. Malaita *ʔasuhe*, Arosi *kasuhe*, Faghani *yasuhe*

PSV *\*kasup* (Lynch 1978c:725; 1982b)

(3.78)  POC *\*kuku* 'finger' >

PNg *\*kuku* > Malai *u-*, Malalamai *kuku-* 'fingernail'

Residual Vitiaz: Tami *ku-*, Mangap, Lukep, Malasanga *kuku-*

PSCH *\*kuku-* > Medebur, Wogeo *kuku-*, Manam *ʔuʔu-*, Kis *kuku-k*, Kairiru *quo-*

PHG *\*kuku-* > Numbami, Kaiwa *kuku*, Bukawa *ku* 'fingernail', Hote *ku(pik)* 'fingernail', Duwet *ku(ŋk)*

Vitu, Bali *kuku-*

PWZ *\*kuku-* > Bulu, Bola, Nakanai *kuku-*, Meramera *ʔuʔu-*

PNI *\*ku* > Label, Bilur *ku* 'hand', Siar *u(lima)*

PSS *\*yuŋu* > Bugotu *yuu-yuŋu*, Gela, Lengo *yuŋu*, Lau *kuku* (*k* for exp?), Kwaio, 'Are'are, S. Malaita *ʔuʔu*

### 3.5.2.2 A THEORETICAL PROBLEM

According to the principles put forward in section 1.6.2, lenition is a weakening (it eases articulation; it occurs intervocalically first). But this leads to the prediction (well supported cross-linguistically) that *\*k*-lenition should precede *\*p*-lenition, and that, if the lenition process is incomplete, *\*k*-lenition should have proceeded further than *\*p*-lenition. Superficially at least, these predictions seem unsatisfied in WM Oceanic: a sample of eighty items containing POC *\*k*, parallel to the 122-item sample for POC *\*p* reported in section 3.5.1.2, yielded the following results. Of the eighty items:

i) 34 (or 43 per cent) agree among the two or more groups reflecting them in having fortis reflexes of POC *\*k* (*\*p*: 11 per cent);

ii) 17 (or 21 per cent) agree among the two or more groups reflecting them in having lenis reflexes of POC *\*k* (*\*p*: 54 per cent);

iii) 29 (or 36 per cent) have a mixture of fortis and lenis reflexes of POC *\*k* among the two or more groups reflecting them; (*\*p*: 34 per cent);

Thus lenition of POC *\*k* has apparently proceeded less far than the lenition of POC *\*p*. Whereas there are very few instances of medial fortis reflexes of *\*-p-*, examples (3.55), (3.67), (3.68) and (3.73) all include medial fortis reflexes of *\*-k-*.

The theoretical difficulty is compounded by the fact that (as the examples above show) the Schouten and Willaumez groups display only one set of reflexes of POC *\*k*, and in both cases that set includes *k* (in the Schouten languages Medebur, Bam, Wogeo, Kis and Kaiep; in the Willaumez languages Bulu, Bola and Nakanai), implying that lenition of *\*k* has not occurred – although lenition of *\*p* clearly has occurred.

However, there is reason to believe that the theory may not be incorrect, and that the circular inference to which it leads us – namely that lenition of *\*k* did precede that of *\*p* but has been reversed – may be valid. We have circumstantial evidence of this is the case of Mindiri, a member of the Bel family (see Chapter 5). Whereas the other Bel languages agree in reflecting POC *\*k* as *k* and POC *\*q* as zero, Mindiri reflects both as *k*. Unless we assume a primary split of Proto Bel into Mindiri and a language ancestral to all other Bel languages (an assumption not justified by other evidence), we must take it that POC *\*q* became Proto Bel *\*y* or *\*ʔ*, which was lost in all daughter-languages except Mindiri, where it strengthened back to *k*.

We also have theoretical grounds for inferring this reversal of lenition, not only because we predict the lenition of *\*k* prior to *\*p*, but for two other reasons related to the structure of phoneme paradigms:

a) Gamkrelidze (1978:29-31) observes that a paradigm which includes (voiced) γ will normally also include (voiceless) x: but in no WM Oceanic case where POC *k has become *γ has there been a phoneme *x in the system, and there would therefore be some pressure either to delete *γ (as in the residual Vitiaz languages), or to continue to treat it as an allophone of *k, which remains its 'careful' pronunciation (as is the case in a number of WM Oceanic languages, e.g. Nalik);

b) where lenition of *k to *γ or *ʔ is complete, there is a gap in the paradigm: in WM Oceanic languages, the paradigm included *g, with its implicit expectation of the presence of *k (Gamkrelidze 1978:15-16), and this gap was filled either by devoicing *g (as in Kairiru, Sissano and Sera), or backing *t to *k (as in Gabadi), or by reversing the lenition.

If these considerations are valid, then completed lenition of *k (i.e. its loss as a phoneme) is liable to lead either to the deletion of *γ/*ʔ (and the supply of a new *k from another source) or to the restoration of *k. If the latter occurs, then detecting the former lenition of *k becomes very difficult, and we have some reason to infer that *k-lenition did occur at an earlier stage in the history of the Schouten and Willaumez language groups.


### 3.5.2.3 MORPHOLOGICAL ALTERNATIONS

In section 3.5.1.1, forms reflecting the fortis/lenis alternation of POC *p- in Proto Ngero non-verb/verb pairs were noted. Similar Proto Ngero pairs reflecting POC *k- have not been found. However, relics of one such alternation reflecting POC *k- do occur in the Huon Gulf and Papuan Tip groups:

(3.79)   POC *kabit 'hold (in hand)' >

PHG *kapi-ŋ 'tongs' (?) > Sukurum -kapiŋ 'hold in hand', Dangal -kafiŋ 'carry', Yalu -api̲ŋ 'carry' (cf. Tami kapi̲ŋ 'tongs')

PHG *-γabi 'carry' > Numbami -ambi 'carry', Yabem kam, Kaiwa ab

PPT *kapi 'tongs' > Are, Paiwa (siwe)kapi, Wedau kavi(na), Molima (kapi)kapi(a)

PPT *-qabi 'hold' > Anuki kabi, Are -kabi(ni), Bwaidoka, Yamalele -ʔabi

The noun member of this pair, PNHG *kapiŋ, PPT *kapi 'tongs', reflects POC *-b- as *-p-, apparently a devoicing in harmony with initial *k-. PNHG *kapi-ŋ reflects the POC nominalising suffix *-ŋa.


### 3.5.3 LENITION OF POC *t?

Sections 3.5.1 and 3.5.2 respectively have presented the lenition of POC *p and *k. We might reasonably expect the lenition of POC *t, but it has been found only in scattered areas: phonemically in the residual Vitiaz languages Roinji and Nenaya and the Bel languages (where medial *t has split into (fortis) t and (lenis) Nenaya γ, Roinji r/l, Proto Bel *l) and in the languages of south-east Malekula and Epi (Tryon 1976), and subphonemically in Kara and Nalik of New Ireland and Kaulong of south New Britain, where -r- is the intervocalic allophone of t. In the Markham family, POC *t has become r in all environments. The reason for the rarer occurrence of *t lenition evidently

has to do with the structure of the phoneme paradigm of POC and its daughters. The potential outcome of *$t$-lenition is $r$, but this phoneme already occurred in POC, whereas there were gaps in the POC paradigm at **$v$ and **$\gamma$ waiting to be filled.

### 3.6 POC *$s$ AND MILKE'S *$nj$

In the following sections I make two inter-related proposals:

a) that the correspondence set which Milke (1968) subsumed under his POC *$nj$ reflects (as he claimed: Grace 1969) the nasal-grade partner of POC *$s$, i.e. Pre-POC *$ns$;

b) that the reflexes which have been claimed in the literature for POC *$ns$ (Grace 1969) are better interpreted as the lenis-grade reflexes of POC *$s$.

There are three POC laminals and one Post-POC laminal[30] which we need to distinguish in this discussion. These are:

a) POC *$s$ (< PAN *$s$, *$c$, *$z$, *$Z$);

b) Post-POC *$z$, the lenis grade of *$s$ (and written as *$z$ because, like the other two lenis-grade consonants, *$v$ and *$\gamma$, it was almost certainly a voiced fricative);

c) POC *$j$, the nasal grade partner of POC *$s$ (< PAN *$Ns$, *$Nc$, *$Nz$, *$NZ$; i.e. Pre-POC *$ns$, written *$nj$ by Milke).

d) POC *$c$ (< PAN *$j$, and written by Blust 1978a as POC *$j$): merged with POC *$s$ in all WM Oceanic languages outside the Admiralties, but possibly preserved in Proto Central Pacific: Geraghty 1986;[31]

The first three of these segments are the subject of this section, and I return to POC *$c$ in section 3.7.

Tables 13 and 14 are intended to chart a way through the laminal symbols used in this work. Table 14 also lists the mergers which the POC/Post-POC laminals have undergone in the Oceanic language groups from which I draw data. In a number of cases, POC *$c$ has apparently merged with Post-POC *$z$: since all cases of POC *$c$ are medial, and likely to undergo lenition, I have assumed in the table that *$c$ merged with *$s$ and then underwent lenition, and the merger is shown accordingly.

Note with reference to Table 13 that whilst the POC pair *$s$/*$j$ reflects the PAN oral-/nasal-grade pairs *$s$/*$Ns$, *$c$/*$Nc$, *$z$/*$Nz$, *$Z$/*$NZ$, they do not remain a pair in the POC phoneme paradigm (unlike, for example, POC *$p$/*$b$, which reflect PAN *$p$/*$Np$ and *$b$/*$Nb$, and remain a voiceless/voiced pair in POC). Instead, POC *$s$ has no voiced partner (this is later provided by Post-POC *$z$), and POC *$j$ has become the voiced partner of POC *$c$, which has a different origin, namely PAN *$j$. (We might also expect PAN *$Nj$ to result in POC *$j$, but it has no known reflexes in Oceanic languages.) I return to these matters below.

TABLE 13: PAN/PMP LAMINALS AND THEIR POC CORRESPONDENCES

| PAN/PMP | Pre-POC | POC |
| --- | --- | --- |
| *$s$, *$c$, *$z$, *$Z$ | *$s$ | *$s$ (also Post-POC *$z$) |
| *$Ns$, *$Nc$, *$Nz$, *$NZ$ | *$ns$ | *$j$ |
| *$j$ | *$j$ | *$c$ |

TABLE 14: POC LAMINALS AND THEIR RECONSTRUCTED CORRESPONDENCES

| POC | *s | *s | *c | *j | POC mergers |
|---|---|---|---|---|---|
| Post-POC | *s | *z | | | |
| Mussau | s | r | s,r | s,r | *s/*c/*j |
| PEAd | s,c- | ... | r | c | *c/*r, *j/Post-POC *ns |
| PNg | s | z | z | z | *s/*c,*j/Post-POC *z |
| Res. Vitiaz | s | z | z | j | *s/*c |
| PBEL | s | y | y | j | *s/*c |
| PSCH | s | z | z | j | *s/*c |
| PAP | s | ∅ | ∅ | s | *s/*c, *s-/*j- |
| PMGN | s,t | ∅ | ∅ | r | *s/*c, *j/*dr |
| PHG | s | ... | s | j | *s/*c |
| PPT | s | z | z | j | *s/*c |
| Vitu/Bali | ð/z | ... | ð/z | d,t | *s/*c, *j/*dr |
| PWZ | s | ... | s | j, t | *s/*c |
| PNI | s | c | s | c | *c/Post-POC *s *j/Post-POC *z |
| PLN | s | ... | s | s | *s/*c/*j |
| PNS | s | z | z | j | *s/*c |
| PEO | s | z | . | . | (none ?) |
| PSS | s | z(=[ð]) | z(=[ð]) | d | *z/*c,*j/*dr |
| PCPa | s | c(=[ð]) | z | j | (none) |

Notes: (a) Criteria for recognising reflexes of POC *s and *z are given in section 3.6.2.2.

(b) '...' means that no separate lenis reflex of POC *s has been found.

(c) PEAd c- reflects secondary nasal grade (section 9.3.3.2)

## 3.6.1 MILKE'S POC *nj

The set of sound correspondences which necessitates the recognition of Milke's POC *nj, or POC *j in my orthography, has received attention on several recent occasions. Milke (1968) reconstructed seven items containing *j. These are: POC *geju 'nape', *laje 'branching coral', *jari 'paint', *jema 'caulk', *jikap 'bad', *[jo]joŋol 'cork (s.t.)', *jori 'bind'. Of these, *geju, *laje, and *jori remain unchanged in the light of my data and analyses of sound correspondences; *jikap loses its final *-p, becoming *jika, as it is unlikely that the items which Milke gives with reflexes of *-p are members of this cognate set (see example 3.94); *jema and *[jo]joŋol are replaced by *jimir 'putty nut', 'caulking substance' and *joŋ(i) 'plug, stop up' respectively (see examples 3.97 and 3.81 and notes thereto). Lichtenberk (1978) has pointed out that Manam and its neighbours (in the Schouten group) provide evidence of a number of other items reflecting the same proto segment.

Meanwhile, Blust (1976) had drawn attention to a third reflex of PAN *s/c/z/Z in the putative common ancestor of Fijian and Proto Polynesian. He found that some of the items containing this

segment have Melanesian cognates with the sound correspondence upon which Milke founded his *nj (my *j). More recently, Geraghty (1986) has reconstructed a number of Proto Central Pacific items containing PCPa *j: those of his items which are reconstructed here for POC (the examples below include Geraghty's reconstructions) all contain POC *j. Four of Geraghty's items (see examples 3.86, 3.96, 3.102 and 3.107) are among those reconstructed by Blust with his 'third reflex', whilst the first three are also reconstructible in POC with *j. It is thus clear that one source of Blust's 'third reflex' and of Geraghty's PCPa *j is indeed POC *j.

The cognate sets given below as examples (3.80) to (3.89) and (3.91) to (3.106) strongly support the admission of *j as a member of the POC phoneme system. These sets are divided into two groups, (3.80) to (3.89), which have known non-Oceanic cognates, and (3.91) to (3.106) which do not:

(3.80)  PCEMP *ma(n)ser 'marsupial rat' > POC *m(w)aj[o,a] 'bandicoot' >

PSCH *mwaja > Terebu mweidə, Ulau-Suain mwaj, Ali maic, Tumleo miəc

PPT *mwaja > Sudest mwaja-mwaja, Sinagoro (Balawaia) mora, Motu mada, Gabadi moaga, Lala moata

Vitu mayudu (metathesis for exp **muado ?)

PWZ *majo > Meramera maso

PCPa *mwa(z,j)o 'k large rat' (Geraghty p.c.: Fijian reflexes only)

(3.81)  PAN *seŋseŋ 'plug, stop up'[a] > POC *joŋi >

PSCH *-joŋ > Manam (ro)zoŋ 'cork (s.t.)' (Lichtenberk 1978)

Residual Vitiaz: Tami jo-joŋ 'plug'

PHG *-joŋ > Numbami -do-doŋ(a), Yabem - su̇ŋ, Adzera -nzoŋ(an) (Milke 1968)

PSS *doŋ(i) > Gela do-doŋ(ana) '(cork) tightly fitted' (Milke 1968)

PCPa *joŋo[-t] (?) > Fijian soŋo[ta] 'shut up, close up, cork up' (Milke 1968)

[a]Proto Minahasan seŋseŋ (Sneddon 1978). Milke reconstructs POC *joŋol, with the second syllable witnessed by Tolai doŋol 'small stopper'; this is a doubtful cognate at best, as it has d- for exp **s-.

(3.82)  PAN *he(n)si 'flesh', 'meat' (Mills 1981, Blust 1981b) > POC *jiji 'meat, fat', grease'[a] >

Residual Vitiaz: Tami jit 'fat'

PHG *jiji 'fat' > Numbami didi, Yabem (ŋa-l)ìsì, Bukawa (ŋa)sì 'pig fat', Kela (ŋa)risi, Kaiwa sisi, Hote diŋ, Vehes jiji, Manga Buang daji, Mapos Buang jji, Patep hzi, Kapin dɛzi, Wampar zi 'meat'

Proto Central Papuan *titi 'meat' (for exp **didi) > Doura sisi(ni-vei) 'fish', Lala, Kuni sisi 'meat, fish', Mekeo tiiti

PNI *(c,s)i(c,s)i > Konomala sis 'meat', Label sis 'fish', Siar sisi

PCPa *jiji 'slip' (Geraghty 1986)

aThe identification of these PAN and POC reconstructions with each other is semantically questionable, but the POC reconstruction is justified by the data.

(3.83) PAN *siʀi *Cordyline, Dracaena* (Blust 1984d) > POC *jiʀi >

PNg *siʀi 'grass-skirt' > Bariai *(daŋa)si-sid*

Residual Vitiaz: Kilenge *(na)sir* 'grass-skirt', Mangap *sere(kini)* 'grass-skirt', Lukep *sere(k)* 'grass-skirt', Malasanga *zir*

PBEL *jir 'grass-skirt' > Biliau *zier*, Mindiri, Bilbil *da-dir*

PSCH *jiri(i) > Kairiru *jir* 'k small pandanus'

PHG *jiʀ > Numbami *dil(au)*, Kela (Apoze) *zuru*, Wampur *ri-nci?*, Adzera *ji-nji*, Yalu *ciji?*

PLN *sir > Tiang *si*, Nalik *sir*

PNI *ciri > Notsi *ci'l*, Konomala *si*, Bilur, Duke of York *ir*, Kandas, Siar *sir*

PSS *dili > Gela, Lau, Kwaio, S. Malaita *dili*, Arosi *diri*

PCPa *jii (Geraghty 1986)

(3.84) PAN *ta(z,Z)im 'sharpen' > POC *tajim >

PEAd *tac(i) > Nauna *tic*

PNg *tazim(-i) > Malalamai *-taziŋ* 'sharpen (stick)'

PSCH *taji > Wogeo *-taji* 'sharpen (stick)', Kaiep *(ma)sas* 'sharp', Kairiru *(ma)taj* 'sharp', Ulau-Suain *(ma)taj* 'sharpen (stick)'

PCPa *taji 'shave' (Geraghty 1986)

(3.85) PAN *pespes 'squeeze' > POC *poji >

PNS *poji > Nehan *pos*, Solos *pot*, Petats, Halia (Haku), Taiof *poc*, Teop *pos*, Ghove, Maringe *poji*

PSS *podi > Bugotu *poji* (-*j*- for exp **-*d*-), Gela *podi*

(3.86) PAN *ŋusuq 'snout' (Blust 1981b) > POC *ŋuju 'snout, mouth, beak' >

Mussau *ŋusu-ŋu*, Tenis *ŋuso-ŋo*

PEAd *ŋucu- 'lips' > Andra, Leipon *ŋucu-*, Mokoreng *ŋucu(buha)*

PNg *ŋuzu > Kove *nuðu-* 'nose', Bariai *nud* 'nose', Tuam *-nu-ŋuz* 'smell (s.t.)', Gitua *ŋuzu* 'smell (s.t.)', Malalamai *-nu-ŋuz(i)* 'smell (s.t.)'

Residual Vitiaz: Tami *nusu(bwai)* 'nose'/*nut* 'smell (s.t.)'

PPT *ŋu(d,j)u > Proto Central Papuan *ŋudu* 'mouth, opening' > Sinagoro (Taboro) *widu(ara)* 'doorway', Motu *udu-*, Doura *utu-*, Lala *ŋutu-*

PWZ *ŋutu- (*-*t*- for exp **-*j*-) > Bulu *ŋutu-* 'lips, beak', Bola *ŋutu-* 'lips'

PLN *ŋusu- 'mouth' > Kara *ŋusu-*, Nalik *ŋus-*

PNI *ŋucu- 'mouth' > Notsi ŋuce-, Tabar ŋucu-, Sursurunga ŋudu- (-d- for exp -s-), Lamasong, Madak ŋus

PNS *ŋuju- 'mouth' > Papapana ŋuru-, Mono uru-, Vaghua ɣəjə- (ɣ- for exp *ŋ-), Roviana ŋuzu-

PSS *ŋudu > Longgu, N. Malaita, Dori'o ŋidu-, S. Malaita ŋudu- 'lips', Kwaio ŋidu- 'lips'

PCPa *ŋuju (Geraghty 1986)

(3.87)  PAN *suliq 'tendril, sucker' > POC *(s,j)uli >

PEAd *culi- > Nauna culi- 'taro shoot'

Residual Vitiaz: Tami juli

PBEL *(j,d)uli- 'yam fibre' > Bilbil duli-, Gedaged dul

PHG *juli > Numbami duli, Yabem sìli

PPT *(s,z)uli 'taro'[a] > Wedau uri, Tawala uni, Dobu suli, Kilivila uli

PNS *juli > Roviana zuli 'transplant (seedling)'

PSS *duli > Gela duli 'banana sucker', W. Guadalcanal duli 'line, kin'

PCPa *culi

[a]PPT *(s,z)- for exp **(d,j)-: possibly not cognate, in view of semantic difference.

(3.88)  PAN *Zalan 'path' > POC *jalan, *salan >

Mussau salan

PEAd *cal(a) > Nauna, Penchal, Titan, Andra, Hus, Leipon, Mokoreng cal, Bohuai cial, Loniu can

PNg *zala > Gitua zala

Residual Vitiaz: Sio zɔla, Mangap zala, Lukep, Malasanga dara

PBEL *jal > Biliau zal, Mindiri, Bilbil, Gedaged, Takia, Matukar dal

PSCH *jala > Medebur yal, Manam zala, Bam, Ulau-Suain jal, Wogeo, Kis jala, Kaiep sol, Kairiru jyel, Ali cal(tiñeŋ), Tumleo cual(tanin), Sissano tal(taniən), Sera tal(tiniaŋ)

PPT *(j,d)ala > Ouma raea, Magori rae, Keapara (Maopa) ðara (metathesis), Motu, Lala dala, Doura tara, Roro taea(ra), Kuni daya, Mekeo kea(na)

Vitu dala, Bali dalaŋ(a)

PWZ *(j,d)ala > Bulu, Bola dala

PLN *salan > Lavongai salen, Tigak, Kara salan, Tiang sələn

PNI *sala[a] > Notsi sel, Tabar (ro)sara, Sursurunga səl, Tangga sar(is)

PNS *salan-a[a] > Taiof sanan, Tinputz hanana, Banoni sanana, Uruava arana

PSS *zala[a] > Gela *hala*, W. Guadalcanal, Talise *sala*, Lengo *ðala*, Longgu, Lau, Kwaio, S. Malaita *tala*, 'Are'are, Bauro, Kahua *tara*

PCPa *zala[a]

[a]Proto forms in *s- (PCPa *z-) apparently reflect POC *s- rather than POC **j-.

(3.89)   PAN *li(ŋ)sa 'nit' > POC *leja(-n) >

PNg *leza > Kove *lahe*, Tuam *les*, Malai *lais*, Gitua *leza(k)*

Residual Vitiaz: Malasanga *les*, Roinji *ija-* (loss of exp **l- unexplained)

PBEL *le(e,d) > Biliau (Yamai) *led*, Mindiri *lien(e)*

PHG *leja-n > Numbami *lenda*, Yabem *lèseŋ*, Hote *(lum)lan*, Mapos Buang *ji* (loss of **l- unexplained), Kapin *laze*, Silisili *renc*

PPT *leja > Tawala, Dobu, Sewa Bay *neda*, Bwaidoga (Iduna) *yeda*, Suau (Daui) *leda-*, Tubetube *deda*, Kilivila *lesa*, Sudest *le-leji*, Motu *(v)eda*

Vitu *leda*, Bali *ledaŋ(a)*

PWZ *leja > Bulu, Bola *leda*, Nakanai *lega*, Meramera *lesa*

The most important feature of the examples above is that POC *j is seen to be a reflex of PAN *s/c and *z/Z. In examples (3.80), (3.81), (3.82) and (3.89), POC *j also fulfils the expectation that, as the nasal grade reflex of PAN laminals, it will correspond medially with a sequence of nasal + laminal in some non-Oceanic languages (cf. section 3.4.4).

Examples (3.88) and (3.89) apparently reflect doublet forms: in example (3.88) the forms from New Ireland eastward reflect POC *salan 'path' rather than *jalan[32], whilst POC *leja(n) 'nit' of example (3.89) is matched by a set of forms reflecting POC *lisa in example (3.90):

(3.90)   PAN *li(ŋ)sa 'nit' > POC *lisa >

Mussau, Tenis *lisa*

PEad *lisa > Lindrou *lis,* Bohuai *nirie-,* Mondropolon *nir*

PSCH *lisa > Bam *lis*, Wogeo *lisa*, Kaiep *li*

PLN *lis > Kara *lis*

PNI *lica > Lihir *liec*, Sursurunga, Siar *lis*, Konomala, Minigir *lisi*, Patpatar *lise*, Tolai *li*, Bilur, Duke of York *lia*

PNS *lisa > Nehan *lih*, Solos *nis*, Halia (Haku), Lungga, Nduke, Roviana *lisa*, Teop *niha*, Mono *lile*, Vangunu *liza*, Kokota *liha*, Ghove, Maringe *γliha*

PSS *liza > Bugotu, Gela *liha*, W. Guadalcanal, Talise *lisa*, Lengo *liða*, Longgu, Kwaio *lita*, Lau, N. Malaita *lite*, 'Are'are *rite*, S. Malaita *lita*, Kahua *rita*, Arosi *(papa)rite*

The following cognate sets have no known non-Oceanic cognates. (Of these, example (3.101) is made up of Milke's material, example (3.102) from Blust's (1976) and Geraghty's (1986), whilst the remainder are based on or have been checked against my own data.)

(3.91)  POC *geju, *k(i,u)ju[a] 'nape' >

PNg *gizu- > Tuam gisu-, Gitua, Malalamai gizu-

Residual Vitiaz: Tami gise, Sio, ŋizu-, Malasanga guru(kai'), Roinji guzu-, Nenaya gizu-

PBEL *gu(j,d)u- > Mindiri kudu-, Bilbil udu-, Gedaged gudu-

PSCH *kuju- > Manam ʔuzi-, Wogeo kuju-, Kairiru quju-

PHG *geju-, *kiju- > Numbami gidu-, Yabem gisù-, Manga Buang, Mapos Buang kasu-, Wampur, Adzera guzu-, Yalu kecu-

PPT *ge(j,d)u- > Maisin (Marua) ketu-, Wedau etu-etu-, Tawala etu-tu-, Boianaki (wa)gedu-, Bwaidoga (Iduna), Yamalele, Molima, Dobu ʔedu-ʔedu-, Duau kedu-kedu-, Suau (Daui) gedu-gedu-, Tubetube, Misima gelu-gelu-, Kilivila gedu-, Muyuw gidi-gadu-, Nimoa guju-, Keapara (Hula) keru-, Motu gedu-, Lala etu-, Gabadi, Roro eku-

Vitu, Bali kidu-

PWZ *kiju- > Bulu, Bola kidu-, Nakanai kisu-, Meramera isu-

PNI *kicu- > Lihir kicie

PNS *(k,γ)iju- > Teop iru-, Uruava, Torau idu-, Babatana kuju 'skull', Roviana, Nduke kizu-, Kia, Laghu γizu-, Blablanga gi-γizu-, Maringe giu-γiju-

PCPa *keju- (Geraghty 1986)

[a]The data justify these apparent doublet forms, rather than oral-/nasal-grade cross-over.

(3.92)  POC *mijak 'flesh'[a] >

PNg *miza- > Kove meða-meða, Bariai meda-meda, Tuam, Gitua, Malalamai miza-, Malai mida-

Residual Vitiaz: Mangap maza-, Lukep, Malasanga mira-

PBEL *m[i,u]za- > Wab mid, Biliau mizi, Mindiri meda-, Bilbil, Gedaged, Takia, Matukar muda-

PSCH *mija[ka-] > Medebur mosoka-, Manam mizaka-, Bam mujak, Wogeo mija, Kis mija, Kaiep moso-, Kairiru muje- 'copra', -mij 'fleshy'

PSB *misa- > Akolet (ka)mi-si-sa, Beleli misa

PMGN *mira[ka-] > Maeng mirka-, Poeng maraka-, Uvol mira-

Vitu mida

PLN *miska- > Kara (West) miska-, Kara, Nalik maska-

[a]Lichtenberk (1978:185) links this with reflexes of POC *pisiko 'flesh', but the two appear to be separate items.

(3.93)  POC *laje 'k coral' >

Mussau rare (r- for exp l-)

PEAd *lac(e) > Nauna, Penchal, Titan, Leipon, Mokoreng, Loniu lac

Residual Vitiaz: Tami lan, Roinji laji

PBEL *la(j,d) > Biliau laaz, Bilibil, Gedaged lala-lad, Takia lad

PSCH *laj(e) > Medebur laj, Ali laic

PHG *laj > Yabem leŋ

PPT *la(j,d)e > Boianaki nade, Tubetube lale, Misima nali-nali, Nimoa, Motu lade

PLN *las > Kara, Nalik las

PNI *lace > Notsi les, Tabar race, Lihir lec, Tangga les-les, Lamasong las

PNS *laje > Babatana laji, Maringe ɣlaje

PSS *lade > Gela, Lau lade, Kwara'ae laed

PCPa *laje (Geraghty 1986)

(3.94)  POC *jika 'dirty', 'bad'[a] >

Residual Vitiaz: Maleu sia(ŋe) (Milke 1968), Lukep, Malasanga sia-

PSCH *jika '(wood +) rotten' > Wogeo jika, Kairiru -jieq

PPT *dika > Proto West Central Papuan *dika 'bad' > Motu dika, Doura ti?a, Roro kia

PSS *dika[b] > Bugotu, Gela dika

[a]Milke (1968) also offers the following as cognates, but all contain problematic segments: Nada igiba (no consonant corresponds!), Keapara laava and Sinagoro lakava (both la- for exp **ri-), Lala siavana (s- for exp **d-), Kuni ziava (z-(=[y]) for exp **s-), Fijian ðika 'inflammation of the eye', ðika[va] verb: general idea of weakening or destroying condition (ð- for exp **s-).

[b]Kokota, Ghove dia, Blablanga, Maringe di?a 'bad' are apparently borrowed from Bugotu (expected Ysabel forms would be **[z,j]ika).

(3.95)  POC *jamu 'chew (areca nut)' >

Mussau samu 'bite'

PSCH *jamu[ku] > Manam -zamu[ku]

PHG *jam(i) > Proto Markham *jaim 'areca nut' > Wampur, Adzera cim, Sukurum sim, Dangal jen, Wampar zain

PLN *sam > Tiang səm

PSS *damu > Lau, Kwaio, S. Malaita, Arosi damu, Bauro tamu

PCPa jamu 'scraps of food' (Geraghty 1986)

(3.96)   POC *kiajo 'outrigger boom'[a] >

PEAd *kiac(o) > Nauna kiac, Leipon, Loniu kiec

PNg *kiaz(o) > Gitua kiaza (k- for exp **∅-)

<u>Residual Vitiaz</u>: Tami kian, Lukep kiodo

PBEL *kia(j,d) > Biliau (Yamai) (n)iad, Mindiri kian(ə), Gedaged (a)iad, Bilbil, Takia iad

PSCH *kiajo > Manam ʔiazo, Bam kiaj, Wogeo kiaje, Kaiep kiat(afat), Kairiru qoyaj, Ulau-Suain uaj

PHG *kia(j,d) > Numbami iand(aŋ-a), Yabem kioŋ, Kaiwa iaŋk

PPT *qia(j,t,d)o > Maisin (Marua) ɣaatu, Arifama, Are kiato

Vitu ɣado

PNI *kiac(o) > Lihir kec-kec 'canoe roller'

PCPa *kiajo (Geraghty 1986)

[a]Mussau aioro 'outrigger boom' (for exp **ia(s,r)o) is possibly a borrowing of a Cristobal-Malaitan form such as S. Malaita (a)iola (< PSS *tiola 'plank canoe'), introduced by Solomon Islander missionaries.

(3.97)   POC *jimiʀ 'putty nut', 'caulking substance'[a] >

<u>Residual Vitiaz</u>: Tami jim 'caulking substance'

PSCH *jim(i) 'black' > Manam zim-zim, Bam jim-jim, Wogeo jim, Ali cum-uc

PHG *jimiʀ > Numbami dimil-a, Yabem sìb [-b for exp **-ŋ]

PNI *cim(i) 'canoe' > Tabar cim, Lamasong, Madak, Barok sim

[a]Milke (1968) reconstructs POC *jema 'caulk', but both his data (Tuam zimir) and Bradshaw's (1978c) Numbami dimila) point to *jimiʀ, thereby excluding his Motu dema(ia) 'caulk' and Fijian sema[ta] 'splice', 'patch' from this cognate set.

(3.98)   POC *joŋ(o,a) 'boar's tusk'[a] >

PNg *zoŋa- > Gitua zoŋa- 'molar tooth'

<u>Residual Vitiaz</u>: Kilenge roŋ-e 'tooth', Tami joŋ, Mangap zoŋo- 'tooth', Lukep doŋa- 'tooth', Malasanga duŋa- 'tooth' Roinji doŋa-

PBEL *zoŋ > Biliau zoŋ

PSCH *joŋo- > Manam zoŋo-

PHG *joŋ > Numbami doŋ(a), Silisili cuŋ

PPT *joŋa- > Tawala dona-, Molima dona 'ornament made from tusk', Dobu dona- 'molar tooth', Keapara (Hula, Maopa) rua- 'tooth', Sinagoro (Balawaia) doɣa- 'tooth'

[a]Lichtenberk (1978) includes in this cognate set Arosi *soŋo* 'white shell discs tied round knee or wrist'; this is a doubtful cognate both semantically and because the expected Arosi form is \*\**doŋ(o,a)*.

(3.99) POC \**juju(l,n)* 'push' >

Residual Vitiaz: Tami *ju-jun*

PEAd \**cu(l,n)* > Penchal *cun*, Titan *cu-cul(e)*, Bohuai *cui(e)*

PHG \**juju(n)* > Numbami *zuzu*, Yabem, Bukawa *sùŋ*, Kela *zuŋ(a)*

PPT \**(j,d)u(j,d)u* > Are *-dudu(ni)*, Boianaki *-dudu(i)*, Wedau *-(amam)dudu*, Tawala *-(um)dudu*, Dawawa *-dudu*, Molima *-(ve)dudu(ai)*, Dobu *-(sae)dudu(a)*

PNI \**(c,s)un* > Lamasong *su(ai)*, Madak *so*, Barok *su(men)*, Patpatar *sun*

PNS \**juju* > Lungga *juju*, Nduke *zuzu(a)*, Kokota, Laghu *huzu(i)*

(3.100) POC \**joʀi* 'bind' >

Residual Vitiaz: Tami *jol* 'bind together'

PSCH \**joɾ(i)* > Tumleo *-huəl (h-* for exp \*\**c-)*

PHG \**joʀ* > Yabem, Bukawa *su*, Manga Buang *jooy*, Mapos Buang *joo*, Mambump Buang *jol*, Adzera *zor(an)*

PPT \**jori* > Tawala *-duli* 'tie', Yamalele *duli* 'knot', Sudest *jole* 'pigtail'

PCPa \**jori* > Fijian *sori*

(3.101) POC \**jaʀi* 'paint' >

PSCH \**jari* > Ali *ceri(u)* (Milke 1968)

PHG \**jaʀ* > Yabem *sì-sì*

PSS \**dali* > Gela *dali* 'paint, smear, anoint'

(3.102) POC \**jila* '(canoe) sheet' >

PEAd \**cil(a)*[a] > Seimat, Lou, Baluan *sil*, Penchal, Nauna *cil*, Ahus *cil*

PCPa \**jila* (Geraghty 1986)

[a] Data from Blust 1976.

(3.103) POC \**kojom[-i]* 'pierce, husk' >

PEAd \**(k)oc(o)* > Nauna *oc* 'husking stick'

PSCH \*-*kojom(i)* > Medebur, *kujumi* 'sharpen (stick)', Manam *ʔozom* 'husk (coconut)' (Lichtenberk 1978), Kairiru *(ta)quoj* 'husked coconut'

Vitu *koðomi(a)*

PWZ \*-*koso(mi)* > Bulu, Nakanai *koro*

PLN \**kosom* > Tiang *kəsɨm* 'sharpen (stick)'

PNI \**kocom* > Notsi *kocom*, Lihir *kocm-*, Tangga *kasm(i)*

PNS *kajom* > Halia (Haku) *karum* 'sharpen (stick)'

PSS *kozo[m-i]* (*-z-* for exp *-d-*)[a] > Kwaio *ʔotomi(a)* 'stab', Langalanga, 'Are'are *otomi(a)* 'stab', S. Malaita *ʔotomi* 'spear (s.t.), spear'/ *kotomi* 'spear (s.t.)'

[a]Lichtenberk (1978) includes in this cognate set Gela *kodo* 'pole for crushing pudding', Arosi *koto* 'crush (areca nut w pestle)', but these appear – on both semantic and phonological grounds – to belong to a separate set reflecting a putative PSS *kodo* 'crush, pestle'.

(3.104)  POC *jara* 'move, creep, flow, spill' >

PPT *-dara* > Wedau *-dara* 'go', Tawala *-dala* 'crawl', Yamalele *-dale* 'walk', Suau (Daui) *-dala*, Sinagoro (Taboro) *-dara* 'stroll', Motu *-dara* 'ascend', Roro *-kara* 'stroll'

PNS *jara* > Proto Choiseul *ja-jara* 'flow' > Vaghua *jajara(na)*, Varisi *(ta)zazara*, Ririo, Babatana *jajara*

PSS *sala* (*-s-* for exp *d-*) > Bugotu *sala-la* 'flow', Gela *sala-la* 'spill', W. Guadalcanal *ca-cali* 'flow'

PCPa *jara* 'slip, slide' (Geraghty 1986)

(3.105)  POC *(s,j)obu* 'descend, dive' >

PPT *-zobu* (*-z-* for exp *(j,d)-*) > Ubir *-rob* 'jump, dive', Tawala *-hopu*, Diodio, Bwaidoga *-obu*, Dobu, Nimoa, Sudest *-sobu* 'jump down', Gumasi *-sobu* 'downwards', Roro *-tobu* '(sun) set'

PNI *(c,s)op* > Konomala *-sup* '(sun) set'

PNS *jopu* > Maringe *jufu* 'dive'

PSS *zovu* > Arosi *(a)sohu* 'dive' (*-s-* for exp **-d-*)

PCPa *jo(b,p)u*

(3.106)  POC *qujila* (?) 'lightning' >

PEAd *qocil(a)* > Nauna, Penchal *kocil*

PNg *(ɣ)uzila* > Malalamai *uzila*

<u>Residual Vitiaz</u>: Tami *kujil*

PHG *ujil* > Yabem *u̲siʔ*, Bukawa *siʔ*

PPN *quhila* (*-h-* for exp **-(t,s)-*)

Of these examples, 3.103 displays a probable local irregularity in PSS, whilst (3.104) and (3.105) each have several unexplained irregularities. Example (3.106), POC *qujila* 'lightning', must be regarded as doubtful, because the PPN reconstruction does not reflect POC *j*, and its reconstruction is thereby based on data from a small area.

One item for which material is provided by both Blust (1976) and Geraghty (1986), and which Blust (1978a:109-110) notes as problematic, is *not* reconstructible for POC at present. The relevant data are:

(3.107)  PAN *lujan* 'load (canoe)' (Blust 1976; Geraghty 1986)

PAd *(ʀ)usa[ni]* > Seimat *uxan(i)*, Nauna *us* (Blust 1978a:109-110)

PPT *quzan* > Dobu *-usan(a)* (Blust 1976), Sinagoro (Taboro) *ɣura(udi)*, Motu *uda-uda*

PEO ʀuja 'load (canoe)' (Geraghty 1983a) >

PSS *luda* > Bugotu *luja* 'cargo' (*-j-* for exp **-*d*-), Gela, Lau, Kwaio *luda*, 'Are'are *rutaa*, Arosi *ruta*

PCPa *uja* (Geraghty 1986)

Whilst Proto Eastern Oceanic *ʀuja is reconstructible, the initial proto consonant reflected in the Papuan Tip languages is certainly not POC *ʀ-, whilst apparent non-Oceanic cognates reflect initial PAN *l-.

The contradictory data which occur occasionally in examples (3.80) to (3.106) are outweighed by consistent cognate sets reflecting POC *j, and the degree of consistency resembles that of the POC nasal-grade proto phonemes *b and *dr (section 3.4.4) rather than the irregularity of the lenis-grade reflexes of *p and *k (sections 3.5.1 and 3.5.2). Furthermore, examples (3.80) to (3.89) show that POC *j reflects PAN *s and *z/Z (and, if example (3.107) turns out to be a cognate set, PAN *j) and in some cases a PAN nasal + laminal sequence. These facts indicate that Milke was correct in believing that POC *j was the nasal-grade partner of POC *s.

One further piece of evidence for this hypothesis is Geraghty's (1986) reconstruction of PCPa *majaŋa '(road +) fork'. The lexicalised POC grade of *s in PAN *saŋa 'bifurcation' is the oral grade:

(3.108)  PAN *saŋa* 'bifurcation' > POC *saŋa* >

PNg *saŋa-*[a] > Bariai *saŋa-*, Tuam *(na)zaŋa*, Malai *(ŋaŋa)zoŋ*, Gitua *saŋa-* 'crotch'/ *(tae)zaŋa(ŋa)* 'buttocks'

<u>Residual Vitiaz</u>: Tami, Mangap *saŋa-*

PBEL *saŋa-* > Bilbil, Gedaged, Takia *saŋa-*

PSCH *saŋa-* > Medebur *saŋa-*

PHG *saŋa-* > '(branch) fork' > Numbami *saŋa-*, Yabem *(ŋa)sàŋà* '(tree) branch', Bukawa *saŋga-*, Kaiwa *raŋe-* '(tree) branch', Kela *saŋa* '(tree) branch', Hote (Misim) *ðaŋa(ŋ)* '(tree) branch'

PNI *saŋa[v(i)]* > Tabar *saŋa-* 'groin', *sana-* 'thigh', Label *(ka)saŋah*

PEO *zaŋa* (Levy n.d.) >

PSS *zaŋa[vi]* > Gela *haŋa* 'finger span'/ *haŋavi-* 'crotch', Lau *taŋa-* 'V-shaped groove', Kwaio, Arosi *taŋa-* 'crotch', 'Are'are *tana-* 'crotch'

aThe -z- of Tuam, Malai and Gitua forms is the lenis grade reflex of POC *-s-, resulting from its intervocalic position in these compounds. The Gitua pair show the fortis/lenis contrast.

In section 3.4.2 we noted cases where the addition of PAN *maN- to a root had given rise to a nasal-grade reflex. PCPa *majaŋa thus appears to reflect PAN *maN- + *saŋa 'bifurcation', via Pre-POC *mansaŋa and POC *majaŋa, and the latter to belong to the same set of morphological formations as POC *mabuʀuk 'rotten', *madridriŋ 'cold' and *madriʀi 'stand'.[33]

### 3.6.2 THE LENIS GRADE OF POC *s

In this section we turn to the hypothesis that the reflexes which have been claimed in the literature for POC *ns are better interpreted as Post-POC *z, i.e. as the lenis-grade reflexes of POC *s.

Support for this is basically of a distributional kind. In sections 3.4 and 3.5, I have shown that many Oceanic languages have three (not two) reflexes each of PAN *p/b and *k/g, and that these reflect

a) a nasal-grade reflex (POC *b and *g);

b) two oral-grade reflexes:

    i)    fortis (Post-POC p and k);

    ii)   lenis (Post-POC v and ɣ);

POC nasal-grade consonants are characterised by the facts that they are generally reflected by voiced stops, are lexicalised in POC, and are in some cases derived from a PAN sequence of nasal + stop/laminal. POC *j also meets these criteria (section 3.6.1) and is the nasal-grade partner of POC *s.

Lenis-grade reflexes of POC consonants are characterised by the facts that they are reflected by voiced fricatives (or natural developments thereof), are more common intervocalically than word-initially, but otherwise are unpredictably distributed. My claim here is that Post-POC *z shares in these features and fills the lenis-grade slot among the laminals, forming the pattern set out in Table 15. Milke (1961:175) showed that the occurrence of *s or z is not, as Dempwolff had claimed, predictable from the absence or presence of a preceding nasal in PAN or from any other feature known to him.

TABLE 15: PAN AND POC PROTO PHONEMES AND THE THREE GRADES OF REFLEX

| PAN | *p/b | | *k/g | | *s/c/z/Z | |
|---|---|---|---|---|---|---|
| | oral | nasal | oral | nasal | oral | nasal |
| | fortis/lenis | | fortis/lenis | | fortis/lenis | |
| Pre-POC | *p | *mp | *k | *ŋk | *s | *ns |
| POC | *p | *b | *k | *g | *s | *j |
| Post-POC | *p/*v | *b | *k/*ɣ | *g | *s/*z | *j |

### 3.6.2.1 LENITION APPLIED TO POC *s

We return our attention to the languages of the Ngero group and the residual Vitiaz languages, because they demonstrate that early stage of lenition where it remains clear that intervocalic consonants undergo lenition first and that for this reason lenition may give rise to morphophonemic alternation (see section 3.5.1.1).

### TABLE 16: REFLEXES OF POC *s IN VITIAZ STRAIT LANGUAGES

| POC | *s- | *-s- | *s- | *-s- | *-s- |
|---|---|---|---|---|---|
| | fortis | | lenis | | |
| PNg | *s- | *-s- | *z- | *-z- | *-z |
| Kove | s- | -s- | ð- | -ð- | ... |
| Lusi | s- | -s- | r- | -r- | ... |
| Bariai | s- | -s- | d- | -d- | ... |
| Tuam | s- | ... | z- | -z- | -z |
| Mutu | s- | ... | z- | -z- | ... |
| Malai | s- | ... | z- | -z- | -s |
| Gitua | s- | ... | z- | -z- | ... |
| Malalamai | s- | -s- | z- | -z-, -∅- | ... |
| Kilenge | s | ... | ... | -∅- | ... |
| Maleu | s | ... | ... | -∅- | ... |
| Sio | s | ... | ... | -∅- | ... |
| Tami | s | ... | j- | -j- | -t |
| Barim | s | ... | ... | -∅- | -i |
| Lukep | s | ... | ... | -∅- | -i |
| Mangap | s | ... | ... | -z- | -s |
| Malasanga | s | ... | ... | -i-,-y-; -∅-/i,e | ... |
| Singorakai | s | ... | ... | -i-,-y-; -∅-/i,e | ... |
| Nenaya | s | ... | ... | -y-; -∅-/i,e | ... |
| Roinji | s | ... | ... | -y-; -∅-/i,e | ... |

Table 16 shows the reflexes of POC *s in these languages. As in Tables 11 and 12, we see that residual Vitiaz languages (except Tami) show no word-initial lenition. Also as in those tables, we see that, of the Ngero languages, Tuam, Mutu, Malai and Gitua have fortis and lenis reflexes word-initially but only lenis word-medially. However, the remaining Ngero languages also retain some fortis reflexes of *-s- word-medially. This means simply that lenition of *-s- has not preceded as far as lenition of *-p-, which is not surprising in the light of a theory which asserts that sound change applies to segments sequentially, not simultaneously.

Examples (3.38) to (3.43) showed the fossilised morphophonemic alternation of PNg *p and *v, caused by lenition of POC *p. Below are three examples of the same kind caused by the lenition of POC *s and resulting in the alternation of PNg *s and *z:

(3.109)   POC *sipo* 'down below, go down' >

PNg *-zivo* 'go down' > Kove -ðio, Lusi -zio, Bariai *(ga)dio* 'downwards', Tuam -zi(la) 'sink', Gitua *zio(vave)* 'downwards'

PNg *sivo* 'down below' > Kove, Lusi *sio*, Gitua *sio* 'lower'

(3.110)   POC *sake* 'up above, go up' >

PNg *-zaɣe* 'go up' > Kove -ðae, Lusi -zae, Bariai *(ga)dae* 'upwards'/ -dae 'go up', Tuam, Malai -za, Gitua -zage

PNg *saɣe* 'up above' > Kove, Lusi *sae* 'up above', Malai *sa(la)* 'upwards', Gitua *sage*

(3.111)   POC *saqat-i* 'spoil (s.t.)' (< *saqat* 'bad') >

PNg *saqati* 'bad' > Tuam, Gitua *sagati*, Malalamai *sati*

PNg *-zaqati* 'spoil' > Tuam -zagati

The Gitua pairs *saŋa* 'east'/-zaŋa 'go eastwards' and *suŋa* 'west'/-zuŋa 'go westwards' reflect the same alternation.  Another case of morphophonemic alternation of PNg *s* and *z* is seen in example (3.108), where reflexes of POC *s- in PNg *saŋa-* 'bifurcation' are fortis (*s-*) if word-initial and lenis (*z-*) if another root occurs in front of them through compounding.  This is especially clear in the pair Gitua *saŋa-* 'crotch' and *(tae)zaŋa(ŋa)* 'buttocks' (< *tae-* 'faeces' + *saŋa-* 'bifurcation' + *-ŋa* nominalising suffix).

Similar alternations can be seen in other languages:

(3.112)   POC *sake* 'up above, go up' >

Residual Vitiaz: Mangap -sa(la)[a] 'go upwards'

*but:* Mangap -(pa)za[b] 'erect (post +)'

[a]Root-initial consonants generally remain fortis in residual Vitiaz languages.
[b]*pa-* causative prefix.

In the Schouten languages, the two grades of POC *s- are fossilised in the various reflexes of POC *sake*:

(3.113)   POC *sake* 'up above', 'go up' >

PSCH *-zake* 'go up' > Manam -rake, Bam -rak, Wogeo -vak

PSCH *sake* 'up above' > Medebur -sak 'go up', Kis -sokwe 'go up', Sissano -ha

A possible clue as to why this has happened is contained in the two Schouten languages Tumleo and Ali, which have various morphophonemic alternations of the verb (described briefly for Tumleo by Schultze 1911:17-21) between 1S/2S forms and all other persons.  One of these alternations is between root-initial *s-* (reflecting lenis *s*) in 1S/2S and root-initial *h-* (reflecting fortis *s*).  For example:

| (3.114) | | Ali | Tumleo |
|---|---|---|---|
| | | 'walk' | 'go down' |
| | 1S | *ki-sil* | *na-si* |
| | 2S | *wi-sil* | *ka-si* |
| | 3S | *ke-hel* | *ka-hai* |
| | 1P | *te-hel* | *ta-hai* |
| | 2P | *hel* | *ka-hai* |
| | 3P | *re-hel* | *ra-hai* |

Note: Ali and Tumleo make no exclusive/inclusive distinction.

The cause of this alternation becomes evident if we examine the stress alternations of some Ali and Tumleo verbs (although not those in 3.114):

| (3.115) | | Ali | Tumleo |
|---|---|---|---|
| | | 'eat' | 'help' |
| | 1S | *ki-ʔíaŋ* | *na-ús* |
| | 2S | *wi-ʔíaŋ* | *ka-ús* |
| | 3S | *ké-ʔeaŋ* | *ká-us* |
| | 1P | *té-ʔeaŋ* | *tá-us* |
| | 2P | *ʔeaŋ* | *ká-us* |
| | 3P | *ré-ʔeaŋ* | *rá-us* |

If the stress pattern in (3.115) reflects a stress pattern more common in an earlier stage of the language, then we are confronted with a case of lenition which occurs before a stressed vowel, but not after it: this exactly replicates Verner's Law. If this stress alternation, and the accompanying fortis/lenis alternation, applied in Proto Schouten, then it is not hard to see how each of its daughter languages inherited both forms, then (except Ali and Tumleo) adopted one and lost the other, resulting in the set of reflexes in (3.113).

The fortis/lenis alternation of *s must have remained productive in other contexts too until quite recently, to judge from the apparently random correspondence of its reflexes in the westernmost Schouten communalects (PSCH *s > ∅, ʔ, *z > s):

| (3.116) | Sissano (Malol) | Sissano (Arop) | Sissano proper | Sera |
|---|---|---|---|---|
| 'nose' | *(a)uə-* | *uə-su-* | *su-* | ... |
| 'tail' | *saʔu-* | *aʔu-* | *saʔu-* | *u-* |
| 'bad' | *okaleək* | *(k)okalek* | *soklek* | *sotoulek* |
| 'netbag' | ... | *yiʔelʸ* | *seʔi* | *yelʸ* |
| 'grass' | *o(ron)* | *su* | ... | *so(roiŋ)* |
| 'work' | *-o* | *-o* | ... | *-so* |
| 'N.W. monsoon' | *olemol* | *oʔemou* | ... | *soləmol* |
| 'eel' | ... | *paʔam* | ... | *basam* |
| 'food' | ... | *otuəl* | ... | *sotol* |

### 3.6.2.2 DISTRIBUTION OF REFLEXES OF POC *s

The particular difficulty of reconstructing the grade of *s as oral or nasal in a given item in POC because of 'cross-over' in its reflexes has been recognised by Oceanic linguists since Milke (1961). Geraghty (1983a:130ff.) provides a recent discussion.[35] If the hypothesis that these reflexes are in fact the result of Post-POC lenition is valid, then the reconstructive difficulty disappears and oral grade POC *s is reconstructed in every case except where reflexes indicate *j.

The purpose of this section is to show that the fortis/lenis distinction is unpredictable for POC *s, just as it is for *p and *k. A lengthy demonstration is redundant in view of Milke's (1961) analysis and the longstanding recognition of *s cross-over.

In the examples which follow, I cite only data from languages diagnostic for the fortis/lenis contrast in reflexes of POC *s. A number of groups and languages which reflect the contrast in reflexes of POC *p and *k do not reflect it for *s. Such groups are: Huon Gulf; the Kakabai, Dobu/Duau, Suau and Central Papuan subgroups of the Papuan Tip group; Bali-Vitu; Willaumez; Lavongai/Nalik; the southern subgroup of the New Ireland group, and the Cristobal-Malaitan subgroup of the South-East Solomonic group. Whether lenition has never reached *s in these languages or it has been reversed by the devoicing of *z is unclear. In the case of the subgroups of the Papuan Tip group, however, it seems likely that, as their fairly close relatives manifest the fortis/lenis contrast in reflexes of *s, languages ancestral to these subgroups also once retained it, then lost it.

The reconstructed reflexes of Post-POC fortis *s and lenis *z are set out in Table 14 above. Determining which of two reflexes is fortis and which lenis is not easy in some language groups. However, we may apply distributional criteria based on the occurrences of lenis *v and *γ. Thus we know that a POC word-final consonant is always oral grade (Geraghty 1986), and where this is preserved by the addition of a vowel (as normally occurs in Papuan Tip and North-West Solomonic languages, and as occurs when a transitive suffix is added, mainly in Eastern Oceanic languages) and lenition is applicable to that consonant, the reflex is always lenis grade. Hence the reflex of POC *s which occurs in that context is interpreted as lenis grade. There are also weaker criteria: the lenis grade occurs more frequently than the fortis grade word-medially and usually occurs more frequently overall.

Because the grade of reflex is often not transparent, the reflexes within each example below are divided into fortis and lenis grades. Where a group of languages reflects two different grades, the reconstruction is given twice, but reconstructions representing forms which were probably not in the proto language are marked with a double asterisk. Examples (3.117) to (3.122) illustrate word-medial instances of POC *s, examples (3.123) to (3.128) word-initial cases, and example (3.129) the root *susu 'breast':

(3.117) POC *kusupeq 'rat' >

Fortis grade:

PNg **kusuve > Malalamai kusi

PSCH **kusive > Wogeo kusive, Kairiru qusiu

Lenis grade:

PNg *kuzuve > Kove kuðuke[a], Bariai kuduke[a], Tuam uzub, Malai uzuv

Residual Vitiaz: Kilenge *(na)kiwe*, Lukep *kuyu*, Malasanga *kui*, Roinji *kuyu-yu*

PSCH *\*kuzive* > Kaiep *ku*, Sera *bisi*

PNS *\*kuzu* (loss of *\*\*-ve* unexplained) > Nehan *kih*, Vaghua *köj*, Varisi *kuzu*, Ririo *kuj*

PSS *\*ɣuzuve* > W. Guadalcanal, Talise *ɣusuve*, Lengo *ɣuðuve*

[a]Medial *-k-* in Kove and Bariai reflexes probably results from Bali influence: see example (3.77).

(3.118)  POC *\*pasoq* 'plant (tuber +)' >

Fortis grade:

PNg *\*\*vasoɣ(i)* > Tuam *-vosoɣ*

PPT *\*\*vaso* > Tawala *-wago(ya)*

Lenis grade:

PNg *\*vazoɣ(i)* > Malai *-vazog(i)*, Gitua *-vazok*

PPT *\*vazo* > Paiwa *-bao(ni)*

PSS *\*vaz-i* > Gela *vahi*

(3.119)  POC *\*pose* '(canoe) paddle' >

Fortis grade:

PNI *\*vose* > Tabar *vose*, Lihir *ues*

Lenis grade:

PWAd *\*poze* > Aua *pore*, Wuvulu *poɣe*, Seimat *ɣoɣ* (*ɣ-* by assimilation for expected *\*\*h-*)

PNg *\*poze* '(canoe) paddle' > Kove *poðe*, Bariai *pode*, Tuam *poz*, Malai *pos*, Gitua *poze*

Residual Vitiaz: Tami *pot*, Sio *poe*, Lukep *pe*, Malasanga *poi*, Roinji *ui*

PBEL *\*foe* > Wab *fuoe*, Biliau *foi*, Mindiri, Gedaged, Takia *fei*, Matukar *fe*

PSCH *\*voze* > Manam *ore*, Bam *wor*, Wogeo *wora*, Kaiep *wiai*, Kairiru *woi*, Ulau-Suain *ues*, Ali *ais*, Tumleo *wos*, Sissano *wiəs*, Sera *bek*

PPT *\*voze* > Ubir, Arifama *boi*, Are *boe*, Paiwa, Boianaki, Kukuya *voe*, Wedau, Bwaidoga *woi*, Kilivila *wola*, Muyuw *wol*, Misima *(i)wule*

PNS *\*voze* > Lungga, Nduke, Roviana, Hoava *vose*

PEO *\*voze* (Geraghty 1983:134) >

PSS *\*voze* > Gela *vohe*, W. Guadalcanal, Talise, Birao, Malango *vose*, Lengo *voðe*

(3.120)  POC *qusan* 'rain' >

Fortis grade:

PPT **qusan* > Gumasi *kuan(a)*, Kilivila *kun(a)*, Muyuw *kuna-kun*

Lenis grade:

Residual Vitiaz: Tami *kut*, Barim *kui*, Lukep *ki*, Malsanga, Roinji *kuya*

PBEL *kuy* > Wab *(a)uy(oŋ)*, Ham *uy(eŋ)*, Gedaged, Takia *ui*

PSCH *(ɣ)uza* > Medebur *war*, Manam *ura*, Bam *ur*, Kis *ula*, Kaiep, Kairiru, Sissano *us*, Sera *buk*

PPT *quzan* > Ubir, Arifama *usan*, Are *kusan(a)*, Diodio, Bwaidoga (Iduna) *kusan(a)* (*-s-* for exp *-Ø-*), Molima *uana*, Sudest *ɣuye*

PNS *usan-a* > Nehan *huan* (metathesis)

PEO *quza* (Geraghty 1983a:134) >

PSS *uza* > Bugotu, Gela *uha*, W. Guadalcanal, Malango *usa*, Lengou*ð*a

(3.121)  POC *qasu* 'smoke' >

Fortis grade:

Residual Vitiaz: Barim, Malasanga *kas*, Roinji *kasu(a-na)*

PBL *kas(u)* > Biliau *os*, Mindiri *(ya)kes*, Bilbil *kas(i)*, Gedaged, Takia (Megiar) *(ya)kas*, Matukar *kas*

PSCH *kasu* (*k-* for exp *x-*) > Medebur *kawus* (metathesis), Manam *kasu*, Bam *kas*, Kis *kasi-k*, Kaiep *kias*, Kairiru *qas*, Ulau-Suain *asu(uñ)*

Lenis grade:

PWAd *(q)azu* > Aua *aru*, Wuvulu *aku*, Seimat *ayu(an)*

PNg *ɣazu* > Gitua *gazu-gazu* 'hot air rising'

PPT *qazu* > Doga *asu*, Are *kasu*

PEO *qazu* (Levy n.d.) >

PSS *azu* > Bugotu, Gela *ahu*, Lengo *aðu*

(3.122)  POC *pisiko* 'flesh' >

Lenis grade:

PPT *viziqo* > Ubir, Are *bio-*, Paiwa, Boianaki *vio(a)*, Kalokalo, Bwaidoga *vido* (*-d-* for exp *-g-*, *-ɣ-*), Molima *vesivo*, Kilivila *vilio-*, Muyuw *vinio-*

PNS *viziɣo* > Vaghua *vəzəɣo*, Sengga, Babatana *(z)io*

(3.123)  POC *sake* 'up above', 'go up' >

Fortis grade:

PPT *saɣe 'upwards' > Ubir, Anuki, Are -gae, Paiwa ge-gai, Boianaki -(ena)ɣai 'go up', Wedau ɣe-ɣae, Tawala -gai 'go up', Diodio (la)ka, Bwaidoga (va)ɣe, Bwaidoga (Iduna) -(la)gae 'go up', Misima -ha 'go up', Nimoa sai

Lenis grade:

PEO *-zake 'up' (Geraghty 1983a:137) >

PSS *zaɣe 'go up' > Bugotu, Gela haɣe

(3.124)   POC *sipo 'down below', 'go down' >

Fortis grade:

PPT *sivo 'down below' > Misima (-mi)sio 'sit down'

Lenis grade:

PPT *-zivo 'go down' > Yamalele -ivo 'go'

PEO *zivo 'go down' (Levy n.d.) >

PSS *zivo 'go down' > W. Guadalcanal, Talise, Birao, Malango sivo, Lengo ðivo

(3.125)   POC *saqat-i 'spoil (s.t.)' (< *saqat 'bad') >

Lenis grade:

PNI **saka 'bad'/[va-]sakat-i 'spoil (s.t.)' > Notsi caka 'bad', Tabar caka 'bad' (va)cakat(i) 'spoil (s.t.)', Lihir caket 'bad'

PEO *zaqa (Levy n.d.)

(3.126)   POC *sapa 'what?' >

Fortis grade:

PNg *sava > Kove, Bariai saua, Tuam, Malai sa, Gitua sava, Malalamai sa(le)

PPT *sava > Gumasi ava(tau) 'who?', Kilivila ava(ka), Muyuw ave(ag), Misima hau(na), Nimoa (to)sahe, Sudest (Pamela) ðavo

PNI *sava > Notsi sau(i), Tabar sa 'what?'/ (si)sa 'when?', Lihir sa

Lenis grade:

PPT *[i-]zava > Maisin (Marua) ava(ŋ), Ubir (i)afa(n) 'who?', Anuki ava(ki), Paiwa, Boianaki ava(i), Tawala (ʔ)awa(i), Diodio (i)ava(nanadadi), Bwaidoga (Iduna) (i)ava(ʔadi), Kalokalo va(ka), Yamalele ava(ʔai)

PNS *([n]a)zava > Nehan hawa, Vaghua ava(na), Varisi, Ririo, Babatana ava, Lungga sa, Nduke saɣa, Roviana, Hoava (na)sa

PSS *[na]zava > Bugotu, Hela hava, Talise, Birao sava, Lengo (na)ða

(3.127)   POC *sai 'who?' >

Fortis grade:

PNg *sei > Kove, Malai, Gitua, Malalamai sei, Tuam se

PPT *sai > Nimoa se(game), Sudest (Pamela) ðe(la)

PNI *sai > Notsi sa, Tabar se, Lihir si

Lenis grade:

PBEL *ai > Ham ai, Takia (Megiar) ae(ti), Matukar (h)ai

PSCH *sai > Ulau-Suain sie, Ali (e)sei, Tumleo sayi

PPT *i-zai > Arifama yai(ta), Doga, Paiwa, Boianaki iai, Wedau, Taupota ai-ai, Tawala (?)iai

PNS *(e)sai > Lungga sei, Nduke se(yai), Roviana (e)sei, Hoava (e)se, Vangunu (e)ze, Kia, Kokota, Blablanga hei, Maringe (i)hei

PSS *[i,a]zai > Bugotu hai, Gela (a)hei, W. Guad. (a)sei, Talise, Birao sei, Malangi (i)sei, Lengo (a)ði

(3.128)  POC *saman 'outrigger float' >

Fortis grade:

PNg *sama > Kove sama(ni), Bariai sama(n), Gitua sama, Malalamai (a)sama(n)

PBEL *sam > Wam som, Biliau, Mindiri, Bilbil, Takia sam

PSCH **sama > Sissano ham

PPT *saman > Boianaki yaman(a-ki), Kukuya gama, Wedau yaman(a), Diodio, Bwaidoga (Iduna) yaman(a), Bwaidoga yaman(a), Kalokalo gaman(a), Misima hama, Nimoa sama(you), Sudest zama

PNI *sama > Notsi sem, Tabar sama, Lihir sam

Lenis grade:

PSCH *zama > Manam rama, Bam ram, Wogeo vama, Kis jam (j- for exp *s-), Terebu siem, Kairiru, Ulau-Suain sam, Ali siem, Tumleo suəm, Sera saum

PPT *zaman > Ubir, Arifama raman, Anuki rama, Are, Paiwa ama, Kilivila lami-, Muyuw lam

PNS *zaman > Nehan haman

PEO *zama (Geraghty 1983a:135)

(3.129)  POC *susu 'breast' >

Fortis grade + Fortis grade:

PWAd *susu- > Aua, Wuvulu tutu-, Seimat susu-

PBEL **susu- > Takia (Megiar) sus-, Matukar susu-

PPT **susu- > Wedau, Garuwahi xuŋu-, Taupota, Tawala gugu-, Muyuw sasu-

PNS **susu- > Vaghua, Varisi, Babatana susu-, Ririo sus, Sengga sosu-

PSS *susu- > Gela, Lengo susu-, W. Guadalcanal, Talise, Birao, Malango cucu-

Fortis grade + Lenis grade:

Residual Vitiaz: Tami sut, Kilenge su(a), Sio su, Barim, Lukep, Malasanga, Nenaya sui-, Roinji suvi-

PBEL *suyu- > Wab siu-, Biliau, Mindiri, Ham, Bilbil, Gedaged sui-, Takia su(a)-

PPT *suzu- > Misima huli-, Nimoa siu-, Sudest zui-

PNS *suzu-ᵃ > Kokota, Laghu suu, Blablanga suʔu, Maringe cuʔu

Standard Fijian sucu-

Lenis grade + Lenis grade:

Residual Vitiaz: Mangap zuzu-

PSCH *zuzu- > Medebur yuyu-, Manam ruru-, Bam rur, Wogeo (Koil)ᵇ, Kis, Kaiep, Kairiru, Ulau-Suain, Ali sus, Tumleo suəs

PPT **zuzu- > Ubir, Are, Paiwa, Boianaki, Diodio, Yamalele, Molima susu-

PNI *susu- > Notsi, Lihir sus, Tabar susu-

PNS **zuzu- > Nehan huhu-, Lungga, Nduke, Roviana, Vangunu susu-

ᵃThe Ysabel reflexes here have -∅-, -ʔ- for exp -h-.

ᵇWogeo proper ñoño 'breast' apparently < POC *ñuñu 'suck' < PAN *N + *susu (cf. section 3.4.2)

The examples above provide a sample of the unpredictability of reflexes of POC *s. However, when it is understood that lenition (and devoicing) has operated at various times and places, a number of the apparent inconsistencies in the data above appear better motivated. Thus among the word-medial cases, where we expect lenis reflexes, it is probable that items like Malalamai kusi, Wogeo kusive, Kairiru qusiu, all 'rat', in example (3.117), and Tuam -vosox, Tawala -wogo(ya), both 'plant (tuber)', in example (3.118), are instances of sporadic devoicing of *-z- at some stage in their history. Why all the North New Guinea reflexes of POC *qasu 'smoke' (3.121) have a fortis reflex of POC *-s-, however, remains unexplained (although this probably represents a shared inheritance). Among the word-initial cases, the variation in examples (3.123) and (3.124) is attributable to the same factors as those discussed in connection with examples (3.109) and (3.110). Lenis-initial reflexes of POC *sapa 'what?' (3.126) and *sai 'who?' (3.127) are the result of cliticising a reflex of one of the POC articles *a, *na common article, *i personal article, as is transparent in some reflexes. However, why some reflexes of *saman 'outrigger float' (3.128) are lenis-initial is unclear unless this too is due to the cliticising of an article. Finally, in the case of POC *susu 'breast' (example 3.129) the expected reflex is fortis-initial and lenis-medial, and a number of languages indeed retain this pattern; in others, however, the medial reflex has assimilated to the initial fortis reflex, whilst in yet others, the opposite assimilation has occurred (perhaps with the help of a cliticised article in some cases).

It has been the burden of this section that the 'cross-over' phenomenon as it affects POC *s is well explained in terms of local applications of lenition (rather than in terms of the oral-/nasal-grade alternation), and examples (3.117) to (3.129) illustrate this well.

A question which remains is why Milke (1961) found a correspondence among the Gedaged, Fijian and Samoan reflexes of (what we here call) the fortis reflex of POC *s and among the lenis reflexes in these languages. What Milke actually found, however, was an incomplete but statistically significant correspondence ('eine hochgradige, statistisch gesicherte Konkordanz') among word-medial reflexes and a less consistent correspondence among word-initial reflexes. Although he assumed that this correspondence reflected two different POC phonemes (*s and *z), it is at least equally well explained as the outcome of the same or similar processes operating independently on POC *s in different languages.[36]

### 3.7 POC PHONOLOGY: A REVISION

It is now possible to combine the insights of the foregoing sections into a revised POC consonant paradigm. The revisions to be incorporated are:

a) the reinterpretation of the phonemes conventionally written *d and *nd as fricatives *r and *dr (section 3.3);

b) the fact that at the break-up of POC, the nasal grade consonants were voiced prenasalised stops, wherein the significant feature was voicing (section 3.4.4);

c) the interpretation of *j as the nasal grade consonant corresponding to oral grade *s (section 3.6.1);

d) the interpretation of the outputs of lenition *v, *γ and *z as occurring after the break-up of POC (and therefore as not belonging to the POC phoneme paradigm) (sections 3.5 and 3.6.2.2).

The resulting paradigm, a revision of the version in Table 2, is set out in Table 17.

TABLE 17: A REVISED POC CONSONANT PARADIGM

| | velarised bilabial | bilabial | | alveolar | | palatal | | velar | | post-velar |
|---|---|---|---|---|---|---|---|---|---|---|
| stop | bw | p | b | t | d | c | j | k | g | q |
| trill | | | | r | dr | | | | | |
| sibilant | | | | s | | | | | | |
| nasal | mw | m | | n | | ñ | | ŋ | | |
| liquid | | | | l | | | | | | R |
| glide | w | | | | | | y | | | |

There is no WM evidence to warrant revising the five-vowel system of POC.

The correspondence between conventional POC orthography and the symbols used in Table 17 is set out in Table 18. Note that the conventional symbol *ns does not occur in Table 18 because the reflexes attributed to it are assumed to reflect post-POC lenis grade reflexes of *s not reconstructible in POC itself.

TABLE 18: CORRESPONDENCE BETWEEN CONVENTIONAL POC SYMBOLS AND THOSE USED HERE

| Conventional: | *ŋp* | *mp* | *nt* | *ŋk* | *nj* |
|---|---|---|---|---|---|
| New: | *bw* | *b* | *d* | *g* | *j* |

| Conventional: | | *d* | *nd* | *j* | *ŋm* |
|---|---|---|---|---|---|
| New: | | *r* | *dr* | *c* | *mw* |

Tables 2 and 17 both include the phoneme here written *bw*. The existence of velarised labial phonemes in POC has long been recognised (section 3.2), and the ease with which POC *mw* can be reconstructed leads us to expect to find evidence for the reconstruction of POC *pw and *bw, since it is apparently a language universal that a nasal occurs at a given point of articulation in a phoneme paradigm only if there is in that paradigm a stop at the same point of articulation (Hockett 1963:20, Jakobson 1963:210). Geraghty (1983a:120-124) shows that both *pw and *bw can be reconstructed for PEO. If an item reconstructible with *pw or *bw in PEO is found to have a cognate with a distinctive (velarised) reflex in a WM Oceanic language, then we have grounds for at least its tentative reconstruction in POC.[37] The problem is, however, that among WM Oceanic languages only some Papuan Tip languages, Gitua (Ngero group), and Manam, Bam and Wogeo (Schouten group) sometimes reflect velarised labial phonemes separately from ordinary labials, so evidence is hard to find. Nonetheless, we can provide four cognate sets in support of POC *bw:[38]

(3.130)  POC *tobwa* 'recess, stomach, bag' >

PPT *tobwa* > Molima *tobwa* 'cloth bag', Dobu *tobwa-tobwa* 'crinkled', Muyuw *tobw* 'stomach'

PEO *tobwa* 'belly', 'bay' (Geraghty 1983a:123)

(3.131)  POC *bwae* 'armpit' [39] >

PNg *bwae-* > Kove *voe-* (Chowning 1986), Gitua *bwae-*

PNI *bae-* > Tolai *bai-*

PSS *bwae-* > Lau *gwae-gwae-*, Kwaio *gwae-*, 'Are'are *pae-*, S. Malaita *pwae-pwae-*, Arosi *bwae-*

(3.132)  POC *ibwar* 'cut, split (wood)' >

PPT *-ibwa(r)* 'cut' > Yamalele *-ibwa* 'enlarge a hole', Suau (Sariba), Bohutu *-ibo*, Motu *-iva*, Roro *-iua*, Kuni *-va(i)*, Mekeo *-ifa*

PSS *ibwa[r-i]* 'split (wood)' > Lau *igwa/(ʔa)igwari*

(3.133)  POC *bwaku(r,ʀ)* 'smoke' >

PPT *bwaqu(r)* > Ubir *bakur*, Anuki, Paiwa, Wedau *bau*, Wedau *bo(habu)*, Taupota, Tawala, Duau *bo(gahu)*, Sewa Bay *(na)bwau*

PSS *bwayu* > S. Malaita *pwaʔu*, Arosi *bwaʔu(ha)*

Although the reconstruction of POC *pw is to be inferred from *bw and *mw, I have not found any items with velarised reflexes attributable to *pw in two WM groups or a WM language and an eastern Oceanic language.

In Table 17, the phoneme pairs *p/b, *t/d, *k/g, and *r/dr are putative voiceless/voiced pairs, each of which reflects a former oral/nasal grade pair. The pair *c/*j, however, also a putative voiceless/voiced pair in the POC paradigm, is *not* derived from an oral-/nasal-grade pair. The two members of the pair have separate origins: POC *c is descended from PAN *j, whilst POC *j is descended from the merger of PAN *Ns, *Nc, *Nz, and *NZ. Table 19 sets out the probable development of the POC laminals.

TABLE 19: PROBABLE DEVELOPMENT OF THE POC LAMINALS

| PAN | s/c | | z/Z | j | Ns/Nc | | Nz/NZ | Nj |
|---|---|---|---|---|---|---|---|---|
| PEMP | s | | z | j | ns | | nz | nj |
| Pre-POC | | s | | j | | nj | | . |
| POC | | s | | c | | j | | . |

At the first stage of development shown in Table 19 the members of four pairs of PAN laminals, *s/*c, *z/*Z, *Ns/*Nc, and *Nz/*NZ, merged to form four PEMP consonants *s, *z, *ns and *nz. Reflexes of PEMP *z make it a reasonable assumption that this phoneme was indeed [z]: in POC it merged with *s, reflected (in fortis grade) as [s] in many languages, whilst in Proto SHWNG it merged with PEMP *l as South Halmahera [l] and West New Guinea [r], presumably through rhotacism.

At the next stage of development PEMP *s and *z merged as Pre-POC *s. Since prenasalaised phonemes acquired voicing in Pre-POC, PEMP *ns presumably merged with PEMP *nz as a segment whose phonetic value was originally [nz] and which with palatalisation became the Pre-Poc proto phoneme which Milke wrote as *nj. Apart from the putative POC *(l,ʀ)ujan 'load' (section 3.6.1), we have no known Oceanic reflexes of the apparently rare PAN *Nj.

The palatalisation of PEMP *ns/*nz as Pre-POC *nj meant that the latter, unlike its antecedents, was paired paradigmatically not with *s (< PEMP *s, *z) but with *j (< PEMP *j). Pre-POC *j/*nj became the POC voiceless/voiced pair *c/*j. Observe in Table 17 that the effect of these developments is to leave POC *s without a voiced partner, therefore 'inviting' a sound change which will produce *z, later supplied by Post-POC lenition of *s.

The one other remark we may make about the POC consonant system is that some form of word-medial lenition – at least at the sub-phonemic level – is universal in WM Oceanic languages, and it seems likely that, although lenis-grade consonants cannot be reconstructed in POC, *p, *k and *s had at least intervocalic rapid-speech variants *[v], *[ɣ] and *[z].

CHAPTER 4

## SOME QUESTIONS ABOUT POC MORPHOSYNTAX

It is a prerequisite of any hypothesis about high-order Oceanic subgroups in WM that we are able to reconstruct not only the phonology of POC but something of its morphosyntax. This is so because three of the region's four clusters (North New Guinea, Meso-Melanesian, and Papuan Tip) differ little from each other phonologically, but show substantial morphosyntactic differences. Whilst the features which characterise Papuan Tip morphosyntax (SOV clause order and postpositions, among others) are clearly attributable to contact with non-AN languages, it is less obvious which of the contrasting morphosyntactic features of the languages of the North New Guinea and Meso-Melanesian clusters are inherited from POC and which are innovatory. Before the features of each of the four clusters in the following chapters are presented, an attempt will be made to establish what sort of a language POC was in terms of morphosyntactic typology. This will not be a grammar sketch, but an investigation of those areas of morphosyntax in which the North New Guinea and Meso-Melanesian clusters differ from each other.

If Blust's hypothesis (Figure 1) concerning the place of POC in the AN language family is correct, then it raises certain questions about the morphosyntactic typology of POC. If Proto Central Malayo-Polynesian, Proto South Halmahera/West New Guinea, and POC form a subgroup within AN, then we may expect their descendants to share certain features of morphosyntactic typology. To the extent that the CMP languages, the SHWNG languages, and reconstructed POC are all SVO, we do find a shared inheritance. However, further typological similarities are harder to find and we are confronted by conflicting evidence.

If we examine the languages of the CMP, SHWNG and Oceanic areas, we can recognise two types of SVO language among them, here labelled Type A and Type B. The corresponding features of these two language types are listed below:

a) Type A

    i)    the noun phrase has no preposed article;

    ii)   where a possessor occurs in the noun phrase, the order is possessor + possessum;

    iii)  the pronominal system distinguishes only two numbers, singular and plural;

    iv)  there is no morphological contrast between transitive and intransitive verbs or between specific and non-specific objects;

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v) the tense/aspect-marking system is simple, making distinctions between future/non-future, perfective/imperfective, habitual/punctual, and providing morphological marking for only the first member of each pair; the morphemes marking the future and the perfective respectively precede and follow the verb phrase (the habitual is marked by stem reduplication);

vi) the most common oblique roles are expressed by a set of just one or two prepositions, the remainder by verb serialisation.

b) Type B

i) the noun phrase has preposed articles which mark the head noun as common or personal;

ii) where a possessor occurs in the noun phrase, the order is possessum + possessor;

iii) the pronominal system distinguishes more than two numbers, from a minimum of three (singular, dual and plural) to a maximum of five (singular, dual, trial, quadral/paucal, plural);

iv) transitive verbs are distinguished from intransitive by the presence of a transitivising suffix, usually a reflex of *-i, and the absence of this marker and incorporation of a noun into the verb phrase marks a potential object as non-specific; many languages have two classes of transitive verbs, the second class marked with a reflex of a disyllabic suffix, often *-aki;

v) the tense/aspect-marking system is complex, sharing the the three contrasting pairs of Type A languages, but sometimes adding degrees of remoteness to them (e.g. near future/tomorrow's future); morphemes marking tense/aspect are incorporated into the verb phrase, either as proclitics immediately before or after the subject pronominal proclitic or as enclitics to the verb stem, and two or more enclitics may occur in sequence;

vi) oblique roles are expressed by prepositional morphemes belonging to two or three subclasses (often those which are unaffixed, those affixed with an object pronominal enclitic, and those affixed with possessor pronominal suffix); verb serialisation is used, but only in a very limited set of locative, allative and ablative functions.

The conflict of evidence which confronts us is as follows. In general, CMP and SHWNG languages and the SVO languages of the North New Guinea cluster are of Type A, whilst the languages of the Admiralties cluster and many SVO and VSO/VOS of the Meso-Melanesian cluster and Central-Eastern Oceania are of Type B.[40] By the basic canons of reconstruction, we would suppose that Proto CMP and Proto SHWNG were therefore of Type A. This external evidence, together with the presence of the Type A Oceanic languages of the North New Guinea cluster, might incline us to infer that POC was also of Type A, and that the large number of Type B Oceanic languages is due to their membership of one or more Oceanic subgroups whose proto languages have undergone the innovations which create a Type B language out of an earlier Type A language. However, the standard reconstruction of POC morphosyntax, based on widespread internal evidence from Central-Eastern Oceania and to a lesser extent from Meso-Melanesian languages, views it as a Type B language. Various aspects of this 'standard' reconstruction are contained in Pawley (1973), Foley (1976), Pawley and Reid (1980), Bradshaw (1982), Harrison (1982), Lynch (1982a), Ross (1982a), Crowley (1985), Lichtenberk (1985, 1986), and Hooper (1985). The conflict, then, is that

the weight of external evidence and some internal evidence suggests that POC was a Type A language, whilst a large amount of internal evidence points to a POC morphosyntax of Type B.

This conflict has generally escaped attention, partly because the relevance of evidence from CMP and SHWNG languages to Oceanic reconstruction became apparent only with the publication of Blust (1978b) and partly because of a shortage of readily available data from languages of the North New Guinea cluster (as well as from other areas of WM). However, the conflict is of significance for subgrouping. If, contrary to previous assumptions, POC was a Type A language, then the fact that a majority of languages from central New Britain eastwards are of Type B would require explanation in our interpretation of their prehistory. If, on the other hand, POC was indeed a Type B language, then it is the fact that many languages of (a) the North New Guinea cluster and (b) CMP and SHWNG are of Type A that needs explanation.

To resolve this conflict, relic evidence is needed that languages of one type are descended from a language of the other type. Thus if evidence can be found in languages of the North New Guinea cluster that they share a Type B ancestor, then we may be reasonably certain that POC was of Type B – and conversely, if evidence occurs in Type B languages indicating a Type A ancestry, then we can be reasonably certain that POC was of Type A.

Such evidence is found. It concerns five of the six diagnostic features listed above. The feature for which no evidence is found is – ironically – the most well known, the position of the possessor.[41] Of the remaining five pieces of evidence, three (the article, number in the pronominal system, and the marking of transitivity) point clearly to a Type B reconstruction for POC (i.e. the 'standard' reconstruction), whilst the fourth (the verbal system) points firmly to a Type A reconstruction. The fifth set of evidence (concerning prepositional morphemes in POC) is complex, and is examined at some length below.

It is to these five sets of evidence that we now turn.


## 4.1 THE PREPOSED ARTICLE IN POC

Pawley (1972) reconstructed Proto Eastern Oceanic with a preposed common article *na/*a and a personal article *(q)a. Crowley (1985) in his reconstruction of the POC common noun phrase also reconstructed a preposed common article *na/*a, noting the problem of the origin of the two forms side by side, to which we return below. There is nothing in my data to contradict his reconstruction of these forms, and there is evidence from Meso-Melanesian languages and from the Mengen family (see below) of a personal article *e. Three pieces of relic evidence in a few languages of the North New Guinea cluster indicate that such forms also occurred in at least some communalects of the early North New Guinea dialect linkage.

The first of these is that in Kilenge and Maleu the common article *na is reflected as a proclitic on nouns. It is still a separable morpheme, as it is omitted if a possessive classifier precedes the noun:

(4.1)   Kilenge

   *na-nia*
   ART-house
   'a/the house'

*na-niu*
ART-coconut
'a/the coconut'

*le-k-nia*
PCL-P:1S-house
'my house'

*a-k-niu*
PCL-P:1S-coconut
'my coconut'

The second piece of evidence is that two Markham languages, Wampar and Yalu, have a reflex of the common article *\*a*. The status and distribution of Wampar *a* is not entirely clear to me. According to Panzer (1920), *a* occurs before a consonant-initial noun clause-medially if the preceding word is consonant-final, i.e. other than the fact that it occurs before a noun, it is phonologically rather than semantically conditioned. However, the very fact that its distribution is limited to co-occurrence with nouns indicates that it is a relic of the article:

(4.2)  *yai*      *o-nom*      *a-mpo*
       D:2S     S:2S-drink   *a*-water
       'You are drinking water.'

       *yai*     *o-n*       *a-mos*     *serasera*  *d-o-ma*
       D:2S    S:2S-carry   *a*-coconut  how.many   and-S:2S-come
       'How many coconuts have you brought?'

Yalu *a-* has apparently been reinterpreted as a part of the noun, and occurs word-initially on many nouns. This is illustrated by comparison of Yalu nouns with cognates from Wampar and Sirak, two of Yalu's closest relatives:

(4.3)   POC *\*susu-* 'breast' > PMK *\*sisu-* > Yalu *a-sus*, Wampar *seso-*, Sirak *sus*

       POC *\*paqal* 'thigh' > PMK *\*faɣa-* 'leg' > Yalu *a-fa-*, Wampar *fa-*, Sirak *faga-*

       POC *\*kutu* 'louse' > PMK *\*ɣur(u)* > Yalu *a-or*, Wampar *gor*

       POC *\*mwata* 'snake' > PMK *\*a-mur* > Yalu *a-mur*, Wampar *mur*, Sirak *mut*

The third piece of evidence occurs in Uvol and Poeng of the Mengen family, both of which preserve the constrast between *\*a* common article and *\*e* personal article in prepositional forms, although they do not preserve the articles in other environments. Thus in Uvol, the general relational preposition *ŋa* occurs before common nouns (? < Proto Mengen *\*ŋa-a* PREP-ART), *ŋe* before personal nouns and placenames (< Proto Mengen *\*ŋa-e* PREP-ART):

(4.4)   *itei*    *tu*     *ŋa*    *pele*
       who      stay     PREP    house
       'Who is in the house?'

       *nenike*    *e-tu*      *ŋe*    *uvol*
       before     S:1S-stay   PREP    Uvol
       'Formerly I lived at Uvol village.'

> *e-la    ŋe    soŋliua*
> S:1S-go  PREP  Songliua
> 'I'm going to (see) Songliua.'
> (Note: Songliua is a man's name)

In Poeng, a similar contrast occurs, affecting four prepositions: *a/e* general relational, *ŋa/ŋe* locative, *ta/te* allative, and *ka/ke* refective, instrumental:

(4.5) *tai   iala   a      vale*
     who  stay  PREP  house
     'Who is in the house?'

     *k-a      mom   e      poro*
     TA-S:1S  live  PREP  Poro
     'I live at Poro village.'

     *konalelrea  k-e      vali-iau   ka     vega*
     Konalelrea  TA-S:3S  hit-O:1S  PREP   stick
     'Konalelrea hit me with a stick.'

     *pana-lua  ra    panuŋ  keke      pali-mologa   ke     rea*
     CL-two    ART   man    TA.S:3P   RECIP-angry   PREP   D:3P
     'The two men were cross with each other.'

Similarly we find Poeng *ta ra panuŋ* 'towards the men' and *ta ola* 'into the ditch', but *te pamomorea* 'towards Pamomorea' (girl's name) and *te poro* 'to Poro village'.

These pieces of evidence are sufficient to indicate that at least portions of the original North New Guinea dialect chain had a common article *\*na* or *\*a*, confirming that POC was a Type B language in this regard. The Uvol and Poeng evidence suggests that the personal article *\*e* is also reconstructible in a proto language ancestral to both Proto North New Guinea and Proto Meso-Melanesian.

Crowley (1985) observed that the occurrence of forms reflecting both *\*na* and *\*a* as common articles is problematic. I cannot 'solve' this problem here, but there is sufficient evidence in WM Oceanic languages to propose that POC had at least three demonstratives/spatial deictics, and that we can reconstruct *\*e/\*ne* 'near speaker', *\*a/\*na* 'near addressee', and *\*o/\*no* 'distant from both speaker and addressee'. Since there is a strong tendency for Oceanic languages to treat the middle member of the set, *\*a/\*na*, as 'neutral', e.g. to mark a noun modified by a relative clause, it is conceivable that it also became the common article.

The POC innovation would lie in preposing it, since POC demonstratives appear to have followed the noun they modify. The *\*V/\*nV* alternation may well have been phonologically conditioned. In Label of New Ireland, for example, *na* is used after vowels, *a* elsewhere.

## 4.2 NUMBER IN POC PRONOUN SETS

The second diagnostic feature for which we have evidence is the question of number in pronoun sets. Pawley (1972:37, 61-75) reconstructed singular, dual, trial and plural sets for PEO. Similar sets are found throughout the Admiralties and Meso-Melanesian clusters. Indeed, a fifth set, quadral/paucal, formed originally by the addition of the reflex of POC *\*pati* 'four' to the plural

pronouns, is probably reconstructible in POC. Lihir, Sursurunga and Tangga of New Ireland have all five sets; in the South-East Admiralty network, in Seimat and Titan of the Admiralties, and in Konomala, Patpatar, Tolai, Kandas, Duke of York and Siar of New Ireland, these quadral forms have replaced the original plurals. Although the CMP and South Halmahera languages display only a singular/plural contrast, the West New Guinea languages distinguish singular, dual and plural, as do a scattering of North New Guinea languages, e.g. Manam (Lichtenberk 1983:269-270) and Lusi (Counts 1969:123). We thus have both internal and possible external evidence for the reconstruction of four, perhaps five, different numbers in the POC pronoun paradigm.

## 4.3 TRANSITIVISING MORPHEMES: POC *-i AND *-aki

Evidence for the third diagnostic feature, the presence or absence of transitivising morphemes, is also drawn from Manam, which preserves reflexes of Pawley's (1973) POC *-i transitive and *-aki remote transitive (and is the only North New Guinea language I have found which does so). Lichtenberk (1983:33-36,46) draws attention to Manam reflexes of *-i, whilst examples like the following (1983:218) clearly reflect *-aki (see also Lichtenberk 1983:236-240):

(4.6)    *ʔateʔa    ta-do-r-aʔ-i*
        ground   S:1IP-straight-THC-TR-O:3S
        'Let's level the ground.'

        *ʔai    u-boʔau-ŋ-aʔ-i*
        stick   S:1S-bent-THC-TR-O:3S
        'I bent the stick.'

I have retained Lichtenberk's synchronic segmentation in the glosses, but the sequence *-aʔ-i* TR-O:3S is a resegmentation of POC *-aki. The verbs above are related to the stative intransitives *-ado* 'be straight' and *-boʔau* 'be bent' respectively. This evidence, together with the fact that *-aki is reflected in languages of the Papuan Tip cluster (among others, Motu: Pawley 1973:121) and of Central-Eastern Oceania is sufficient to justify the reconstruction of *-i and *-aki in POC, although no reflexes of either have been found in CMP or SHWNG languages.

## 4.4 THE POC VERBAL SYSTEM

The fourth diagnostic feature concerns the simplicity or otherwise of the verbal system. As noted above, POC appears to have had a simpler verbal system typical of Type A languages. However, many languages of Central-Eastern Oceania and of the Admiralties, Meso-Melanesian and Papuan Tip clusters have a Type B verbal system, in which (a) tense/aspect morphemes may intervene between subject proclitic and verb-stem, (b) tense/aspect morphemes may precede and be phonologically merged with the subject proclitic, and (c) more than one tense/aspect morpheme may occur. These features are illustrated below (see Ross 1982a for further examples). The glosses of individual tense/aspect morphemes within the verb phrase should not be taken too literally: although the verb phrase paradigms of these languages indicate the segmentation of these morphemes, they often acquire a collective meaning when combined with each other.

(4.7)    Kele (of Manus Island, Admiralties)(Smythe n.d.b.)

> i       pi-k-i-l-gon
> D:3S    DES-ACC-S:3S-INT-get
> 'He wants to go and get (something).'

(4.8)    Tabar (of New Ireland)

> a       ta      te      vo      masai      sivo
> S:3S    FUT     PF      REM     die        tomorrow
> 'He will be dead tomorrow.'

(4.9)    Motu (of Central Papua)

> lau     na      biku    b-asi-n-ani-mu          kerukeru
> D:1S    TM      banana  FUT-NEG-S:1S-eat-CONT    tomorrow.
> 'I won't be eating any bananas tomorrow.'

(4.10)   Lengo (of Guadalcanal)

> a       para    ba      k-e-dea         i       leo-na
> ART     para    FUT     FUT-S:3S-go.up  PREP    inside-P:3S
>
> na      ne-na       etea
> ART     PCL-P:3S    canoe
> 'Para will get into his canoe tomorrow.'

The main reason for inferring that POC did *not* have a verbal system like those illustrated above is that it has proven impossible to reconstruct any more than the most basic elements of a system beyond the limits of any of the clusters, and often beyond the limits of quite local groups of languages. What are almost universally reconstructible are the contrasts listed for the Type A system above. In such a system, the future morpheme precedes the verb phrase (cf. *ba* future in example (4.10) above), and sometimes precedes the subject noun phrase:

(4.11)   Mangap (of the Vitiaz Strait)

> gaga        ko      aikeŋ       i-se        woŋgo   ki-ni
> tomorrow    FUT     Aikeng      S:3S-go.up  canoe   PREP-O:3S
> 'Tomorrow Aikeng will board his canoe.'

(4.12)   Kairiru (of the Schouten family)(Wivell 1981a)

> pai     ñ       moin    r̃a-qur      ceik
> FUT     P       woman   S:3P-put    stringbag
> 'The women will put (them) into stringbags.'

Type A systems usually have no morphological marking of the past tense: present and past are expressed by the unmarked verb stem. However, perfective or completed action is indicated by a morpheme approximately equivalent to 'already' which follows the verb phrase and is usually clause-final:

(4.13)   Mangap

*maikel   ni    i-rak        ket*
Michael  TM   S:3S-dance  PF
'Michael has already danced.'

(4.14)   Kairiṟu

*ei       o-wot    yieq   qo-mai    r̃uon*
D:3S   S:3S-say  D:2S   S:2S-come  PF
'He said you had come.'

It is implicit in the reconstruction of the POC verbal system as Type A that Type B systems like those illustrated in examples (4.7) to (4.10) arose independently through processes which incorporated formerly unbound morphemes into the verb phrase. Thus it is possible that POC had a future-marking morpheme *ba*, functioning like *pai* in example (4.12),[42] which has retained its phonological independence in Lengo (example 4.10), but has lost it in its Kele reflex (*pi-* in example 4.7) and its Motu reflex (*b-* in example 4.9). I return to this matter in Chapter 10 in the examination of the relationships between the four WM clusters.


## 4.5  POC PREPOSITIONAL MORPHEMES

The fifth diagnostic feature is connected with the marking of oblique roles, and discussion of it must needs be rather detailed, as interpretation of the data is not easy and has implications both for subgrouping and for reconstructing the sources of remote transitive suffixes (section 10.3.1.4).

Pawley's (1973) examples indicate that three classes of prepositional morphemes marking oblique roles[43] are reconstructible in POC. Two of these classes are explicitly reconstructed by Pawley. The three classes are:

a)  the preposition *(q)i*, marking location or time (Pawley 1973:147-148);

b)  the prepositional element *ta-*, marking location or possession, to which was attached a possessive pronominal suffix, except where the noun phrase marked by *ta-* had a personal noun as head (Pawley 1973:148-150[44]);

c)  the prepositional verbs *pani-* benefactive, *tani-* ablative, *kini-* instrumental, refective, *(k)ani-* instrumental, refective, *suʀi-* allative, *ma-* comitative, *ni-* instrumental, confective, refective[45] (Pawley 1973:142-147).

The CMP, SHWNG and North New Guinea groups do not reflect these three classes of morphemes, and the question of their presence in POC therefore requires investigation. I shall seek to show first that each of the three classes of morpheme is attested across a range of languages outside the North New Guinea cluster (I will not repeat Pawley's evidence), but that their reflexes in certain languages of the North New Guinea cluster appear to contradict the establishment of three classes in POC. The evidence will then be examined in the light of two alternative hypotheses. The first is that the three categories did indeed exist in POC but that at least two of these were collapsed into one by the languages of the North New Guinea cluster. The other is that POC had only one class of prepositional morpheme, reflected in the North New Guinea languages, which had split into three, and that this innovation embraced at least the languages of the Admiralties and Meso-Melanesian

clusters and part of Central-Eastern Oceania, i.e. that as in the case of the verb phrase, POC was simpler than its descendants.

Note that the languages of the Papuan Tip cluster do not figure in the following discussion: they are mostly SOV and use postpositions which are formally unrelated to the prepositional items of the other WM clusters.

### 4.5.1 THE PREPOSITION POC *(q)i

I limit my attention here to the locative and temporal uses of the POC preposition *(q)i, since Hooper (1985) has dealt throughly with its possessive and attributive uses.

Pawley has illustrated the Bauan Fijian reflex of *(q)i (1973:147-148) and has listed its reflexes in the South-East Solomonic family and elsewhere in eastern Oceania (1972:85). I give below some reflexes from the Meso-Melanesian cluster, apparently the only WM grouping which reflects it:

(4.15)   New Ireland chain:

| | | |
|---|---|---|
| Tabar | *i ruma* | 'in the house' |
| | *i kone* | 'at the beach' |
| | *i paki-gu* | 'beneath me' |
| Lihir | *i liom* | 'in the house' |
| | *i tes* | 'at sea' |
| | *i mil* | 'at the back' |

North-West Solomonic:

| | | |
|---|---|---|
| Nehan | *i um* | 'in the house' |
| | *i mudi-guo* | 'behind me' |
| | *i kot* | 'down below' |
| Solos | *i numa* | 'in the house' |
| | *i kopu* | 'down below' |
| | *i nokui* | 'in the garden' |
| Halia (Hanahan) | *i luma* | 'in the house' |
| | *i uruhu* | 'in the forest' |

### 4.5.2 POC PREPOSITIONS WITH POSSESSIVE SUFFIXES

As Pawley's (1973:147-148) examples from Tolai (his Kuanua) and Gela illustrate, the POC preposition *ta- locative, possessive is frequently reflected with pronominal possessive suffixes. These two languages represent the Meso-Melanesian cluster and the South-East Solomonic family, in both of which there are a number of languages which reflect this morpheme sequence. The fact that it is also found in Mussau and the Admiralties suggests that it may be reconstructible in POC:

(4.16)  Mussau

> *manola   e      uŋu    e-ta-ira*
> Manola    S:3S   work   PREP-PREP-P:3P
> 'Manola is working for them.'

> *mai-a-sio       riki    bua     e-ta-gi*
> come-O:3S-DIR    some    areca   PREP-PREP-P:1S
> 'Bring me a little areca nut!'

> *manola   e      uŋu    ta      rilu*
> Manola    S:3S   work   PREP    Rilu
> 'Manola is working for Rilu.'

(4.17)  Seimat

> *ŋa   mamata   teta-n*
> D:1S  afraid   PREP-P:3S
> 'I am afraid of him.'

> *iŋ     teta-k*
> house  PREP-P:1S
> 'my house'

> *iarua   pupuas   ti     kalu*
> Iarua   work     PREP   Kalu
> 'Iarua is working for Kalu.'

(4.18)  Kele (Smythe n.d.b.)

> *yu    u-pe      i-le      tira-n*
> D:1S  S:1S-say  S:3S-go   PREP-P:3S
> 'I spoke to him.'

> *yu    u-r̃wei      soŋ    i-le      te-n        damat*
> D:1S  S:1S-give   food   S:3S-go   PREP-P:3S   man
> 'I gave food to the man.'

In general, reflexes of *ta-* in the Admiralties and New Ireland are suffixed with a possessive pronominal form unless, as in the case of Seimat *ti kalu* in (4.17) above, the head of the noun phrase is a personal noun. In the same example, *teta-k* and *teta-n* reflect reduplicated forms (POC *tata-gu* and *tata-ña*), used when no noun phrase follows. Such forms are also reflected in New Ireland languages of the Lavongai/Nalik (for Tigak, see Beaumont 1979:99 and 107) and Madak groups and in a single fossil form in the Willaumez family, namely Nakanai *teta-la* PREP-P:3S (Johnston 1980:181), the one member of the paradigm which has survived analogical levelling.

Reflexes of POC *ta-* also occur in a few languages of the North New Guinea cluster, but almost always without suffixation. Poeng reflexes were illustrated in section 4.1. Other reflexes are:

(4.19)  Mangap

> *ta neri*    'yesterday'
> *ta kozi*    'today'

Kaulong

*kanem    ta      ŋo*
pig       PREP    D:1S
'my pig'

*nak    tin    ta      yaŋ    ti-men*
canoe   ART    PREP    man    ART-DEM
'the man's canoe'

The one exception to the generalisation that reflexes of *ta-* are unsuffixed in North New Guinea languages is provided by the Kaulong and Sengseng (south-west New Britain) forms *ta-p* PREP-P:2S and *ta-n* PREP-P:3S (cf. Chowning 1985:180), which mark possession. The other members of the paradigm to which they belong, however, have disjunctive pronoun forms, and it is difficult to know whether *ta-p* and *ta-n* are relics or recent formations.

It is probable *a priori* that *ta-* did not constitute a single-member syntactic set in POC. Three other prepositions are reflected in the Meso-Melanesian and North New Guinea clusters. Again, like *ta-*, their reflexes have possessive pronominal suffixes in the Meso-Melanesian cluster, but not in North New Guinea languages. The three prepositions, which are not at present reconstructible in POC, are:

*pa-*      instrumental, locative
*ŋa-*      instrumental, refective
*ka-*      benefactive

Examples reflecting *pa-* are:

(4.20)   Kara (New Ireland)

    *na    tamaliu    a      sip    nania    pa-na      wai*
    ART   Tamaliu    S:3S   hit    D:1S     PREP-P:3S  wood
    'Tamaliu hit me with a stick.'

(4.21)   Kove (Ngero family, North New Guinea cluster)

    *koroi   i-kea       vua    pa-ni        doŋa*
    Koroi    S:3S-take   areca  PREP-O:3S    Donga
    'Koroi took areca nut from Donga.'

(4.22)   Mangap (Vitiaz network, North New Guinea cluster) (R. Bugenhagen, p.c.)

    *nio    aŋ-taara    ke     pa     nakabasi*
    D:1S   S:1S-chop   tree   PREP   axe
    'I cut down the tree with an axe.'

Tigak, Tiang and Nalik of New Ireland all have forms cognate with and structurally similar to Kara *pa-na* in example (4.20). In Tigak, *pa-* has a reduplicated form *pa-pa-na* (parallel to *ta-ta-na* above; Beaumont 1979:107).

Note that the Kove form *pa-ni* in (4.21) has what Counts (1969), describing the closely related Lusi language, interprets as an object pronominal enclitic, that this has the irregular form *-ni* for the usual *-i*, and that *pa-ni* looks (in form) like a reflex of the POC prepositional verb *pani-* 'benefactive'. Malai has a cognate *pa-ni* structurally and functionally similar to this form. It is these

forms which are at the centre of the conflict of evidence about the prepositional categories of POC, and we shall return to them below.

Examples reflecting *ŋa- instrumental, refective are:

(4.23)   Tabar (New Ireland)

e      maris   a      kedi-au   ŋa-na       mi    kato   ai
ART   Maris   S:3S   hit-O:1S   PREP-P:3S   ART   piece   wood
'Maris hit me with a stick.'

(4.24)   Kove (Ngero family, North New Guinea cluster)

koroi   i-hau-γau      ŋa-ni       avei
Koroi   S:3S-hit-O:1S   PREP-O:3S   wood
'Koroi hit me with a stick.'

(4.25)   Bukawa (Huon Gulf, North New Guinea cluster)

giyamsa   gi-ʔ        au    ŋa     a
Geyamsa   S:3S-hit   me    PREP   wood
'Geyamsa hit me with a stick.'

(4.26)   Arove (Arawe chain, North New Guinea cluster)

a      kui    sau   yo     ŋa     eki
ART   Kui   hit   D:1S   PREP   wood
'Kui hit me with a stick.'

(4.27)   Poeng (Mengen family, North New Guinea cluster)

konalelrea   k-e        loa     ŋa     manaŋ
Konalelrea   TA-S:3S   board   PREP   canoe
'Konalelrea boarded his canoe.'

The cognate Uvol form occurs in example (4.4). Note again that the Kove form *ŋa-ni* in example (4.24) is structurally parallel to *pa-ni* in (4.21) and thus has the appearance of a prepositional verb.

The third of these prepositions is, *ka- benefactive (see section 8.4.2.1 for further examples):

(4.28)   Tiang (New Ireland)

sik     əmən   tə     buə     kə-məm
carry   DIR   some   areca   PREP-P:1EP
'Bring us some areca nut!'

(4.29)   Apalik (Arawe chain, North New Guinea cluster)

a      saŋe   kum    ka     a      solia
ART   Sange   work   PREP   ART   Solia
'Sange is working for Solia.'

(4.30)   Aria (Lamogai chain, North New Guinea network)

porop   due    vile    la    ke     apletme
Porop   carry   areca   go    PREP   Apletme
'Porop took areca nut to Apletme.'

(4.31)   Lukep (Korap network, North New Guinea cluster)

*ran       ke       inuŋa*
water    PREP    drinking
'water for drinking'

The question raised by the North New Guinea forms is whether the prepositions *ta-*, *pa-*, *ka-*, and *ŋa-* were a separate class with possessive pronominal suffixes in POC or whether at least the first three are cognate with prepositional verbs (*tani-*, *pani-* and *(k)ani*). If the former is the case, then the North New Guinea languages are the innovators; if the latter, then Mussau, the Admiralties and Meso-Melanesian clusters and the South-East Solomonic family are members of a putative Oceanic subgroup.

### 4.5.3 POC PREPOSITIONAL VERBS

I reconstruct the following POC prepositional verbs:

| | |
|---|---|
| *pani-* | benefactive |
| *tani-* | ablative |
| *kini-* | instrumental, refective |
| *(k)ani-* | instrumental, refective |
| *suʀi-* | allative |
| *ma-* | comitative |
| *ni-* | instrumental, confective, refective |

Pawley (1973:143-144) points out that POC *pani-* and *suʀi-* are reconstructible both as prepositional verbs and as full verbs meaning respectively 'give' and 'follow'. Prepositional verbs are ancillary to full verbs, and the origin of the prepositional verbs *pani-* and *suʀi-* is presumably in the use of *pani-* 'give' and *suʀi-* 'follow' as the second element in a serial verb construction. The origin of the other disyllabic prepositional verbs is probably similar, although no reflexes of these as full verbs have been found.

This listing of prepositional verbs differs from Pawley's in two ways. Firstly, I have omitted his *muni-* dative (1973:147), on the grounds that it is reconstructible for Proto Central-Eastern Oceanic but not for POC (there are no WM reflexes of *muni-* in my data; cf. Lynch and Tryon 1985). (It is also possible that *kini-* instrumental is not reconstructible for POC: I return to this below.) Secondly, I have added the following: *suʀi-* allative, *(k)ani-* instrumental, refective, *ma-* comitative, *ni-* instrumental, confective, refective.

Pawley (1972:88) lists South-East Solomonic and northern Vanuatu reflexes of *suʀi*. Its reconstruction in POC is confirmed by the presence of reflexes in New Ireland languages (see for example Beaumont 1979:100).

The prepositional verb *(k)ani-* instrumental, refective is reflected in the following examples:

(4.32)   Meramera (of the Willaumez family)

*lobao    i       voku-voku    ane-au*
Lobao   S:3S    RD-work      PREPV-O:1S
'Lobao is working for me.'

(4.33)  Lavongai (of New Ireland)

*ka-te      maramarak   ani-a*
S:3S-TA    pleased      PREPV-O:3S
'He is pleased about it.' (Stamm f/c.)

*ka-te      leŋ     ani-a*
S:3S-TA    afraid  PREPV-O:3S
'He is afraid of him.' (Stamm f/c.)

*posikei  ka-ta     alis    vua    ani    makan*
Posikei  S:3S-TA   give    areca  PREPV  Makan
'Posikei gave areca nut to Makan.'

(4.34)  Tigak (of New Ireland)

*rig-a     kuskus   an-i        taŋ    anu*
S:3P-TA   talk      PREPV-O:3S  ART    man
'They talked about the man.' (Beaumont 1979:43)

*suk     bua    an-au         ima*
bring   areca  PREPV-O:1S    DIR
'Bring me areca nut!'

(4.35)  Paama (Central Vanuatu)

*ma-hite-ni      tūnuen   tāi   en      meteimal    ona-k*
TA.S:1S-say-TR  story    one   PREP   village      PCL-P:1S
'I will tell you a story about my village.' (Crowley 1982:207)

*na-muasi        en     vaulev*
TA.S:1S-hit.O:3S   PREP   club
'I hit him with a club.' (Crowley 1982:208)

(4.36)  Port Sandwich (Malekula, Central Vanuatu) (Charpentier 1979:115)

*arar   ŋail  tö-sau    a      tin   kan   icao*
man    P     S:3P-cut  PREP   can   PREP  knife
'The men opened the can with a knife.'

Of the forms in the examples above, Malalamai *an-* instrumental, Meramera *an-* benefactive, Lavongai *ani-* refective, benefactive, Tigak *an-* refective, benefactive are all prepositional verbs; Crowley's (1982:191-192) discussion of Paama *en* (underlying form *eni*) refective, instrumental, general relational shows that it was once a prepositional verb.  Only Port Sandwich *kan* comitative, instrumental shows no synchronic verbal features, and the language has no prepositional verbs. Cognate forms reported in the literature are: Kwaio *ʔani-* 'prepositional verb: instrumental' (Keesing 1985:158), To'aba'ita *ʔani-* 'prepositional verb: instrumental' (used only as a resumptive proform: Lichtenberk 1984:84), Kwara'ae *ʔani-* 'prepositional verb: instrumental' (Deck 1934:77-78), Sa'a *ɛni* 'preposition: instrumental' (Ivens 1918:152-153), and Big Nambas *an-* 'prepositional verb: benefactive, instrumental' (Fox 1979:42-43).

A feature of the Meramera, Lavongai, Tigak and Big Nambas forms above is that they sometimes have benefactive meaning.  This is more readily associated with reflexes of the POC prepositional verb *\*pani* 'benefactive'.  However, it is clear that the prepositional verbs *pani* and *\*(k)ani-* both

occurred in POC, since at least two[46] languages reflect them side by side: Malalamai *pan-* 'benefactive' vs. *an-* 'instrumental', Paama *veni* 'benefactive' vs. *eni* 'refective, instrumental, general relational' (Crowley 1982:182). It is also clear from the initial consonant of the Kwaio, To'aba'ita, Kwara'ae and Port Sandwich forms that they are not reflexes of *\*pani*. What appears to have happened in Meramera, Lavongai, Tigak and Big Nambas is that reflexes of POC *\*pani* 'benefactive' and *\*(k)ani-* 'refective, instrumental' have been conflated. In Lavongai, Tigak and Big Nambas this is not surprising, as POC *\*p-* has become zero in all three. In Meramera, however, POC *\*p-* is normally reflected as *v-* (e.g. POC *\*patu* 'stone' > Meramera *vatu*; POC *\*pudi* 'banana' > Meramera *vudi*), whilst POC *\*k-* is reflected as zero (e.g. POC *\*kamu-tolu* D:2T > Meramera *am-teu* D:2P; POC *\*kulit* 'skin' > Meramera *ul-uli*). It thus appears that in Meramera, the expected form *\*\*van-* (< POC *\*pani-*) has been lost and its meaning transferred to *\*an-* (< POC *\*(k)ani-*). This feature is significant in connection with the 'capture' of prepositional verbs as verbal enclitics, examined in section 10.3.1.4.

The reconstruction of the POC prepositional verb *\*ma(i)-* 'comitative' is perhaps mildly controversial, in that it is formally associated, not with a full verb (like *\*pani-* and *\*suʀi-*), but with POC *\*ma* 'and'. In the absence of external evidence it is not clear to me which was prior to the other. The prepositional verb *\*ma(i)-* 'comitative', with object pronominal enclitics to confirm its verbal nature, is reflected in the North New Guinea cluster, the Meso-Melanesian cluster, and in Big Nambas of Malekula (Central Vanuatu)(Fox 1979:42-43). Since, as is shown below, North New Guinea evidence is irrelevant to the reconstruction of a prepositional verb, evidence is presented only from the latter two sources:

(4.37)  Meramera (of the Willaumez family)

    *lobao   me   ta-tasi-na-sou*
    Lobao   and   RD-brother-P:3S-P:3P
    'Lobao and his brothers.'

(4.38)  Lihir (of New Ireland)

    *i       kic  men-ie*
    D:3S    sit  with-O:3S
    'He is sitting with him.'

(4.39)  Sursurunga (of New Ireland)

    *əi   kiapməit   a      up   yau   mai  kubau*
    ART  Kiapmait   S:3S   hit  D:1S  with stick
    'Kiapmait hit me with a stick.'

(4.40)  Big Nambas (Fox 1979:42)

    *m'a dui*    'with a man'
    *m'e-i*      'with him'
    *m'e-r*     'with them'

    (*m'-* is an apico-labial nasal)

Meramera (and Nakanai) *me* 'and' reflects *mai* (the expected reflex of *\*ma* would be *\*\*ma*) and, like Sursurunga *mai* 'instrumental', is a fossilised form of *\*ma* 'comitative' + *\*-i* 'transitive'. The verbal nature of the Lihir and Big Nambas forms is unambiguous.

Pawley (1973:145-146) treats *ni- 'instrumental, confective, refective' as an alternant form of *kini- 'instrumental', apparently because their reflexes are functionally similar and geographically complementary.  His one reflex of *ni- is from a WM Oceanic language (Babatana, where it is a verbal clitic, not a prepositional verb), whilst his reflexes of *kini- are from eastern Oceanic languages.  Secure reflexes of *kini- are hard to find in WM Oceanic languages, and it is possible that we should not reconstruct it for POC.  The prepositional verbs *ni- and *(k)ani- are more easily reconstructible in POC, however.

The prepositional verb *ni- is reflected in the following examples:

(4.41)   Ham (Bel family, North New Guinea cluster)(Elliott 1979)

*i-lalu*          *ne-n*
S:3S-pregnant   PREPV.O:3S-PAST
'He got her pregnant.'

*i-bodo*   *ne*          *kono-k*
S:3S-sit   PREPV.O:3S   PREPV.O:1S-PRES
'He sat him down for me.'

(4.42)   Bali-Vitu (Vitu)

*ia*     *tani-a*     *ni-dia*         *ka*   *ta*   *vano*
D:3S   say-O:3S   PREPV-O:3P   TA   TA   go
'He told me to go.'

*mataio*   *pele*   *a*       *bua*   *taða*   *ni-ni-ɣo*
Mataio   take   ART   areca   some   RD-PREPV-O:2S
'Mataio took some areca nut from you.'

*Mataio*   *ɣubi-au*   *n-a*          *ɣadaɣai*
Mataio   hit-O:1S   PREPV-ART   stick
'Mataio hit me with a stick.'

(4.43)   Bugotu (South-East Solomonic family)(Ivens 1933:174)

... *me*   *ni-a*          *taviti*
... and   PREPV-O:3S   go
'... and he went with him'

(4.44)   Gela (South-East Solomonic family)(Ivens 1937:1105)

*ni-a*          *na*   *beti*
PREPV-O:3S   ART   water
'with water'

Given the rarity of monosyllabic verb-stems in POC, it is perhaps not surprising that most reflexes of *ni- no longer function as verbs.  Note that in the first two examples of (4.42) above, *ni-* is followed by object pronominal suffixes, as expected for a prepositional verb, whilst in the third example, phonological reduction has occurred and the verbal nature of *na* in *n-a ɣadaɣai* PREPV-ART *stick* ('with a stick') is no longer clear.  The original form of this phrase was apparently

(4.45)   *\*ni-a*          *a*      *ɣadaɣai*
PREPV-O:3S   ART   stick
'with a stick'

Bali-Vitu, the Willaumez languages, and several southern New Ireland languages share an innovation in the form of the preposition *na*, and its New Ireland reflexes share the peculiarity that, unlike most prepositions, they are followed directly by the noun. The reconstruction in (4.45) not only provides a source for *na* but also shows why there is no article: it has coalesced with the object pronominal suffix of the former prepositional verb form *\*ni-a*.

Other reflexes of *\*ni-* are found in Mota (of the Banks Islands) *nia* 'withal', 'thereby' (Codrington 1885:295) and probably in Kwara'ae *nia* in Deck's (1934:48) phrase *ʔatoŋi nia* 'be hard for him' (cf. *ʔato* 'difficult').[47] The verbal enclitic reflected as Mono-Alu -*ŋ*, Ririo -*in* (by regular metathesis) and Babatana, Sengga, Roviana -*ni* is also very probably cognate (see section 10.3.1.4).

### 4.5.4 THE PROBLEM OF PREPOSITIONAL FORMS WITH -*ni*

It was noted above that the three classes of prepositional items apparently reconstructible for POC are not supported by external cognates, nor are they found in the North New Guinea cluster. Instead, languages of the cluster, especially in the area of the Vitiaz Strait, have only one prepositional form class. Since they have no reflex of the preposition *i*, it may be said that they have one class corresponding to two of the classes (namely prepositional items like *\*ta-*, and prepositional verbs) found in various other Oceanic languages. As we have seen, the two classes occur side by side in languages of the Meso-Melanesian cluster and of the South-East Solomonic family. It was noted further in section 4.5.2 that the Kove/Lusi forms *pa-ni* and *ŋa-ni*, analysed by Counts (1969) as sequences of preposition + object pronominal enclitic, look remarkably like the POC prepositional verbs (e.g. *\*pani* 'benefactive', *\*(k)ani* 'refective, instrumental'), and further that -*ni* is not in fact the usual form of the Kove enclitic. Moreover, I have hitherto treated Kove *pa-ni* as a reflex not of *\*pani* 'benefactive', but of *\*pa-* 'instrumental, ablative'. The question which must now be addressed is what the origin of these forms in -*ni* and the other members of the paradigms to which they belong, together with their cognates in related languages, really is, since the answer bears on the subgrouping of Oceanic languages.

The forms with which we are here concerned are set out in Table 20, together with the disjunctive pronouns, object enclitics, and pronoun suffixes of the languages concerned. Certain facts are immediately clear from these data:

a) in each language, the object enclitics are formally related to the disjunctive forms (in Tami the disjunctive pronouns are used as objects);

b) in each language, there is a pronominal possessive suffix set which:

   i) is descended from the POC pronominal possessive suffix set *\*-gu* P:1S, *\*-mu* P:2S, *\*-ña* P:3S, *\*-ma[m]i* P:1EP, *\*- da* P:1IP, *\*-m[i]u* P:2P, *\*-di[a]* P:3P;

   ii) is formally different from the disjunctive and object sets in that language except (in Kove, Malai, Gitua, Kilenge, and Lukep) in the third person plural;

c) in each language, the prepositional paradigms are formally related, not to the posessive pronominal suffixes, but to the disjunctive and object pronoun sets.

It is thus clear that the prepositional paradigms have what appear to be object pronominal enclitics and are therefore *formally* related to the prepositional verbs of the Meso-Melanesian cluster and the

South-East Solomonic family. Furthermore, the third person singular forms Kove, Malai *pani*, Bariai, Malalamai *pan*, Gitua *pan-yei* (*yei* = D:3S), Lukep *paŋ*, and Mangap *pini* all contain a reflex of *-ni* which is not formally relatable to the third person singular disjunctive or object pronoun, but suggests that the origin of these forms is the prepositional verb *pani-* O:3S i.e. *pani-a*. Parallel forms occur for other prepositions in the third person singular: Kove *ŋani*, Bariai *ŋan*, *ton*, Malai *toni*, Malalamai *an*, *ton*, *toni-ŋa* (*-ŋa* unexplained), Mangap *kini*. Certain other forms also appear unambiguously to reflect the prepositional verb *pani-*: Gitua *pan-yei* PREP-O:1EP, Tami *pane-gom* PREP-O:2S, *pani-gai* PREP- O:1EP, *pani-git* PREP-O:1IP, *pani-gam* PREP-O:2P, Lukep *paŋ-aŋ* PREP-O:2P, Roinji *pana-zi* PREP-O:3P. Since voiced stops (and, where it occurs, *-z-*) are prenasalised in all of these languages, there are a number of forms which are ambiguous as to whether they reflect *pani-*. For example, Malalamai *pagom* and *agom* PREP-O:2S, phonetically *[paŋgom]* and *[aŋgom]*, may reflect an earlier **pan-gom*/**an-gom* or an earlier **pa-gom*/**a-gom* (i.e. the prepositional verbs *pani-* and *(k)ani* or the prepositions *pa-* and *a-*[48]).

Counter-evidence to any proposal that the paradigms in Table 20 are derived from POC prepositional verbs is provided by a number of forms which are unambiguous in *not* reflecting *-ni*. These include the Kove and Kilenge forms in which the pronominal component begins with *-y-* (e.g. *pa-yau* PREP-O:1S), corresponding Malai forms in *-i-* (e.g. *pa-iou* PREP-O:1S) and *-y-* (e.g. *pa-yei* PREP-O:1EP), Tami forms in *-y-* (e.g. *pa-yau* PREP-O:1S), and Mangap forms in which CV- is added to the object pronoun (e.g. *p-u* PREP-O:2S, *pi-yam* PREP-O:1EP).

This mixture of forms – and inconsistencies like the fact that the Tami forms reflecting *pani-* do not include the third person singular (unlike the other languages) – suggests strongly that the paradigms in Table 20 represent a conflation of prepositional verbs and prepositions, and that incomplete analogical levelling has operated – and operated differently – in various languages. This conclusion is supported by three other facts:

a) Coexistent and structurally parallel with the Gitua and Malalamai paradigms of *pan-* are the verbal paradigms Gitua *-van-* and Malalamai *-won-* 'give' (example 3.42), suggesting strongly the reconstruction of Proto Ngero *pani-* benefactive prepositional *verb* and *-vani-* 'give'. This parallelism arose because lenition occurred where *pani-* was used as a full verb with subject pronominal prefixes but not where it occurred in a serial verb structure without them (section 3.5.1.1). The parallelism supports the interpretation that the prepositional verb *pani-* is at least partially ancestral to the present-day paradigms.

b) The one completely consistent set of forms appears in Kilenge, where all forms appear to derive from a sequence of preposition + object (or disjunctive) pronoun, suggesting that Proto North New Guinea prepositions may have innovated by replacing possessive pronominal suffixes with object enclitics and thereby opening the way for confusion with prepositional verbs.

c) The semantics of a number of forms reflecting *pa-* and/or *pani-* include meanings associated with *pa-*, i.e. instrumental, locative as well as the benefactive meaning of *pani-*; this is true of the reflexes in Kove, Malai, Kilenge, and Mangap.

TABLE 20: PRONOMINAL AND PREPOSITIONAL PARADIGMS IN LANGUAGES
OF THE VITIAZ STRAIT AREA

| | /_N | 1S | 2S | 3S | 1EP | 1IP | 2P | 3P |
|---|---|---|---|---|---|---|---|---|
| **Kove†** | | | | | | | | |
| D: | | iau | veau | veai | yai | taita | amiu | asi(ri) |
| O: | | -γau | -γo | -i, -∅ | -γai | -γita | -γimi | -ri |
| P: | | -γu | -mu | -∅ | -mai | -ra | -mi | -ri |
| L,A | pani | paγau | paγo | pani | paγai | paγita | paγimi | pari |
| L,I,R,C | ŋani | ŋaγau | ŋaγo | ŋani | ŋaγai | ŋaγita | ŋaγimi | ŋari |
| **Bariai** | | | | | | | | |
| D: | | γau | eau | ei | gai | gita | gimi | gid |
| O: | | -γau | -γo | -i | ... | ... | ... | ... |
| P: | | -k | -m | -∅ | -mai | -da | -mami | -d |
| A | pan | pagau | paγo | pan | pagai | ... | ... | pagid |
| A,I | ŋan | ... | ... | ... | ... | ... | ... | ... |
| B,P | ton | togau | ... | ... | ... | ... | ... | ... |
| **Malai** | | | | | | | | |
| D: | | you | yom | iye | yei | yit | yam | zin |
| O: | | -go | -gom | -i | -gei | -git | -gam | -di |
| P: | | -g | -m | -∅ | -mai | -n | -im | -di |
| A,I | ... | paiou | paiom | pani | payei | pait | payam | padi |
| P | ... | tiou | tiom | toni | toyei | toyit | tiyam | tosin/todi |
| **Gitua** | | | | | | | | |
| D: | | γau | γum | yei | yei | ita | yam | izi |
| O: | | -gau | -gom | -a, -∅ | -gai | -gita | -gamim | -zi |
| P: | | -gu | -m | -na, -∅ | -mai | -da | -mim | -zi |
| B,L | pan | pagau | pagom | panyei | panyei | pagita | pagamim | pazi |
| **Malalamai** | | | | | | | | |
| D: | | you | yu | i | yeo | ita | yam | itizi |
| O: | | -go | -gom | -∅ | -gei | -git | -gimo | -zi |
| P: | | -gu | -m | -∅, -n | -mei | -da | -(m)um | -zi |
| A,B | pan | pagou | pagom | pan | pagei | ... | ... | pazi |
| L,I | an | agou | agom | ... | ... | ... | ... | ... |
| P | ton | tigou | tigom | toniŋa | togei | tigita | tigomum | tozi |
| **Kilenge** | | | | | | | | |
| D: | | iau | iom | ie | iem | ita | iami | ire |
| O: | | -au | -m | -a | -em | -ra | -ami | -re |
| P: | | -k, -ŋ | -m | -a | -mi | -ra | -mi | -re |
| L,A,B,I | pa | paγau | ... | paγe | paγem | ... | paγami | paγe |
| P,L,B | ke | kiau | kiom | kie | kiem | kita | kiami | kire |

TABLE 20 *(continued)* ...

Tami

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D:/O: | | yau | kom | yei | gai | git | gam | sin |
| P: | | -ŋ | -m | -∅ | -mai | -n | -mim | -n |
| B | pa | payau | panegom | payai | panigai | pa(ni)git | panigam | pasiŋ |

Lukep

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D: | | au | oŋ | ya | am | idi | aŋ | di |
| O: | | -au | -oŋ | -∅ | -am | -di | -aŋ | -di |
| P: | | -g | -m | -na | -mam | -ra | -(m)iu | -di |
| A,B | paŋ | pau | puoŋ | paŋ | pam | ... | paŋaŋ | paŋdi |
| P | ke | keau | kio/k | ki | keam | kidi | kiaŋ | kedi |
| L,A,I | ye | yau | yeoŋ | ye | ... | ... | ... | yedi |

Mangap

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D: | | nio | nu | ni | niam | iti | niom | zin |
| O: | | -yo | -u | -i | -yam | -(i)ti | -yom | -zin |
| P: | | -ŋ | -m | -(a)na | -yam | -da | -yom | -n |
| L,B,I | pa | pio | pu | pini | piyam | piti | piom | pizin |
| P | ki | tio | ku | kini | tiyam | kiti | kiom | kizin |

Roinji

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D: | | ŋa | uŋ | ina | am | kira | aŋ | diŋ |
| O: | | -ŋa | -ŋ | -∅ | -am | -kira | -aŋ | -zi |
| P: | | -gu | -m | -na | -mam | -ra | -m | -diŋ |
| A,B | ... | paŋa | poŋ | pana | pam | pakira | paə | panazi |

A = allative; B = benefactive; C = comitative; I = instrumental; L = locative; P = possessive; R = refective

†The Kapo dialect of Kove from which my morphosyntactic data are drawn has *r* where the Moputu dialect, source of my lexical data, has *ð*. In this respect the Kapo dialect agrees with Lusi.

There are also theoretical reasons for preferring this interpretation to the alternative hypothesis. One is that there appears to be a tendency in language for morpheme classes to merge rather than to split. More importantly, this interpretation is consistent with 'Watkins' law' (section 1.6.2), according to which, if a verbal paradigm is restructured, it will be restructured by analogy with its third person singular member. What appears to have happened to the paradigm of *pani-* is that *pani-a* PREP-O:3S was reduced to *pani*, and *-ni* reinterpreted as a reflex of the third person singular object enclitic *-i*,[49] leaving a stem *pa-*, on the basis of which the forms for the other persons were created, or, perhaps, adopted from the already existent paradigm of the preposition *pa-*.

The forms listed in Table 20 are from only a limited geographical range of languages of the North New Guinea cluster, namely around the Vitiaz Strait. The languages of the Bel family and the Schouten chain are (or in some cases were) SOV, and have lost their prepositions, whilst the languages of the South New Britain chain and the Mengen and Huon Gulf families appear to have lost the category of prepositional verb.

Reflexes of prepositions in other languages of the North New Guinea cluster were recorded in examples (4.25)-(4.27) and (4.29)-(4.30). Outside the Vitiaz Strait area there are only fragmentary

reflexes of prepositional verbs in North New Guinea languages, but they are sufficient to confirm their presence in Proto North New Guinea. These pieces of evidence fall into three groups.

The first group is described by Lichtenberk (1986), and I quote his examples. He finds that reflexes of POC *pani- have become cliticised as benefactive markers to the verb in the shape of Kairiru *ñ-* and Manam *-n-*:

(4.46)  Kairiru (Schouten chain) (Wivell 1981a)

pyal    qa-niŋ          ñ-i          pinien
house   S:2P-build.O:3S   BEN-O:3S     here
'Build a house for him here.'

(4.47)  Manam (Schouten chain) (Lichtenberk 1983:165)

natu    go-ruʔu-i-a              -n-a
child   S:2S.IRR-wash-O:3S-BF    -BEN-O:1S
'Wash the child for me.'
(BF = buffer element)

My data show a similar reflex in Wogeo:

(4.48)  Wogeo (Schouten chain)

bua     yabarata    wot    yaka-n-a
areca   some        come   carry-BEN-O:1S
'Bring me some areca nuts.'

The second group of evidence comes from the Huon Gulf family: languages of the Buang and Markham networks reflect a Proto Huon Gulf preposition *[ɣ]in* 'refective, confective, instrumental', which reflects either POC *kini- or POC *(k)ani. Adzera *gin* is an oblique proform, but its reflexes in other languages are prepositions:

(4.49)  Adzera (Markham network) (Holzknecht 1986a)

marakus   i-yu    zaf   da    i-faŋa     uwir   igi   gin
Marakus   TA-take fire  and   TA-ignite  leaf   DEM   OBLP
'Marakus took fire and ignited the dried banana leaves with it.'

(4.50)  Wampar (Markham network)

garafu    narun    akani    renenear    en      ŋaeŋ
child     small    DEM      afraid      PREP    man
'This small child is afraid of the man.'

(4.51)  Mapos Buang (Buang chain)

aveh    sene    n-yɔnŋ    in     ñel
woman   some    TA-afraid PREP   snake
'Some women fear snakes.'

(4.52) Patep (Buang chain) (Lauck 1980)

> *kəyaŋ la en pətep*
> talk go PREP Patep
> 'A message was sent to the Patep people.'
> (lit. 'Talk went to Patep.')

The third piece of evidence for North New Guinea prepositional verbs has remained a prepositional verb. This is Ham (of the Bel family) *kVnV-*. Because it undergoes umlaut, we cannot tell whether it reflects POC *\*kini-* or POC *\*(k)ani*. It occurs in example (4.41) and in:

(4.53)  *eb ta u-rosi-k kene-n*
areca some S:2S-take-TA PREPV.O:3S-TA
'Bring him some betelnut!'

> *u-rousi kana*
> S:2S-take PREPV.O:1S
> 'Bring it for me.'

Of the two hypotheses set up with regard to North New Guinea prepositional forms, it is reasonably certain that, although no language of the cluster retains the preposition and prepositional verb sets side by side in the way that the languages of the Meso-Melanesian cluster and the South-East Solomons family do, both sets did occur in Proto North New Guinea, and are therefore separately reconstructible in POC.

One other small piece of evidence supports this. If forms like *\*pani-*, which took object pronominal enclitics, were originally verbs, then it is reasonable to infer that forms like *\*ta-*, which take possessive pronominal suffixes, were originally nouns, i.e. that they functioned like the inalienable locative nouns of many Oceanic languages, for example, Halia (Hanahan) *muru-* 'back' (< POC *\*muri-*):

(4.54)  *i muru-n-a luma*
PREP back-P:3S-ART house
'at the back of the house'

Being a noun, *muru-* is preceded by the preposition *i* 'locative'. In most Oceanic languages with reflexes of *\*ta-*, the latter is itself a preposition. However, there are fossil forms which suggest that in POC or some pre-POC period, *\*ta-* was a noun and was preceded by the preposition *\*i* in the same way as *muru-* is above (Pawley 1973:149 mentions this phenomenon). From example (4.16) above I repeat the following:

(4.55)  Mussau

> *manola e uŋu e-ta-ira*
> Manola S:3S work PREP-PREP-P:3P
> 'Manola is working for them.'

In this instance, *e* is unambiguously a preposition: it is the Mussau locative preposition in phrases like *e lamana* 'to the beach', *e utana* 'in the garden'. Ivens (1937) reports Gela *i-ta-* (but provides no examples). Although this evidence is scant, it implies that POC *\*ta-* was originally some sort of semantically bleached inalienable locative noun.

### 4.5.5 PREPOSITIONAL ITEMS: TAKING STOCK

Taking stock of findings in the sections above, the prepositional items which are reconstructible in POC are:

'True' preposition:

*i              locative, temporal, general relational

Noun-like preposition:

*ta-            locative, possessive

Prepositional verbs:

*pani-          benefactive
*tani-          ablative
*kini-          instrumental, refective
*(k)ani-        instrumental, refective
*suʀi-          allative
*ma-            comitative
*ni-            instrumental, confective, refective

It proves, then, that in terms of this feature too POC was a Type B language.

The following prepositions with nominal features are also distributed in both the North New Guinea and Meso-Melanesian clusters, but are not reconstructible in POC from presently available data:

*pa-            instrumental, locative
*ŋa-            instrumental, refective
*ka-            benefactive

Pawley (1973:146-150) draws attention to the formal parallel represented in the preposition/prepositional verb pairs POC *ta-/*tani-, Proto North Vanuatu/Central Pacific *ki/POC *kini-, and Roviana pa 'locative preposition'/POC *pani-. To these we may add the pair Proto North New Guinea/Proto Meso-Melanesian *pa-/POC *pani- and the similar pair *ka-/*(k)ani. However, the reconstructions above are firmly based on data, and it is clear (a) that separate prepositional and prepositional verb forms are reconstructible in POC (i.e. at the time that that language broke up); (b) that the members of the pairs *ta- 'locative, possessive'/*tani- 'ablative', *pa- 'instrumental, locative'/*pani- 'benefactive' and *ka- 'benefactive'/*(k)ani 'instrumental, refective' are semantically sufficiently different from their partners to suggest that there was no synchronic relationship between the members of each pair in POC. Since no reflexes of *ki- (as opposed to *ka-) have been found in WM, it is probable, as Pawley implies, that Proto North Vanuatu/Central Pacific *ki arose by analogical processes. Whilst it is possible that the disyllabic prepositional verbs in *-ni do contain a common morpheme and that this is the same morpheme as the prepositional verb *ni- 'instrumental, confective, refective', the process by which these verbs were formed must have occurred at some pre-POC stage.

## 4.6 POC MORPHOSYNTAX: SUMMARY

In the foregoing investigation of five morphosyntactic features, it has been shown that POC was basically a Type B language, a language more similar, that is, to the languages of the Admiralties and Meso-Melanesian clusters and the South-East Solomonic family than to the CMP and SHWNG languages and those of North New Guinea. POC had a phrase-initial article in the noun phrase, a pronoun system distinguishing four or five numbers, the verb-transitivising suffixes *-i and *-aki, and three classes of morpheme ('true' preposition, noun-like preposition and prepositional verb) to mark oblique roles. Its verbal system, however, was more like that of the CMP and SHWNG languages and those of North New Guinea.

This means that the 'standard' reconstruction of POC remains, despite the apparent counter-evidence of the language groups just mentioned. Its implication for subgrouping is that the features I have examined give no grounds for a genetic grouping of, for example, the languages which have two or three classes of morpheme marking oblique roles. It does, however, raise the question of the typological similarity of the CMP, SHWNG and North New Guinea languages. This lies beyond the scope of this work, and I will limit myself to the comment that, as each of the Type A features represents a simplification relative to its Type B equivalent, it is not difficult to believe that we are confronted with a large number of languages which have undergone similar independent changes, and that both POC and PCEMP were languages of Type B.

CHAPTER 5

THE NORTH NEW GUINEA CLUSTER

## 5.1 INTRODUCTION

As outlined in Chapter 2, the North New Guinea cluster includes all the AN languages of the north coast of Papua New Guinea, the coast of the Huon Peninsula and the Huon Gulf with its hinterland (including the Markham Valley), and most of the island of New Britain west of (but not including) the Willaumez Peninsula, as well its south coast as far as a point just beyond Jacquinot Bay (Map 3). The cluster also includes the AN languages of all the offshore islands of the region except the French Islands to the north of western New Britain.

As the previous chapter anticipated, many of the languages of the cluster share certain typological traits. However, this alone would not be sufficient to justify a claim of genetic unity, the more so as there are other areas of morphosyntactic typology in which languages of the North New Guinea cluster differ substantially from each other. More important are two other facts. The first is that several groups of languages within the area of the cluster can be identified with reasonable certainty. The second is that there are features which join these groups into a rather complicated linkage. This linkage is probably not descended from a single proto language in the conventional sense of that term, but from a network of dialects which became more or less separated from other communalects of an Oceanic linkage (the latter is the subject of Chapter 10.3). In other words, Proto North New Guinea was not a single communalect which diffused or split but a linkage of communalects which, so to speak, became Proto North New Guinea at the time it became independent of other Oceanic communalects. The main reason for this proposal is that, although there are links between the various groups within the cluster, there is no set of innovations (such as can be identified, for example, for the Admiralties group or for South-East Solomonic) which the languages of the North New Guinea cluster share to the exclusion of other Oceanic languages. (They all share the merger of POC *d and *dr, but this is so common both within and outside WM that it will be disregarded here.)

Although the areas occupied by the languages of the North New Guinea cluster have been included in areal surveys,[50] only three pieces of work employing the comparative method have been carried out, each covering only a small area. The first is Hooley's (1970) dissertation on Mapos Buang, which includes some comparative work on the Buang communalects. The second is Bradshaw's (1978a) paper based on the limited data available to him from the Huon Gulf area, and the third is Lincoln's (1976d) brief paper on the languages of the north coast of the Huon Peninsula.[51] All three are insightful, and I return to them below in discussion of the languages with which they deal. Hooley's (1971) lexicostatistical survey of the AN languages of the Morobe Province is also discussed below.
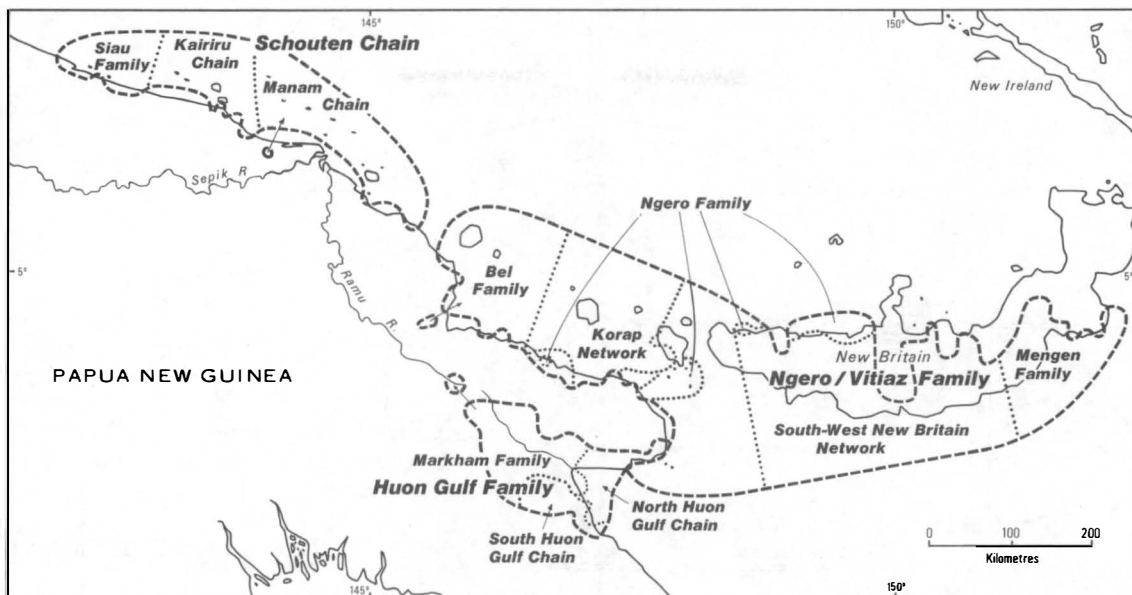
MAP 3: LOCATION OF THE NORTH NEW GUINEA CLUSTER AND ITS SUBGROUPS

Because of the lack of comparative work, and because the various surveys stop at provincial boundaries (with which the boundaries of linguistic groups rarely coincide!), my procedure in this chapter is first to sketch briefly the features of the various groups of languages within the North New Guinea cluster, then to present their links one with another. Three main groupings can be recognised within the cluster. These are:

a) the Schouten chain;

b) the Huon Gulf family;

c) the Ngero/Vitiaz family.

Further subgroups can be recognised within each of these and will be referred to below. (The Schouten group has been referred to in the literature as the Sepik-Madang group since the circulation of Ross (1977), but the latter is an unfortunate name in view of the fact that the two Sepik and the Madang provinces of PNG are largely inhabited by non-AN speakers.)

Two generalisations may be made about the environment of the languages of the North New Guinea cluster. The first is that many of them either are now or have in the past been in close contact both with various non-AN languages and with languages belonging to another group within the cluster. The second is that we know, for reasons given below, that the speakers of many languages of the cluster have been involved in complex population movements, with the result that what is reconstructed here can be no more than an approximation of the prehistory of the North New Guinea cluster. Figure 3 provides an overview of some of the probable genetic relationships within the cluster.
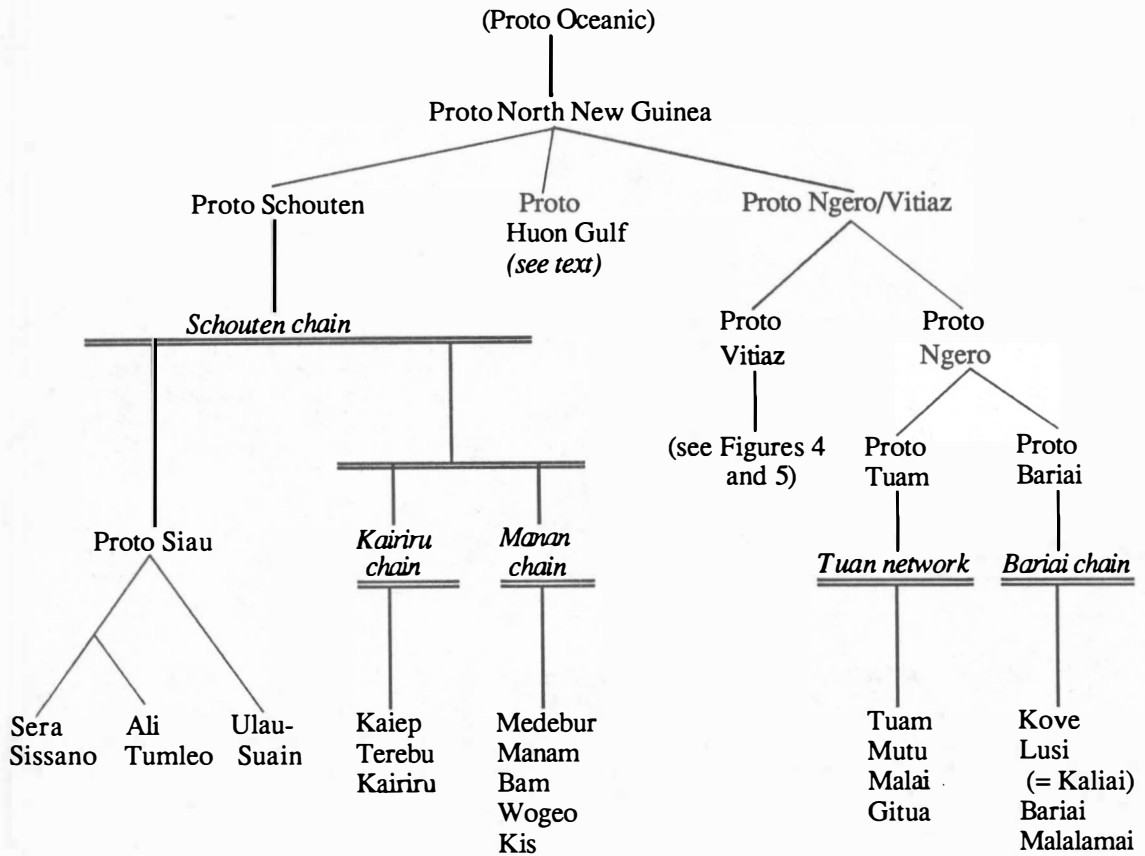
```
                              (Proto Oceanic)
                                     |
                           Proto North New Guinea
                    _____|_____
                   |                |                 |
            Proto Schouten       Proto          Proto Ngero/Vitiaz
                   |           Huon Gulf          _____|_____
                   |           (see text)        |             |
            Schouten chain                     Proto         Proto
         ==================                    Vitiaz        Ngero
          |            |                         |        _____|_____
          |            |                         |       |           |
          |      _____                    |     Proto       Proto
          |     |          |                     |     Tuam        Bariai
          |  Kairiru     Manam             (see Figures 4   |          |
          |   chain      chain              and 5)     Tuan network  Bariai chain
     Proto Siau ====    =====                          ===========   ============
      ___|___    |        |                                 |             |
     |   |   |   |        |                                 |             |
   Sera  Ali Ulau- Kaiep  Medebur                          Tuam         Kove
  Sissano Tumleo Suain Terebu Manam                        Mutu         Lusi
                       Kairiru Bam                         Malai        (= Kaliai)
                              Wogeo                        Gitua        Bariai
                              Kis                                       Malalamai
```

FIGURE 3: THE NORTH NEW GUINEA CLUSTER: GENETIC TREE

## 5.2 THE SCHOUTEN CHAIN

The languages of the Schouten chain were initially grouped together by Laycock (1973), Z'graggen (1975b) and Ross (1977). The internal subgrouping of the chain is as follows:

a) Manam/Kairiru chain

    i) Manam chain

        - Medebur

        - Manam[52]

        - Bam

        - Wogeo

        - Kis

    ii) Kairiru chain

        - Kaiep and Terebu (related at dialect level)

        - Kairiru

b)  Siau family

    i)  Ulau-Suain

    ii)  Ali, Tumleo (closely related languages)

    iii)  Sissano, Sera (closely related languages)

Detailed descriptions are available for Manam (Lichtenberk 1983) and Kairiru (Wivell 1981a, 1981b), and there is an early (but phonologically unreliable) sketch of Tumleo (Schultze 1911).

The listing above represents a geographical progression from east to west. It also represents, with the exception of Medebur, a probable chronological succession of settlement. The most conservative Schouten language is Manam and the most metamorphosed, phonologically and morphosyntactically, is Sera; the other languages are ranged along the scale from conservatism to change in the geographical sequence set out above. Medebur is an exception, as both linguistic evidence and oral history indicate that it was settled from Manam. As Map 4 indicates, the Schouten languages occupy the offshore islands of the Schouten archipelago and small coastal enclaves, most of them very tiny. It is probable that the speakers of Proto Schouten occupied Manam early in their history, then the other islands of the chain, and from these moved into their coastal toe-holds. Some of these movements were perhaps a result of the volcanic eruptions to which several of their island homes were subject: Manam is one of the most active volcanic centres in Papua New Guinea (Palfreyman and Cooke 1976; McKee 1981), whilst Kadovar, occupied by Bam speakers, and Bam have both been active within recorded history, Bam sufficiently so to cause its population to flee (Wallace et al 1981; Cooke and Johnson 1981).
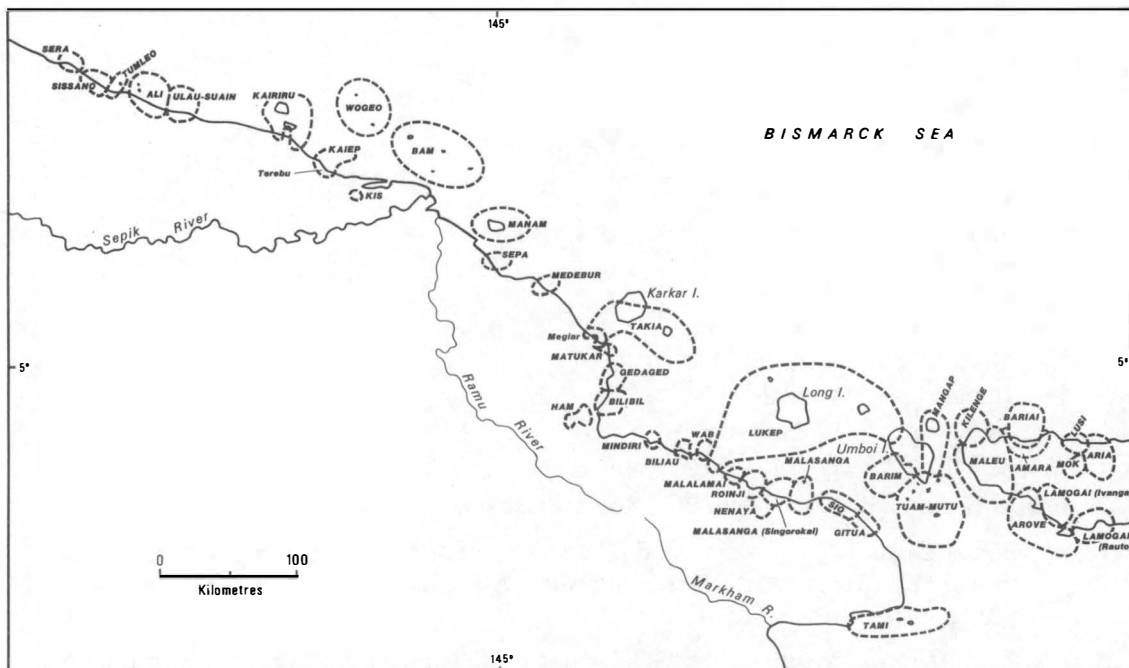


MAP 4:  LANGUAGES OF THE NORTH NEW GUINEA CLUSTER: SCHOUTEN AND NGERO/VITIAZ LANGUAGES OF MAINLAND PAPUA NEW GUINEA

Consonant correspondences for the Schouten languages are shown in Table 21. The innovations which are reflected by the Schouten languages are:

A. Medial POC *-r- merged with POC *-ʀ- as PSCH *-r-, but initial POC *r- merged with POC *dr- as PSCH *d-.

B. POC word-final consonants were lost in PSCH.

C. PSCH distinguished between realis and irrealis moods of the verb with different sets of subject pronominal prefixes.

D. Proto North New Guinea lost the POC numerals for six to nine, but retained two to five and *saŋapulu 'ten'. PSCH replaced the latter with *kulemwa:

(5.1)   PSCH *kulemwa 'ten' > Manam ʔulemwa, Kis kulemwa, Kairiru qolem(tai), Ali wulim(tei), Tumleo walim

(Sissano and Sera have a binary system of counting, and other Schouten languages have lost ten in a restructuring which has affected numerals from four upwards).

Of these innovations, A and C require further discussion.

The combination of mergers represented by innovation A (medial POC *-r- with POC *-ʀ-; initial POC *r- with POC *dr-) is to my knowledge unique among Oceanic languages. The sound correspondences concerned are:

(5.2)

| POC | *-r-, *-ʀ- | *r-, *dr- |
|---|---|---|
| PSCH | *-r- | *d- |
| Medebur | -r- | d- |
| Manam | -r- | d- |
| Bam | -r- | d- |
| Wogeo | -r- | d- |
| Kis | -r-,-l- | d- |
| Kaiep | -r- | d- |
| Terebu | -r-,-l- | d- |
| Kairiru | -r-,-l- | r̃- |
| Ulau-Suain | -r- | d- |
| Ali | -r- | r- |
| Tumleo | -r-,-l- | r- |
| Sissano | -r-,-l- | r- |
| Sera | r, l | r- |

The merger of medial POC *-r- with POC *-ʀ- is illustrated in the following examples:

(5.3)   POC *kasuari 'cassowary' > PSCH *kasuari > Medebur kujar, Kaiep (Terebu) yuwar, Kairiru qaiwar, Ulau-Suain suar, Ali suir, Tumleo sawil, Sissano sawir, Sera epbeil

(5.4)   POC *(q)uraŋ 'crayfish' > PSCH *ura > Medebur yuur, Bam ur, Kairiru ur, Ali wor

(5.5)   POC *waʀoc 'vine, string' > PSCH *waro > Medebur ur 'vein', Manam waro, Kis, Ulau-Suain, Ali war, Tumleo wuəl, Sissano wari- 'intestines', Sera bual

(5.6)   POC *tapuʀi 'Triton shell' > PSCH *tavuri > Medebur taur, Manam tauru, Bam taur-taur, Kairiru tour, Ulau-Suain, Ali taur, Sissano tolʸ, Sera toil

The examples below illustrate the merger of initial POC *r- with POC *dr-:

(5.7)   POC *raun 'leaf' > PSCH *daun > Manam, Bam, Kaiep dau, Kis dou, Kairiru r̃ou-, Ulau-Suain de-, Ali rau-, Tumleo riau-, Sissano, Sera ro-

(5.8)   POC *ranum 'water'[53] > PSCH *dan(u) > Medebur, Manam, Kaiep dan, Kairiru r̃yan, Ulau-Suain dan, Ali riəŋ, Tumleo riən, Sissano rañ, Sera raiŋ

(5.9)   POC *dramwa 'forehead' > PSCH *damwa- > Medebur damu-, Manam damoa-, Bam damo-, Kaiep damwa-, Kairiru r̃amo-, Ulau-Suain dumua-, Sissano rama-, Sera rama(tal)

(5.10)  POC *draʀaq 'blood' > PSCH *dara[ka-] > Medebur dar, Manam, Bam daraka-, Wogeo dara, Kis dal, Kaiep (Terebu) derə-

There are two apparent counter-examples to the merger of POC *r- and *dr- as PSCH *d-. These are the reflexes of POC *rua 'two' and *rabia 'sago'. However, Medebur, Bam a-ru, Kis u-la-ni, Kairiru u-ru 'two' all imply that the PSCH form was *-rua, i.e. that the numeral was cliticised to a classifier and its *-r- is a regular medial reflex of POC *r, not an irregular initial one. On this interpretation, Manam, Wogeo rua, Kaiep, Ulau-Suain ru 'two' have retained their medial reflex of POC *r but have lost the classifier. The second counter-example is as follows:

(5.11)  POC *rabia 'sago' > PSCH *rabia (for exp *dabia) > Kairiru, Ulau-Suain rabi, Ali rapi, Tumleo lapii, Sissano lapi, Sera lepi

PSCH *rabia is either an irregular reflex of POC *rabia, or a borrowing, or descended from a doublet POC *ʀabia. However, for the purposes of subgrouping, it is not important which, since there is no disagreement among the Schouten languages, and the innovation represented in examples (5.7) and (5.8) stands.

Innovation C consists in the fact that PSCH had two sets of subject pronominal prefixes. Whereas most other WM Oceanic languages have a single set of subject pronominal proclitics which are either preceded or followed (or both) by monosyllabic tense/aspect/mood markers, the distinction between realis and irrealis (or non-future and future) was expressed in PSCH by a contrast between two sets of subject proclitics. These are reconstructible as:

(5.12)  PSCH

|        | Realis | Irrealis |
|--------|--------|----------|
| S:1S   | *u-    | *gu-, *nu- |
| S:2S   | *ku-   | *gu-     |
| S:3S   | *i-    | *na-     |
| S:1EP  | *ka-   | *ga-, *ma- |
| S:1IP  | *ta-   | *ta-     |
| S:2P   | *ku-   | *ma-, *mu- |
| S:3P   | *di-   | *da-     |

The irrealis set was the result of the coalescence of an earlier marker *-na- with subject pronominal proclitics. As its prehistory is complex, and has a bearing on wider subgrouping issues, discussion of this is deferred to section 10.3.1.3, which also includes a tabulation of the pronominal clitics of the Schouten chain (Table 39).

## TABLE 21: SCHOUTEN CHAIN: CONSONANT CORRESPONDENCES

| POC | *p- fortis | *p lenis | | |
|---|---|---|---|---|
| PSCH | *p- | *v-; w-/_o; Ø-/_u | *-v-; -w-/_o -Ø-/_i, u | *-v |
| Medebur | p- | Ø-; w-/_a | -Ø- | -Ø |
| Manam | p- | Ø-; w-, Ø-/_a | -Ø-; -w-/_o | -u |
| Bam | p- | Ø-; w-, Ø-/_a | -Ø-; -w-/_o | -u |
| Wogeo | f- | v-/_a, i; Ø-/_o, i | -v-/_a, e; -w-/_o; -Ø-/_i, u | -u |
| Kis | p- | w-/_a; Ø-/_o, u | -Ø- | -u |
| Kaiep | . | w-/_a, o; Ø-/_u | -Ø- | -u |
| Terebu | . | b-/_a; w-/_o; Ø-/_u | -Ø- | -u |
| Kairiru | f- | v-/_a; w-/_o; Ø-/_u | -Ø- | -u, -v, -f |
| Ulau-S. | p- | Ø- | -Ø- | -Ø |
| Ali | p- | Ø- | -Ø- | -Ø, -p |
| Tumleo | . | Ø- | -Ø- | -Ø, -p |
| Sissano | . | Ø- | -Ø- | -Ø |
| Sera | . | Ø- | -Ø- | -Ø |

| POC | *b | *w | *m | *t | *d, *dr | *r | *R |
|---|---|---|---|---|---|---|---|
| PSCH | *b | *w | *m | *t | *d | *d-; r | *r |
| Medebur | b | w | m | t | d | d-; r | r |
| Manam | b | w | m | t | d | d-; r | r |
| Bam | b | w; -u | m | t | d | d-; r | r |
| Wogeo | b | w | m | t | d-; -r- | d-; r | r |
| Kis | b | w | m | t | d | d-; l, r | r, l |
| Kaiep | b | w | m | t | d-; -d-/_i ; r | d-; r | r |
| Terebu | b | w; -u | m | t | d-; -r- | d-; l, r | r, l |
| Kairiru | b | w; -o | m | t | r̃ | r̃-, r-; -l-, -r-; -r | r; -r̃, -r |
| Ulau-S. | b | w; -u | m | t | d | d-; r | r |
| Ali | p | w; -u | m | t | r | r | r |
| Tumleo | p | w | m | t | r | r-; -l-; -l, -r | r, l |
| Sissano | p | w | m | t ; c/_*u# | r | r-; -l-; -r; lʸ/_*i# | r, l; -lʸ/_*i# |
| Sera | p | b; -u | m | t ; -k; ik/_*u# | r | r-; -l-; .; -il/_*i# | r, l; -il/_*i# |

TABLE 21 *(continued)*

| POC | *l | *s<br>fortis | *s<br>lenis | | *j |
|---|---|---|---|---|---|
| PSCH | *l | *s | *z | *-s | *j |
| Medebur | l | s | -y-; -j- | ... | j, y |
| Manam | l | s | -r- | ... | z |
| Bam | l | s | -r- | ... | j |
| Wogeo | l | s | -r-, -s- | -s | j |
| Kis | l | s | -l-; -z-/_i | ... | j |
| Kaiep | l | s | -Ø-; | -s | s-; -j-, -s-; -Ø |
| Terebu | l | s | -y-; | -s | -j- |
| Kairiru | l | s | -i-, -Ø- | -s | j |
| Ulau-S. | l | s | s | ... | j |
| Ali | l | h | s | ... | c |
| Tumleo | l | h-; -h-, -Ø- | s | ... | c |
| Sissano | l ; -l^y/_*i, u# | h-; -Ø- | s | ... | t |
| Sera | l ; -il/_*i, u# | Ø | s | -k | t |

| POC | *n | *ñ | *y |
|---|---|---|---|
| PSCH | *n | ñ | *y |
| Medebur | n; -ŋ, -n | n | y-; -Ø^i- |
| Manam | n; -ŋ | n^i;-ŋ | z-, Ø^i-; -Ø^i- |
| Bam | n | n^i | y-; -Ø^i-; -i |
| Wogeo | n | ñ, n^i; -in | y- |
| Kis | n | n | y-; -Ø^i-; -i |
| Kaiep | n | ñ; -in | j-; -Ø-; -i |
| Terebu | n | n | y-; -Ø-; -i |
| Kairiru | n | ñ | y-; -Ø- |
| Ulau-S. | n; -ñ/i_ | ñ, n^i | y- |
| Ali | n; -ŋ; -ñ/i_ | ñ, n^i | Ø^i- |
| Tumleo | n | ñ | y-; -Ø^i- |
| Sissano | n; -ñ/_*i, u# | n | y- |
| Sera | n; -ŋ; -iŋ/_*i, u# | ñ | y- |

TABLE 21 *(continued)*

| POC | *k<br>fortis | *k<br>lenis | | | *q |
|---|---|---|---|---|---|
| PSCH | *k | *ɣ- | *-ɣ- | *-∅ | *q |
| Medebur | k | ... | ... | ... | ∅-; -k-, -∅- |
| Manam | ʔ | ... | ... | ... | ∅-; -ʔ-, -∅- |
| Bam | k | ... | ... | ... | ∅-; -k-, -∅- |
| Wogeo | k-, ∅-; -k- | ... | ... | ... | ∅-; -k-, -∅- |
| Kis | k-, ∅-; -k- | ... | ... | ... | k-, g-, ∅-; -k-, -∅- |
| Kaiep | k | ... | ... | ... | g-, ∅- |
| Terebu | ʔ-; -∅- | ... | ... | ... | g-, ∅- |
| Kairiru | q | ... | ... | ... | k-, ∅-; -∅-; -k |
| Ulau-S. | . | ∅- | -∅- | -∅ | ∅-; -g-; -∅- |
| Ali | k- | ∅- | -ʔ- | -∅ | ∅-; -k-, -∅-; -k |
| Tumleo | . | ∅- | -ʔ-,-∅- | -∅ | ∅ |
| Sissano | k- | ∅- | -ʔ- | -∅ | ∅ |
| Sera | k- | ∅- | -∅- | -∅ | k-, ∅-; -∅- |

| POC | *g | *ŋ | | *bw | *mw |
|---|---|---|---|---|---|
| PSCH | *g | *ŋ | *pw | *bw | *mw |
| Medebur | g | ŋ | . | bw-; -w- | mw, m°, m |
| Manam | g | ŋ | . | bw, b | mw, m°, m |
| Bam | g; -k | n-; ŋ | pw | bw, b°, b | m°, m |
| Wogeo | g | ŋ | . | bw, b° | mw, m |
| Kis | g | ŋ | . | . | m°, m |
| Kaiep | k | -n-, -ŋ-; -ŋ | . | bw, b°, b | mw, m°, m |
| Terebu | k, g | ŋ | . | bw | mw, m |
| Kairiru | k | ŋ | pw, fw | bw | mw, m°, m |
| Ulau-S. | g | -g-; -ñ, -n | . | bw | mw, m |
| Ali | k | ŋ | p° | p | m |
| Tumleo | k | ŋ | . | p | m° |
| Sissano | k | n | p° | p | m |
| Sera | k | -n-; -ŋ | p° | p°, p | m |

The contrasting sets are retained in Medebur, Manam, Bam, Kis and Kaiep, and in much reduced form in Tumleo and Ali. The other Schouten languages have only one set of prefixes, but in Wogeo and Ulau-Suain, some prefixes are retentions from the irrealis set.

In Bam, which retains both sets with only small changes, the prefixes are:

| (5.13) | Bam | Realis | Irrealis |
|---|---|---|---|
| | S:1S | *u-* | *nu-* |
| | S:2S | *ku-* | *gu-* |
| | S:3S | *i-* | *na-* |
| | S:1EP | *ki-* | *ga-* |
| | S:1IP | *ta-* | *ta-* |
| | S:2P | *ʔa-* | *ma-* |
| | S:3P | *di-* | *da-* |

Their use is exemplified in:

(5.14)  *ñau    u-taŋ*
D:1S  S:1S-cry
'I'm crying.'

*ñau    be    nu-taŋ*
D:1S  FUT  IRR.S:1S-cry
'I shall cry.'

*didi    di-la    dom*
D:3P  S:3P-go  PF
'They've gone.'

*didi    da-la*
D:3P  IRR.S:3P-go
'They'll go.'

In Ali, contrast between the two sets is retained only in *ke-* R.S:1S/*ne-* IRR.S:1S and *ka-* R.S:3S/*na-* IRR.S:3S (where the *k-* of the realis forms is the fossilised reflex of a tense/aspect marker common to Ali, Tumleo, Sissano and Sera), but the form *ra-* S:3P (realis and irrealis) reflects PSCH irrealis *\*da-*, rather than realis *\*di-*. The same comments apply to Tumleo, except that there the former irrealis *na-* serves as both realis and irrealis in the first person singular, so that the realis/irrealis contrast is maintained only in the third person singular.

Wogeo and Ulau-Suain have only one set of enclitics each, as follows:

| (5.15) | | Wogeo | Ulau-Suain |
|---|---|---|---|
| | S:1S | *o-* | *gu-* |
| | S:2S | *ko-* | *i-* |
| | S:3S | *e-* | *i-* |
| | S:1EP | *ta-* | *ka-* |
| | S:1IP | *ta-* | *ta-* |
| | S:2P | *ka-* | *ama-* |
| | S:3P | *da-* | *di-* |

However, each of these single sets represents a conflation of the two PSCH sets. Wogeo *da*-S:3P, Ulau-Suain *gu*- S:1S and Ulau-Suain *ama*- S:2P are each descended from the PSCH irrealis prefixes, whilst the rest of each set is derived from the realis prefixes.

Innovations A and C constitute firm evidence of the genetic unity of the Schouten languages.

There are other features which are also suggestive of unity but which are not reflected in the Siau languages Ulau-Suain, Ali, Tumleo, Sissano and Sera. For example, Medebur, Manam, Bam, Wogeo, Kis, Kaiep, Terebu and Kairiru reflect a split in POC *p* into probable word-initial fortis PSCH *p*- and word-initial and -medial lenis PSCH *v/_a, #_i*, *w/_o*, and *∅/_u, V_i*. However, the Siau languages are not diagnostic of this innovation, as PSCH items with fortis reflexes of *p*- are rare and hardly reflected in Siau languages, and the latter have all lost lenis reflexes of POC *p*. It is probable that Proto Siau inherited the three-way split in lenis *p* but that lenition continued until lenis *p* was lost in all environments. Clearly, there is no means of demonstrating that this was the case, and this innovation therefore does not attest the unity of the Schouten languages. What it does attest is (i) the unity of the languages of the Manam/Kairiru chain and (ii) the unity of the Siau languages.

The sound correspondences relevant to this process are:

| (5.16) | POC | *p* */_a,#_i* | *p* */_o* | *p* */_u,V_i* |
|---|---|---|---|---|
| | PSCH | *v* | *w* | *∅* |
| | Medebur | w-, -∅- | ∅ | ∅ |
| | Manam | w-, ∅-, -∅- | w-, ∅- | ∅ |
| | Bam | w-, ∅-, -∅- | w | ∅ |
| | Wogeo | v | w | ∅ |
| | Kis | w-,-∅- | ∅ | ∅ |
| | Kaiep | w-,-∅- | w-,-∅- | ∅ |
| | Terebu | b-,-∅- | w-,-∅- | ∅ |
| | Kairiru | v-,-∅- | w-,-∅- | ∅ |
| | Ulau-Suain | ∅ | ∅ | ∅ |
| | Ali | ∅ | ∅ | ∅ |
| | Tumleo | ∅ | ∅ | ∅ |
| | Sissano | ∅ | ∅ | ∅ |
| | Sera | ∅ | ∅ | ∅ |

Examples are (5.6) and the following:

(5.17)   POC *papine* 'woman' > PSCH *vaine* > Medebur *wain*, Manam *aine*, Bam *ain*, Wogeo *vaine*, Kis *win*

(5.18)   POC *pati* 'four' > PSCH *vati* > Manam *wati*, Kis *(e)wa(ni)*, Kairiru *vyat*

(5.19)   POC *panua* 'settlement' > PSCH *vanua* 'village' > Manam *anua*, Bam *anu*, Wogeo (Koil) *vanu*, Kis *una*, Kaiep *wanu*, Kaiep (Terebu) *banu*, Kairiru *vanu*, Ulau-Suain *anu*, Ali, Sissano *ano*, Tumleo *anou*, Sera *nou*

(5.20)   POC *pose* '(canoe) paddle' > PSCH *wose* > Manam *ore*, Bam *wor*, Wogeo *wora*, Kaiep *wiai*, Kaiep (Terebu) *wes*, Kairiru *woi*, Ulau-Suain *ues*, Ali *ais*, Tumleo *wos*a, Sissano *wiəs*a, Sera *bek*a

aTumleo, Sissano *w-*, Sera *b-* are regular accretions before initial rounded vowels, and are not descended from PSCH *w-*.

(5.21) POC *\*ponuq* 'full' > PSCH *\*-wonu* > Medebur, Bam *-on*, Manam *-oŋ*, Wogeo *-won*, Kaiep *-wuɲ*

(5.22) POC *\*pican* 'how many?' > PSCH *\*isa* > Medebur *(a)ij*, Manam *ira*, Bam *ir*, Wogeo *visa*, Ulau-Suain *s-is-is*, Ali *(taha)is*

(5.23) POC *\*punuq* 'hit' > PSCH *\*uni* > Manam, Kis, Kaiep, Kaiep (Terebu) *uni*, Kairiru, Ulau-Suain *-un*, Sissano *(y)uñ*

A similar argument applies to major syntactic features of the Schouten chain. On the basis of the assessment of conservatism above, Proto Schouten was an SOV language (albeit a 'leaky' one) and had replaced prepositions by postpositions, since these features are present in Medebur, Manam (Lichtenberk 1983:371-383), Bam, Wogeo, Kis, Kaiep and Kairiru (Wivell 1981a:141-143). However, the Siau languages are all SVO. Interestingly, they lack both postpositions and prepositions, and this situation, illustrated below, suggests that in the process of making the natural shift from SOV to SVO (section 1.6.2) they have lost their postpositions but have yet to innovate a replacement for them. Ulau-Suain expresses the instrument by verb serialisation:

(5.24) *salas   i-cip       ai      i-oup      au*
       Salas   S:3S-take   stick   S:3S-hit   D:1S
       'Salas hit me with a stick.'

Cases are also found where an oblique role is expressed by a simple noun phrase:

(5.25) Sera

       *soken   nak   ya      ai*
       Soken   hit   D:1S   wood
       'Soken hit me with a stick.'

(5.26) Sissano

       *waruau   tak-wa   taltanian*
       man      TA-go    path
       'The man is walking along the path.'

Again, however, this is inference which has a sound theoretical basis but which, in the absence of direct Siau evidence, does not speak directly for the unity of the Schouten chain. Instead, it underlines the unity of the Siau languages.

Within the Schouten chain, the Siau languages Ulau-Suain, Ali, Tumleo, Sissano and Sera stand out because they have apparently undergone considerable change. The further one moves towards Sera, the larger is the number of additional changes. Innovations shared by all five Siau languages are those just described, and the following:

A. Inalienably possessed nouns are *followed* by a possessor disjunctive pronoun.

B. The POC distinction between exclusive and inclusive first person plural has been lost (thus the disjunctive pronouns Ulau-Suain *it*, Ali *iat*, Tumleo, Sissano *et*, and Sera *uik*, all reflexes of POC *\*kita* D:1IP, serve as general first person plural).

C. The POC verbal prefixes *pa- 'causative' and *paʀi- 'reciprocal' have been lost (their presence in PSCH is documented by their Manam reflexes; Lichtenberk 1983:211-214, 217-218, 232, 235).

Innovation A is more odd than appears at first sight. PSCH, like almost all member languages of the North New Guinea cluster, preposed the possessor, as in these Medebur examples:

(5.27)  *ŋa    nima-g*
        D:1S   hand-P:1S
        'my hand'

        *pitor    tama-n*
        Pitor     father-P:3S
        'Pitor's father'

In the Siau languages, probably in conjunction with the process whereby the plural possessive pronominal suffixes are reduced to -*t* in all persons (in Ali and Tumleo) or replaced by their singular counterparts (in Ulau-Suain and Sissano) or lost (in Sera), an inalienably possessed noun with a pronoun possessor is *followed* by a disjunctive pronoun:

(5.28)  Ulau-Suain

        *nigya-m   i*
        arm-P:2S   D:2S
        'your arm'

        Tumleo

        *acali-r    et*
        arm-P:P    D:1P
        'our arms'

## 5.3 THE HUON GULF FAMILY

### 5.3.1 OVERVIEW

Membership of the Huon Gulf family is as follows:

a) North Huon Gulf chain

    i)  Yabem

    ii)  Bukawa

    iii)  Kela

b) Markham family

    i)  Labu (= Hapa)

    ii)  Lower Markham network

        - Yalu (= Aribwaungg)

        - Musom

        - Sirak (= Nafi)

        - Duwet (= Guwot)

      - Wampar

      - Silisili (= Middle Watut)

      - Maralango (= South Watut)

      - Dangal (= South Watut)

   iii)  Upper Markham network

      - Adzera

      - Sirasira (= Sarasira)

      - Sukurum

      - Wampur

      - Mari

c)  South Huon Gulf chain

   i)   Kaiwa

   ii)  Hote (inc. Misim and Yamap dialects)

   iii)  Buang chain

      - Vehes

      - Mapos Buang (inc. Mambump dialect)

      - Mangga Buang

      - Mumeng (inc. Patep, Yanta, Zenag, Latep, Dambi and Kumaru dialects)

      - Kapin

      - Piu

d)  Numbami (= Siboma, Sipoma)

The languages listed above are shown on Map 5. Fairly detailed descriptions exist only for Yabem (Dempwolff 1939; Zahn 1940; Streicher 1982), Adzera (Holzknecht 1986a) and Mapos Buang (Hooley 1970), and there are a good sketches of Labu (Siegel 1984) and of aspects of Patep (Adams and Lauck 1975; Lauck 1976).

A Huon Gulf family with the above membership has not been proposed in the past, and therefore requires some justification. Hooley's (1971) lexicostatistical study recognised the following groupings:

a)  a 'Siasi family' including:

   i)   the closely related pair Yabem and Bukawa;

   ii)  Labu;

   iii)  Kela;

   iv)  Kaiwa;

   v)   Numbami (his Sipoma)[54]

   vi)  languages of the Vitiaz Strait and along the north coast of Papua New Guinea as far west as Karkar Island;

b) the Markham family (his 'Azera family') as listed above but without Labu;

c) a 'Hote family' including the Hote, Misim and Yamap dialects;[55]

d) the Buang chain (his Buang family) as listed above;

Note that all the disagreements between Hooley's classification and mine concern (except for Hote) the languages along the coast, whose shared lexicon is in all probability maintained (or inflated) by social and trading contacts. Hogbin (1947) describes trade involving speakers of Bukawa, Kela, Labu, Numbami and Tami. Note, too, that Hooley is very guarded in his statements about the Huon Gulf languages which he attributes to the 'Siasi family', emphasising that they are not particularly closely related to each other. I return to the matter of the 'Siasi family' in section 5.6 below, and will examine the other cases of disagreement (Tami, Kela, Labu, Kaiwa and Hote) at appropriate points in the description of the Huon Gulf family.
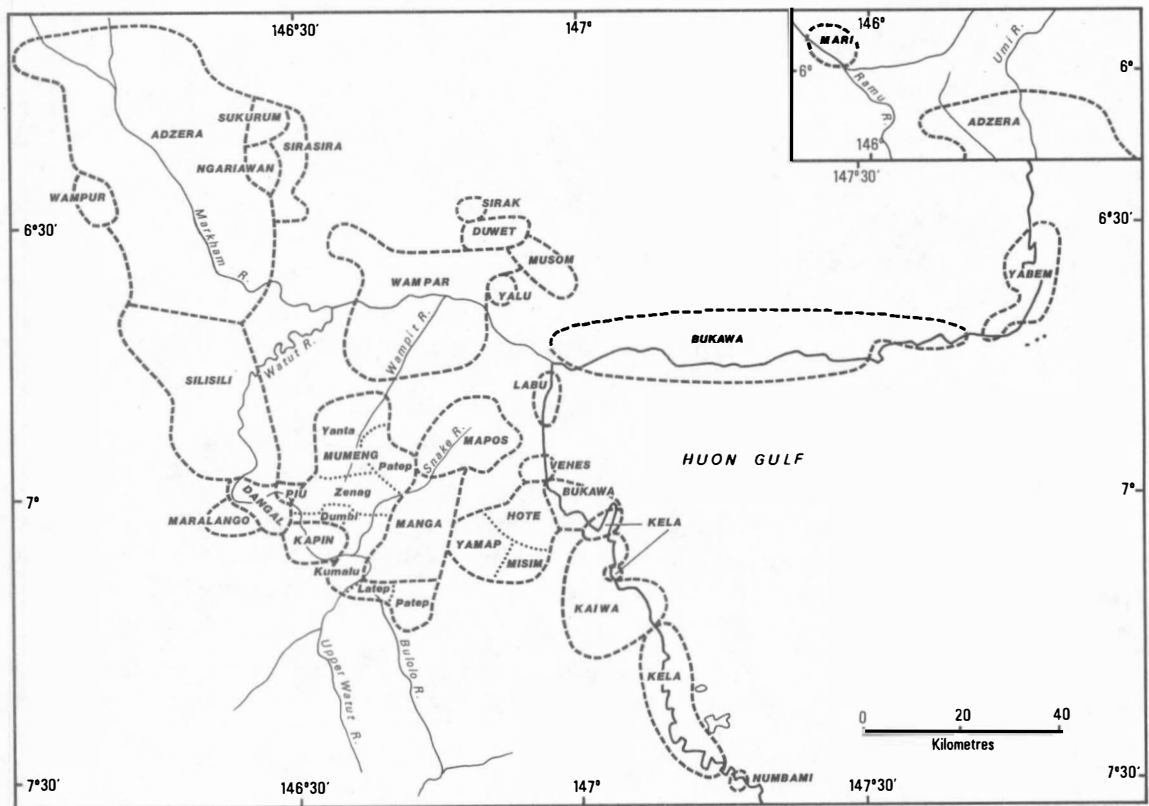


MAP 5: LANGUAGES OF THE NORTH NEW GUINEA CLUSTER: THE HUON GULF FAMILY

A glance at the map attracts one's attention to the Oceanic languages of the Huon Gulf region, as their geographical distribution is unlike that of any other Oceanic-speaking area in PNG. The Huon Gulf languages occupy coastal enclaves, like other Oceanic languages of mainland PNG. However, unlike them, they also penetrate inland to a depth of 130 km up the Markham Valley, and the languages of the Buang chain are spoken in villages at altitudes of up to 1800 metres around the

headwaters of the Watut and Wampit Rivers and their tributaries. This gives the Huon Gulf languages the furthest inland penetration and the highest altitude among the Oceanic languages of PNG. Indeed, the Markham family and the Buang chain are the only substantially inland groups of Oceanic languages in Oceania. The geographical singularity of the Huon Gulf languages is matched by their linguistic diversity. Whilst Hooley (1971) sees a possible connection between the coastal languages, the Markham chain and Hote, he considers the Buang languages to be unrelated to them other than in the fact that all are AN. This would imply two or more separate Oceanic-speaking migrations into the region, but it will be shown below that, despite their diversity, the languages of the Huon Gulf form a single (and probably closed) subgroup within the North New Guinea cluster. The diversity of the Gulf's languages is attributable to their odd geographical distribution, which brings them into contact with various groups of non-AN speakers.[56] If movements known to have occurred in the relatively recent past are typical of their history, then it is likely that a number of Huon Gulf languages have been in close contact with different languages, AN and non-AN, at different times.[57]

The listing of Huon Gulf languages which I presented above contains four groups. One of these has only a single member, Numbami, which is clearly the most conservative member of the family and, apart from similarities due to retentions, has no special relationship with any of the other three groups. Because of the complexity of the consonant correspondences of the Huon Gulf languages, they are presented in three tables, Table 22 (North Huon Gulf chain and Numbami), Table 23 (Markham family), and Table 24 (South Huon Gulf chain). An additional convention is adopted in these tables, namely the use of the horizontal line to indicate a merger or a split (or both). Where a line is drawn across beneath two or more columns of correspondences, this indicates that the proto phonemes reflected in the sets in the columns above the line have merged into the set beneath the line; conversely, where there is one column above such a line, but two or more below it, the proto phoneme reflected in the column above the line has split into the two or more correspondence sets beneath the line.

Making a precise reconstruction of the phonological history of the Huon Gulf languages is no easy task, for three reasons:

a) although there are ample cognate sets which embrace all or most of the region's languages, Proto Huon Gulf underwent considerable lexical change, with the result that many of these sets have no known cognates outside the Huon Gulf and therefore no known POC antecedents (this fact would itself perhaps provide grounds for subgrouping, but, for reasons given in section 1.6.1, I have not investigated it here);

b) the phonological history of most of the Huon Gulf languages is exceedingly complicated, and a much larger data base is required for its reconstruction than is needed for most other Oceanic languages (and such a data base is not available at present);

c) the languages of the North Huon Gulf chain have undergone considerable phonological attrition (see below).

As a result of these occurrences, the characterisation of the phonological history of the area which is offered here is less secure than I would wish it to be, although I do not think that the overall unity of the Huon Gulf family, nor the boundary between it and the languages of the Vitiaz Strait, is in doubt.

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## TABLE 22: NORTH HUON GULF CHAIN AND NUMBAMI: CONSONANT CORRESPONDENCES

| | *p fortis | *p lenis | *b- | *-b- | *w | *m | *-m |
|---|---|---|---|---|---|---|---|
| POC | *p | *p | *b- | *-b- | *w | *m | *-m |
| PHG | *p | *v | *b- | *-b- | *w | *m | *-m |
| Numbami | p | w; Ø/_u | b- | -mb-; -p/_*# | w; -Ø/_*# | m | . |
| PNHG | *p | *h`;Ø, -p | *b- | *b`;p | *w | *m | *-Ø |
| Yabem | p, w | Ø`; -Ø, -p | b- | b`;p | w | m; -ŋ | -Ø |
| Bukawa | p, w; b- | h`; -Ø, -p | b- | b`;p | w | m; -ŋ mb/_*V(C)# | -Ø |
| Kela | p | Ø; -Ø, -p | b- | -mb-; -m | w | m; -ŋ | . |

| | *mw | *t | *d, *dr | *n, *ñ | *-n | *l, *r, *R |
|---|---|---|---|---|---|---|
| POC | *mw | *t | *d, *dr | *n, *ñ | *-n | *l, *r, *R |
| PHG | *mw | *t | *d | *n | *-n | *l, *r, *R |
| Numbami | m°, ŋ; -m | t | nd | n; -ŋ | -n, -ŋ | l |
| PNHG | *mw | *t; -*? | *d | *n; -*ŋ | *-Ø | *l; *-Ø, *-? |
| Yabem | m°, m; -m | t; -? | d; -ŋ | n; -ŋ | -Ø | l; -Ø, -? |
| Bukawa | m, mb | t-, d-; -t-; -? | d; -ŋ | n; -ŋ | -Ø | l; -Ø, -? |
| Kela | m, mw, m°, mb | t | .; -ŋ | n; -n | -Ø | r; -Ø, -k |

| | *s | *-s, *-c | *c | *j | *y |
|---|---|---|---|---|---|
| POC | *s | *-s, *-c | . | *j | *y |
| PHG | *s | *-s | *-c | *j | *y |
| Numbami | s | -Ø | -Ø | d-; -s-; -z-/_*# | y-; -Ø-; -i |
| PNHG | *s; *-Ø, *-? | *-Ø | *-Ø | *j; *-ŋ | *y-; *-Ø-; *-i |
| Yabem | s; -Ø, -? | -Ø | . | s`; -ŋ | y-; -Ø-; -Ø |
| Bukawa | s; -Ø, -? | -Ø | . | s` | y-; -Ø-; -Ø |
| Kela | s; -Ø, -k | -Ø | -Ø | d | y-; -Ø-; -i |

| | *k fortis | *-k | *k lenis | *q | *g | *ŋ |
|---|---|---|---|---|---|---|
| POC | *k | *-k | *k | *q | *g | *ŋ |
| PHG | *k | *-k | *γ | *q | *g | *ŋ |
| Numbami | k | . | Ø | Ø | g-; -g-; -ŋ | ŋ |
| PNHG | *k | . | *Ø` | *Ø; -? | g; -ŋ | *ŋ |
| Yabem | k | . | Ø` | Ø; -? | .; -g-; -ŋ | ŋ |
| Bukawa | k, g | . | Ø` | Ø; -? | .; -k-; -ŋ | ŋ, ŋg |
| Kela | k | . | Ø` | Ø | g-; -ŋg-; -ŋ | ŋ, ŋg |

*Note:* a grave accent ( ` ) means low tone on the following vowel.

## TABLE 23: MARKHAM VALLEY: CONSONANT CORRESPONDENCES

| | *p fortis | *p lenis | *b | | | *-b- |
|---|---|---|---|---|---|---|
| POC | *p fortis | *p lenis | *b | . | . | *-b- |
| PHG | *p | *v | *b- | . | . | *-b- |
| PMK | *p | *f | *b- | *-b-; *-b | *mb- | *mb |
| Mari | -p | h | b- | -b-; -∅-/_u; | p- | mp |
| Wampur | -mp-, -p | h | b-, p- | -b-; -∅-/_u; -p | mp- | mp |
| Sukurum | p | f | b- | -b-; -b | p- | mb; -mp, -p |
| Sarasira | p | f | b- | -b-; -p | p- | mb; -m |
| Adzera | . | f | b- | -b-; -b | mp- | mp; -mp, -p |
| Maralango | p | f | b-, w-/_u | -∅-/_u | mb- | mb |
| Dangal | f; -p | f | b-, w-/_u | -w-/_u | mb- | mb; -mb, -m |
| Silisili | p | f | b-, w-/_u | -b-; -g-/_u | p- | mb |
| Bubwaf | p | f | b-, w-/_u | -w-/_u | p- | mb; -m |
| Musom | p | h | b-, w-/_u | . | b- | b; -m |
| Duwet | p- | ∅ | w-/_u | . | b- | mb |
| Sirak | p- | f | b-, w-/_u | . | b- | .; -m |
| Yalu | p; -ʔ | f | p-, w-/_u | -w-/_u; -b | b-, p- | b |
| Wampar | p | f | b-, w-/_u | -b- | mp-, p- | mp; -b |
| Labu | h- | h; -∅ | p- | h/_u | mb- | . |

| | *w | *m | *-m | *mw | *t | *-t | |
|---|---|---|---|---|---|---|---|
| POC | *w | *m | *-m | *mw | *t | *-t | . |
| PHG | *w | *m | *-m | *mw | *t | *-t | . |
| PMK | *w | *m | *-m | *mw | *r; *-t | *-∅ | *t |
| Mari | w | m | . | . | d-; r | -∅ | . |
| Wampur | w | m | . | . | r | -∅ | t; -nt- |
| Sukurum | w | m | . | m | r | -∅ | .; -nt- |
| Sarasira | w | m | . | mw; -m | d-; r | -∅ | . |
| Adzera | w | m | . | mw, m° | r | -∅ | nt |
| Maralango | w | m | . | mw | r | -∅ | . |
| Dangal | w | m | . | mw, m° | r | -∅ | t |
| Silisili | w | m | -m | mw, m° | r | . | t |
| Bubwaf | w | m | . | m° | r | . | . |
| Musom | . | m | . | m° | r | . | . |
| Duwet | . | m | . | m° | r; -t | . | . |
| Sirak | . | m | . | m°; -m | r; -t | . | . |
| Yalu | w | m; -b | -∅ | m° | r; c/_i | -∅ | .; c/_i |
| Wampar | w | m | -∅ | m° | r; c/_i | -∅ | t, nt; c/_i |
| Labu | w, gw | m; -∅ | -∅ | m; -∅ | l; n-; s/_i | . | . |

TABLE 23: *(continued)*

| | *d, *dr | . | *n | *-n | *l | *r, *R non-final |
|---|---|---|---|---|---|---|
| POC | *d, *dr | . | *n | *-n | *l | *r, *R non-final |
| PHG | *d | . | *n | *-n | *l | *r, *R |
| PMK | d-; -nd-; -nd | nd- | n | | l | e |
| Mari | -nt-, -nt | . | n | . | . | r |
| Wampur | -nt-, -nt | t- | n | . | . | r |
| Sukurum | -nd-; -n | . | n | . | n; Ø/_i | r |
| Sarasira | -nd-; -n, -ŋ | . | n | . | . | r |
| Adzera | d-; -nd-; -nt | nt- | n; -ŋ | -Ø | -r-, -n- | r |
| Maralango | -nd-; -nd | . | n | . | -r- | r |
| Dangal | d-; -nd-; -nd | . | n | -ŋ | n-, -r- | d, r; j/_u |
| Silisili | d-; -nd-; -n | . | n | . | -r- | r; -Ø |
| Bubwaf | d-; -nd-; -nd | . | n | . | -r- | r |
| Musom | -d-; -nd | . | n | . | -r-; n/_u; Ø/_i | . |
| Duwet | -nd-; -nd | . | n | . | n/_u | . |
| Sirak | -nd-; -n, -ŋ | . | n | . | d-; -r- | . |
| Yalu | t-; -d-; -d | c/_i | n; -g | -Ø | n-, -r- | Ø |
| Wampar | d-; -nt-; -d | t-, nt-; c/_i | n | -Ø | r; n/_i, u | r |
| Labu | -t- | . | n; -Ø | -Ø | n/_i, u | l |

| | *s | *-s | *j- | . | *y- | *-j- | *-y- | *ñ |
|---|---|---|---|---|---|---|---|---|
| POC | *s | *-s | *j- | . | *y- | *-j- | *-y- | *ñ |
| PHG | *s | *-s | *j- | *c | *y- | *-j- | *-y- | *ñ |
| PMK | *s | *-s | *c- | *-c-; -c | *j- | *-j- | *-i | *ñ |
| Mari | . | . | s- | -s-; -s, -t | z- | -z- | -i | . |
| Wampur | s | -s | s-, c- | -c-, -s-; -s, -t | z-, c- | -ns- | -i | . |
| Sukurum | s | -s | s- | -c-, -s-; -s, -t | s- | -ns-; -n | -i | . |
| Sarasira | . | . | s- | -c-; -s, -t | c-, s- | -ns- | -i | . |
| Adzera | s | -s | c- | -z-; -s, -t | z-, c- | -nc-; -c | -i | n |
| Maralango | s | -s | z- | -c | j-, s- | -nz- | . | . |
| Dangal | s | -s | j- | -c | d-, s- | -nj-; -nd | . | ni |
| Silisili | s | . | z- | -c | z-, c- | -nc-, -z | -Ø | . |
| Bubwaf | s | . | z- | -c, -s | z-, c- | -nj- | . | . |
| Musom | s | -s | . | -c | c- | . | . | . |
| Duwet | s | -s | . | -s | s- | . | -Ø | . |
| Sirak | s | . | . | -Ø | s- | . | . | . |
| Yalu | s | -Ø, -s | c- | -c | j-, c- | .; -c | -Ø | . |
| Wampar | s | -s | z- | -c | z- | -ns-; -c | -? | . |
| Labu | s | . | s- | -Ø | d-, s- | .; -Ø | -Ø | . |

TABLE 23: *(continued)*

| POC | *k fortis | *-k, *-q | *-r, *-R | *k lenis | *q |
|---|---|---|---|---|---|
| PHG | *k | *-k | *-r | *ɣ | |
| PMK | *k | *-k | | *ɣ | |
| Mari | k | -∅ | | g; -ɣ- | |
| Wampur | ʔ | -∅ | | g; -b/u_ | |
| Sukurum | k | -k | | g; -b/u_ | |
| Sarasira | k | . | | g; ∅-; -p/u_ | |
| Adzera | ∅ | -ʔ, -∅ | | g; -b/u_ | |
| Maralango | k | -k, -ʔ | | g; -ʔ | |
| Dangal | k | -k, -c, -ʔ | | g; -ʔ | |
| Silisili | k, ʔ | -ʔ, -∅ | | g; ∅-; -ʔ | |
| Bubwaf | k | -k, -ʔ | | g; -k | |
| Musom | k | -k, -∅ | | ∅; -h-; c/_i; w/_u | |
| Duwet | k | . | | ∅; w/_u | |
| Sirak | k | . | | g; s/_i, o; w/_u | |
| Yalu | k; -ʔ | -ʔ, -c, -∅ | | ∅; c/_i, e, o | |
| Wampar | ∅ | -k, -ʔ | | g, ∅ | |
| Labu | k, ∅ | -∅ | | k, ∅; -∅ | |

| POC | *g- | *-g- | *ŋ |
|---|---|---|---|
| PHG | *g- | *-g- | *ŋ |
| PMK | *g- | *-ŋg; -ŋg | *ŋ |
| Mari | g- | -ŋk-; -ŋk | ŋ |
| Wampur | g- | -ŋʔ- | ŋ |
| Sukurum | g- | -ŋg; -ŋ | ŋ |
| Sarasira | . | -ŋg-; -ŋ | ŋ |
| Adzera | g- | -ŋ-; -ŋʔ, -ŋ | ŋ |
| Maralango | ŋg- | -ŋg-; -ŋg | ŋ |
| Dangal | ŋg- | -ŋg-; -ŋg, -ŋ | ŋ |
| Silisili | g- | -ng-; -ŋg | -ŋg- |
| Bubwaf | g- | -ŋg-; -ŋg | -ŋg- |
| Musom | g- | -ŋg; -n | ŋ |
| Duwet | . | .; -ŋ | . |
| Sirak | g- | -ŋ-; -ŋ | ŋ |
| Yalu | g-, k- | -g-; -g, -ŋ | ŋ |
| Wampar | g- | -ŋ-, -ŋk- | ŋ |
| Labu | k- | . | ŋ; -∅ |

## TABLE 24: SOUTH HUON GULF CHAIN: CONSONANT CORRESPONDENCES

| | *p fortis | lenis | | *b | *m | *mw |
|---|---|---|---|---|---|---|
| POC | *p | | | *b | *m | *mw |
| PHG/PSHG | *p | *v | | *b | *m | *mw |
| Kaiwa | p | v; -k | | b | m | m |
| PHBU | *p | *v | | *b | *m | *my |
| Hote | p | v | | b | m | m, ñ |
| Proto Buang | *p | *p/C | *v | *b | *n | *my |
| Vehes | p | | v | b | m | my |
| Mangga Buang | p | | v | b | m | ñ |
| Mapos Buang | p | | v | b | m | ñ |
| Mapos (Mambump) | p | | v | b | m; my/*_i, e | m |
| Mumeng (Patep) | p | | v | b | m; v/C | my |
| Mumeng (Yanta) | p | | v | b | m; v/C | my |
| Mumeng (Zenag) | p | | v | b | m; v/C | my |
| Mumeng (Latep) | p | | v | b | m | my |
| Mumeng (Dambi) | p | | v | b | m | . |
| Mumeng (Kumaru) | p | | v | b | m | my |
| Kapin | p | | v | b | m | my |
| Piu | p | | v; y/#_u | b; y/#_u | m; v/C; n/_y, u | n |

| | | /stop | | | | | |
|---|---|---|---|---|---|---|---|
| POC | *d, dr | *t | | | | | *-l- |
| PHG/PSHG | *d | *t | | | | | *-l- |
| Kaiwa | d | *t | | | | | *-l- |
| PHBU | *d | *t | *L- | | | *-L-; -L | *-l- |
| Hote | d; -ŋ | t | l- | | | -l-; -Ø | |
| Proto Buang | *d | *t | *L-/verb | *l-/V | *Ø-/C | *l | |
| Vehes | d | t | . | y- | Ø | r, Ø | |
| Mangga Buang | d | t | h- | y-, r- | Ø | -r-, -Ø-; -r, -y, -ɣ | |
| Mapos Buang | d | t | l- | l- | Ø | l | |
| Mapos (Mambump) | d | t | l- | l- | Ø | l | |
| Mumeng (Patep) | d | t | l-, y-, h- | y- | Ø | -Ø-; -l | |
| Mumeng (Yanta) | d | t | l- | y- | Ø | -Ø-; -l | |
| Mumeng (Zenag) | d | t | l-, y-, h- | y- | Ø | -Ø-; -l | |
| Mumeng (Latep) | d | t | . | y- | Ø | -Ø-; -l | |
| Mumeng (Dambi) | d | t | l- | y-, ɣ- | Ø | -Ø-; -l | |
| Mumeng (Kumaru) | d | t | l-, ɣ- | y-, ɣ- | Ø | -Ø-; -r, -Ø | |
| Kapin | d | t | Ø- | y- | Ø | -Ø-; -y, -w, -Ø | |
| Piu | d | t | l-, y- | y- | Ø | -Ø-; -l | |

TABLE 24: *(continued)*

| | *l-; -l | | | *n | *r | *s | *-R-, -R | *-k, -q |
|---|---|---|---|---|---|---|---|---|
| POC | *l-; -l | | | *n | *r | *s non-final | *-R-, -R | *-k, -q |
| PHG | *l-; -l | | | *n | *r | *s | *-r | *-k |
| PSHG | *l | | | *n | *r | *z | | *-k |
| Kaiwa | l | | | n | l, r | r; s | | -lk, -k/u |
| PHBU | *l | | | *n | *r | *z | | *-k |
| Hote | l | | | n | y | l | | -k |
| Hote (Misim) | l | | | n | y | ð, s | | -k |
| Hote (Yamap) | l | | | n | y | ð, d | | -k |

| | *y-; y/C | *l/ /#_(V)C_lab | *-n | *n | *r | | *-q |
|---|---|---|---|---|---|---|---|
| Proto Buang | *y-; y/C | *l/ /#_(V)C_lab | *-n | *n | *r | | *-q |
| Vehes | r; -ɣ | n | n | n | r | | -k |
| Mangga Buang | r, h | n | n | n | r | | -k, -q |
| Mapos Buang | y, l; -ɣ- | n | n | n | r | | -k, -q |
| Mapos (Mambump) | l | n | n | n | r | | -k, -q |
| Mumeng (Patep) | l | n | n | n | l | | -k, -h, -Ø |
| Mumeng (Yanta) | l | l | n | n | l | | -k, -Ø |
| Mumeng (Zenag) | l | n | n | n | l | | -k, -Ø |
| Mumeng (Latep) | l | n | n | n | l | | -k |
| Mumeng (Dambi) | l | n | n | n | l | | -k |
| Mumeng (Kumaru) | l | n | n | n | l | | -k, -Ø |
| Kapin | l | n | n | n | l | | -k |
| Piu | y, l; z/#_u | n; v/#_C | n | n | l; r/C | | -k, -Ø |

| | *k non-final fortis | ... | *k/_u fortis |
|---|---|---|---|
| POC | *k non-final fortis | ... | *k/_u fortis |
| PHG | *k | ... | *k/_u |
| PSHG | *k | ... | *kw |
| Kaiwa | k-; -k-, -lk- | ... | kw |
| PHBU | *k | ... | *k, kw |
| Hote | k | ... | k, kw |

| | *q | *k- | *-k- | *-k | *kw |
|---|---|---|---|---|---|
| Proto Buang | *q | *k- | *-k- | *-k | *kw |
| Vehes | k | c, s | j, s | k | k |
| Mangga Buang | k, q; s/_i, e | s | s | s | k |
| Mapos Buang | k, q | s | s | k | kw |
| Mapos (Mambump) | k, q | k | k | k | kw |
| Mumeng (Patep) | k, q; c/_i, e | k, h, Ø | h | k | kw |
| Mumeng (Yanta) | k, q; c/_i, e | h | h, Ø | Ø | kw |
| Mumeng (Zenag) | k, q; c/_i, e | z | z, j | k, Ø | kw |
| Mumeng (Latep) | k | Ø | z | k | kw |
| Mumeng (Dambi) | k | Ø | Ø | k | kw |
| Mumeng (Kumaru) | k, q; c/_i, e | Ø, k | Ø | k | kw |
| Kapin | k, q; c/_i, e; t/_b, n | z | z, j | k | kw |
| Piu | Ø | Ø | Ø | Ø | kw |

TABLE 24: *(continued)*

| POC | *-w- | *k    *q | *R | *-y- | *w; u/C_V |
|---|---|---|---|---|---|
|  |  | lenis |  |  |  |
| PHG | *-w- | *ɣ | *R | *-y- | *w; u/C_V |
| PSHG | *-w- | *ɣ | *R | *-y- | *w; u/C_V |
| Kaiwa | w | ∅ | r | i | . |
| PHBU | *w | *ɣ |  | *y | *u |
| Hote | w | ∅; ɣ-, ∅- |  | y | u |
| Proto Buang | *ɣ | *ɣ/i |  | *h | *w |
|  | *ɣ; | *-ɣ; | *ɣ/C |  |  |
| Vehes | y | s | y, ∅ | ɣ | ɣ |
| Mangga Buang | y, h | y, h | h,∅ | h, ∅; s/_i, e | w; h/C; -u |
| Mapos Buang | ɣ | y, ∅ | ɣ | h, ∅; -h, -ɣ | w |
| Mapos (Mambump) | y | y, ∅ | ∅ | h, ∅; -h, -ɣ, -w, -∅ | w |
| Mumeng (Patep) | y; ɣ- | ∅ | ɣ, ∅ | ɣ, h; -h, -ɣ, -k | w |
| Mumeng (Yanta) | y | h | ɣ, ∅ | ɣ, ∅; -k, -∅ | w |
| Mumeng (Zenag) | y | y, ɣ | ∅ | ɣ, ∅; -h, -ɣ, -w | w |
| Mumeng (Latep) | y | . | ∅ | ɣ; -w | . |
| Mumeng (Dambi) | y | . | . | ɣ; -w | . |
| Mumeng (Kumaru) | y; ɣ- | y | y; -ɣ- | ɣ, ∅; -h, -ɣ | w |
| Kapin | y; v- | y, ∅ | ɣ, ∅ | ɣ, ∅; -w | w |
| Piu | s, ∅ | y, ∅ | . | ɣ, ∅; -h, -ɣ, -k, -∅ | kw |

| POC | *g | . | . | ...    *j | *y- |
|---|---|---|---|---|---|
| PHG/PSHG | *g | . | . | *c    *j | *y- |
| Kaiwa | g |  |  | s    s | y |
| PHBU | *g | . | . | *c    *j | y |
| Hote | g-, -ɣ-, -ŋ    g | . |  | s; -k    s, d; -ŋ | y |
| Proto Buang | *ḡ | *g | *gw | *s        *s/C | *j |
| Vehes | g | -g- | g | s | j |
| Mangga Buang | g | -g-, -j- | gw-, -g- | s; j/Cvd | j |
| Mapos Buang | g, ḡ | -ḡ-, -j- | gw- | s; j/Cvd | j |
| Mapos (Mambump) | g, ḡ | -g- | gw | s | j |
| Mumeng (Patep) | g; ŋ- | j | gw | h, ∅; s, h, ∅/Ci | z, j; d/C,_# |
| Mumeng (Yanta) | g; ŋ- | j-; -j-, -c- | gw | ∅; s, ∅/C | z; d/C,_# |
| Mumeng (Zenag) | g; ŋ- | j, z | gw | h, ∅; s, h, ∅/C | z, j; d/C,_# |
| Mumeng (Latep) | . | j- | gw | ∅ | z, j |
| Mumeng (Dambi) | . | . | gw | s; ∅/C | z |
| Mumeng (Kumaru) | g; ɣ- | -j- | gw | s; ∅/C | z |
| Kapin | g | j-; -z- | gw | s; z/Cvd | z |
| Piu | g; ∅- | -j- | gw | h, ∅; ∅/C | z; -d |

TABLE 24: *(continued)*

| | | | | |
|---|---|---|---|---|
| POC | *ñ | *-n; ŋ | | . |
| PHG | *ñ | *-n; ŋ | | . |
| PSHG | *ñ | *ŋ | | . |
| Kaiwa | . | ŋ; n/i_# | | . |
| PHBU | . | *ŋ | | . |
| Hote | . | ŋ | | . |

| | | | | | |
|---|---|---|---|---|---|
| Proto Buang | *ŋ | *ŋ/ C, _i | | *ŋ̄; ŋ̄ /a, o_ | *ŋw |
| | *ŋ; | *-ŋ; | *ŋ /C | | |
| Vehes | n, ŋ | n, ŋ | ŋ | ŋ | ŋ |
| Mangga Buang | ñ, ŋ | n, ŋ | ŋ, n, m | ŋ | . |
| Mapos Buang | ŋ | n, ŋ | ŋ, n | ŋ, ŋ̄ | ŋw |
| Mapos (Mambump) | n, ŋ | n, ŋ | ŋ | ŋ | ŋw |
| Mumeng (Patep) | ñ | n | Ø, k | ŋ | ŋw |
| Mumeng (Yanta) | ñ | n, ŋ | Ø, k | ŋ | ñ |
| Mumeng (Zenag) | ñ | n, ŋ | ŋ | ŋ | ŋw |
| Mumeng (Latep) | ñ | n | ŋ | ŋ | ñ |
| Mumeng (Dambi) | ñ | n | . | ŋ | ŋw |
| Mumeng (Kumaru) | ñ | ñ, n, ŋ | ñ | ŋ | ŋw, ŋ |
| Kapin | ñ | ñ, ŋ | ŋ | ŋ | ñ |
| Piu | n, ŋ | ŋ | ŋ, Ø | ŋ | n |

## 5.3.2 THE UNITY OF THE HUON GULF FAMILY

The innovations which characterise all four groups within the Huon Gulf family are:

A. POC *p always underwent lenition to PHG *v medially, and almost always initially.

B. POC *k split into (fortis) PHG *k- and (lenis) PHG *γ. For any etymon, all languages agree on the grade (fortis or lenis) reflected (with a very few exceptions, attributable to borrowing). The large majority of reflexes are lenis.

C. Non-final POC *q merged with the lenis grade of *k as PHG *γ.

D. A number of etyma acquired an unpredicted final PHG *-c.

E. POC *boʀok 'pig' is reflected as PHG *boʀ; i.e. final *-ok was unexpectedly lost (PHG did not lose POC final consonants).

F. POC *kami D:1EP was completely replaced by its alternant POC *kai.

G. All POC verb-deriving prefixes (*pa- causative, 'paʀi- reciprocal, *ma- stative, *ta- intransitive) were lost.

It is worthy of note that although POC *p* and *k* both underwent lenition on most occurrences in PHG, POC *s* apparently did not undergo lenition at all, as it has only one reflex in each Huon Gulf language. The languages of the Huon Gulf family also have in common the fact that they do not reflect the POC transitive marker *-i*, have no pronominal object enclitics and no noun-object incorporation. However, as it is questionable whether POC had pronominal object enclitics, it is difficult to assess the status of this probable innovation.

Reflexes of the lenitions referred to in innovations A and B were illustrated in sections 3.5.1.2 and 3.5.2. Examples of fortis reflexes of POC *k* are:

(5.29)　POC *kuqa* 'neck'　> PHG *ku(ɣ)a-

Yabem *ko(ʔ-labeŋ)*, Bukawa *ka(paŋ)*, Sirak *ku-*, Adzera *wa-*, Sirasira, Sukurum, Mari *kua-*, Vehes, Mangga Buang *ka-*, Mapos Buang, Mumeng (Patep), Kapin, Piu *kwa*

(5.30)　POC *kaija* 'left-hand'　> PHG *kaije* >

Yabem, Bukawa *gasi*, Wampar *aiz*, Silisili *kinz*, Danggal *kind*, Adzera *yas*, Kaiwa *kase*, Vehes, Mapos Buang *kej*, Mangga Buang *keej*, Mumeng (Patep) *ked*, Mumeng (Yanta, Zenag), Piu *kid*, Kapin *kez*, Numbami *kaze*

Innovation C, the merger of POC *q* with the lenis grade of *k* as PHG *ɣ*, obviously occurred after innovation B, the split of POC *k* into fortis *k* and lenis *ɣ*. The examples below illustrate the change from POC *q* to PHG *ɣ*:

(5.31)　POC *quma* 'garden'　> PHG *ɣuma* >

Yabem *kum* (*k-* unexplained), Bukawa *um*, Kela *(a)uŋ*, Yalu *(a)om*, Wampar *gom*, Danggal, Adzera, Sukurum, Wampur *gum*, Kaiwa *um*, Numbami *uma*

(5.32)　POC *qeno* 'lie down'　> PHG *ɣen(o)* >

Yabem *iʔ*, Bukawa *eʔ*, Kela *en*, Wampar *iʔ*, Sirak *siŋ*, Silisili, Danggal *giŋg*, Adzera *giŋk*, Sukurum, Wampur *giaŋ*, Kaiwa *eŋk*

(5.33)　POC *paqal* 'thigh'　> PHG *vaɣa-* 'leg' (note shift in meaning) >

Yalu *(a)fa-*, Wampar *fa-*, Silisili, Danggal, Adzera, Sirasira, Sukurum *faga-*, Wampur, Mari *haga-*, Kaiwa, Hote *va-*, Vehes, Mumeng (Kumaru), Kapin, Piu *vaɣa-*, Mannga Buang, Mapos Buang *vaha-*

Innovation D, the addition of unpredicted final PHG *-c*, occurs mainly on nouns which are semantically capable of inalienable possession. It is therefore possible that *-c* is a fossilised construct suffix, perhaps a relic of the POC preposition *qi*, which occurs as a fossilised enclitic in some Central-Eastern Oceanic languages (cf. Hooper 1985; Lynch and Tryon 1986; and section 10.4). The two examples below had POC final vowels, and is is clear that PHG *-c* is an addition:

(5.34)　POC *pulu* 'hair'　> PHG *vulu* >

Yabem *lù*, Hote (Misim) *vuluk*, Vehes *vrus*, Mangga Buang *varus*, Mapos Buang *viis*, Mapos (Mambump), Mumeng (Dambi, Kumaru), Kapin *vlus*, Piu *viyuh*, Numbami *uli*

(5.35)  POC *pocu* 'gall bladder'  > PHG *vosuc* >

Mangga Buang *parus*, Mapos Buang, Mapos (Mambump) *prus*, Mumeng (Kumaru) *parus*, Kapin *pelus*

In most other cases where *-c* is added, however, the POC etymon had a final consonant. But PHG *-c* (at least in some cases) does not reflect that consonant, and the most economic explanation of its presence is that these nouns lost their POC final consonant preceding possessive pronominal suffixes or the construct suffix, and were then preserved in PHG without possessive suffixes and with the construct suffix:

(5.36)  POC *banic* 'wing'  > PHG *banic* >

Sirasira, Sukurum, Wampur *banit*, Silisili *baic* (loss of **-n-* unexplained), Danggal, Maralango *bic* (ditto), Hote *banik*, Vehes, Mapos Buang, Kapin *banis*, Mumeng (Dambi, Kumaru) *vanis*

(5.37)  POC *ikuʀ* 'tail'  > PHG *iyuc* >

Wampar *(a)goc*, Yalu *(a)oc*, Silisili, Maralango *goc*, Hote *(la)iuk*, Vehes, Mapos (Mambump), Mumeng (Kumaru) *yus*, Mangga Buang *ahus*, Mumeng (Zenag) *iyoh(o)*, Kapin *ye-yos*

(5.38)  POC *qipaʀ* 'spouse's sibling' > PHG *(y)ivac* >

Yabem *(nị)yà?*, Mangga *vaas*, Mapos Buang, Kapin *vɛs*, Mapos (Mambump) *vas*, Numbami *iwa*

(5.39)  POC *wakaʀ* 'root'  > PHG *wakac* >

Yabem *(ŋa)waka?*, Bukawa *waka?*, Kaiwa *wakas*, Numbami *woka*

(5.40)  POC *kupit* 'bark', 'peelings'  > PHG *(k,y)upic* >

Yalu *ụwec*, Musom *kuwit*, Adzera, Wampur, Mari *ubit*, Hote *kupik*

POC *kulit* 'skin', *lasoʀ* 'testicles', and *baʀiq* 'sore' are also reflected with added *-c*, but reflexes are limited to languages of the South Huon Gulf chain. Of greater interest are those items with *-c* which have a wider distribution but no known POC forerunner:

(5.41)  PHG *golu(y)ic* 'egg'  >

Bukawa *(ŋa)gölu*, Silisili *korogec*, Danggal *kuruwit*, Adzera *urubit*, Sukurum *kurubit*, Mari *kuruit*, Kaiwa *gaglus*, Hote *ŋaluk*, Vehes, Mangga Buang *karus*, Mapos Buang *gayis*, Mumeng (Kumaru) *yalus*, Kapin *galus*

(5.42)  PHG *patac* '(hand) palm'  >

Wampur *pitat*, Mangga Buang, Mumeng (Kumaru) *pataas*, Mapos Buang *ptes*, Mumeng (Patep) *pth(e)*, Piu *pth(ə)*

If the hypothesis that PHG *-c* reflects a construct suffix is correct, then it is necessary to demonstrate that the POC final consonants of the items in examples (5.40) to (5.36) (POC *-ʀ*, *-c*, and *-t*) are not reflected as PHG *-c* in etyma other than potential inalienably possessed nouns. Given the rapid lexical change which has occurred in most Huon Gulf languages, this is not easily demonstrated. However, in the few cases where POC *-ʀ* is reflected, its reflexes are velar except for Numbami *-l-*:

(5.43)  POC *kuluʀ 'breadfruit' > PHG *kunur (*-n- for exp **-l-)

Yalu (a)oŋg, Wampar goŋg, Sukurum gunik, Vehes kuvuk, Mangga Buang kavuuk, Mapos Buang kvuk

(5.44)  POC *niuʀ 'coconut' > PHG *niuʀ >

Kaiwa niuk, Hote (Misim) yak, Numbami niul(a)

(5.45)  POC *mimiʀ 'urinate' > PHG *mimiʀ >

Kaiwa miemk, Mumeng (Kumaru) memk, Kapin mamey

In the one other case of word-final POC *-c in the data, POC *baluc 'pigeon', the only reflexes are from the Buang chain, and these reflect POC *-c as a liquid, i.e. in the same way as they reflect POC *-s (see Table 24): Mumeng (Patep), Piu vlel, Mumeng (Zenag, Kumaru) vlil. The case of POC *-t is more difficult, as only two cases have been found, and these *do* reflect PHG *-c:

(5.46)  POC *nukit 'nest' > PHG *nuɣic >

Sukurum ŋit, Yalu (a)ŋec, Mangga Buang vunis (metathesis of *nuvis), Mapos Buang, Mapos (Mambump) nwis, Mumeng (Zenag) weh, Kapin lwis, Numbami ŋiwi

(5.47)  POC *kabut 'dust' > PHG *(k,ɣ)abuc >

Mangga Buang kabus, Mapos Buang kubus

In view of these two examples, it is also possible that the presence of *-c on the Huon Gulf reflexes of POC *kulit 'skin' and *kupit 'bark, peelings' reflects POC *-t. However, this would leave the other instances of PHG *-c, and especially the items without POC final consonants, namely *pulu '(body) hair' and *pocu 'gall bladder', unexplained. It is therefore preferable to explain PHG *-c as the remains of a construct suffix. However, the expected form of the POC morpheme *qi would be PHG *-ɣi, which *-c does not reflect.

Despite these complications, innovation D is a shared innovation of Huon Gulf languages. It is apparently a morphological innovation, whereby certain potentially inalienable nouns have been preserved without the usual Oceanic possessive pronominal suffixes and with a fossilised construct suffix instead (other inalienable nouns are suffixed in the usual way, e.g. Mapos Buang mala-ḡ 'my eye', mala-m 'your eye').

This innovation is clearly shared by the languages of the Markham family and the South Huon Gulf chain: it is less obvious that it is shared by the three languages of the North Huon Gulf chain and Numbami, as Proto North Huon Gulf reduced all PHG word-final non-nasal consonants (apparently including PHG *-c) to PNHG *-ʔ, and the Numbami reflexes in the examples above have no final consonant (POC *qipaʀ > Numbami iwa; POC *wakaʀ > Numbami woka; POC *nikut > Numbami ŋiwi). However, the absence of the final consonant in Numbami is significant: Numbami normally retains POC final consonants and adds -a: e.g. POC *niuʀ 'coconut' > Numbami niul-a; *waʀos 'vine' > Numbami walas-a, and the absence of the final consonant from items with PHG *-c suggests that the Numbami reflex of *-c is zero. On this interpretation, Numbami also reflects innovation D.

The data which lead to the inference of innovation E, loss of the final syllable *-ok from POC *boʀok 'pig' are set out below:

(5.48)   POC *boʀok 'pig'  > PHG *boʀ >

Yabem *bṵʔ*, Bukawa *mboʔ*, Kela *bo*, Labu *mba*, Yalu *(a)biʔ*, Wampar *piʔ*, Silisili *puk*, Maralango *mbok*, Danggal *mbuk*, Adzera *(a)pu*, Kaiwa *buelk*, Hote *bok*, Vehes *biak*, Mangga Buang *biq*, Mapos Buang *bɔɔq*, Mumeng (Patep) *bwɔk*, Mumeng (Zenag) *buɔk*, Mumeng (Kumaru) *bwok*, Kapin *bok*, Piu *jok*, Numbami *bol(a)*

The decisive reflex in establishing the shape of the PHG form as *boʀ is Numbami *bol-a*, which is in accord with the regular Numbami process of adding -a after the final PHG consonant. This means that the velar and post-velar final consonants of other forms in (5.48) reflect not POC final *-k, but PHG final *-ʀ. This is consistent with what happens to other word-final cases of PHG *-ʀ. For example (cf. also 5.43 to 5.45 above):

(5.49)   POC *tapuʀi 'Triton shell'  > PHG *tavuʀ >

Yabem *daù ʔ*, Bukawa *dahù ʔ*, Kela *dau*, Kaiwa *tavulk*, Hote (Misim) *lavuak*, Vehes, Mangga Buang *vuuk*, Mapos Buang *(a)vuuk*, Mumeng (Patep, Zenag) *vuak*, Mumeng (Kumaru), Kapin *vuk*, Numbami *taul(a)*

Note that Kaiwa *bwelk* 'pig' is the expected reflex of PHG *boʀ, parallel to Kaiwa *tavulk* < PHG *tavuʀ.

The loss of the syllable *-ok from POC *boʀok 'pig' is an idiosyncratic innovation: other POC items with final *-k retain it in many of the Huon Gulf languages in which *boʀok loses it:

(5.50)   POC *manuk 'bird'  > PHG *manuk >

Yalu *(o)moŋg*, Silisili *maŋg*, Kaiwa *mank*, Hote, Vehes *menak*, Mangga Buang *manak*, Mapos Buang *mank*, Mumeng (Dambi) *mɛnik*, Mumeng (Patep, Yanta, Zenag) *mɛnak*, Kapin *menek*

(5.51)   POC *ñamuk 'mosquito'  > PHG *ñamuk

Danggal *(kwa)namg*, Adzera *(nubu)namp* (where -p < *-k by assimilation), Kaiwa *namuk*

Innovation F, the replacement of POC *kami D:1EP by its alternant POC *kai, is reflected below:

(5.52)   POC *ka[m]i D:1EP  > PHG *ɣai >

Yabem *ai(àʔ)*[a], Bukawa *i(àʔ)*[a], Yalu *ce*, Wampar *(ya)ga*[b], Silisili, Danggal *(ka)ga*[b], Adzera, Sukurum *(a)ga/(a)gai*[b], Mapos Buang *hai*, Mangga Buang *hei*, Mumeng (Patep) *ɣe*, Kapin *ɣa*, Numbami *i*

[a]Yabem, Bukawa *-àʔ* reflects an erstwhile quadral/paucal suffix (< PHG *-vat < POC *vat[i] 'four')

[b]The origin of the prefix on these forms is not known, but the same prefix occurs on the other plural non-third-person forms in these languages, e.g. POC *kita D:1IP > Wampar *(ya)er*, Silisili *(ka)ger*, Danggal *(ka)gil*, Adzera *(a)gi*, Sukurum *(a)gi/(a)gir*.

Innovation G, the loss of POC verb-deriving prefixes, needs no comment, other than to mention Bradshaw's (1982) observation that in Huon Gulf languages the functions of POC *pa- have been

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taken over by structures which are derived from serial verb constructions. Thus POC *pa-mate* (CS-die ) 'kill' is replaced by 'hit ___ die', as in:

(5.53)   Kaiwa

*au      ga-s      buelk    unu*
D:1S    S:1S-hit   pig      dead
'I killed the pig '

Not only do the seven innovations discussed above serve to establish the Huon Gulf family of languages: four of them, A, B, C and D also serve to exclude Tami from it, despite its geographical proximity to the North Huon Gulf languages and Hooley's (1971) and Bradshaw's (1978a) assumption that it belonged to a grouping in the Gulf. There is no sign in Tami of anything resembling the possible construct suffix of innovation D. Like other residual Vitiaz languages, Tami does not undergo lenition of either POC initial *p-* or POC initial *k-*, and therefore does not share in Huon Gulf innovations A, B or C:

(5.54)   POC *patu* 'stone' >

Tami *pa?*

PHG *vatu* > Yabem *pò?*,[58] Bukawa *hò?*, Kela *ak*, Kaiwa *vat*, Hote *valu*, Mumeng (Patep) *vel*, Numbami *wati*

(5.55)   POC *pudi* 'banana' >

Tami *pun*

PHG *vudi* > Yabem *m̀*, Bukawa *hùŋ*, Silisili *fun*, Kaiwa, Vehes, Mapos Buang, Mangga Buang *vud*, Hote *vuŋ*, Piu *yud*

(5.56)   POC *kiʀam* 'axe' >

Tami *kil*

PHG *yiʀam* > Yabem, Bukawa *ki*, Kaiwa *il (kapkapul)*, Hote (Yamap) *iam*, Silisili *ge*, Wampar *ge?*, Numbami *ilam (a )*

(5.57)   POC *kayu* 'tree' >

Tami *kai*

PHG *yai* > Yabem *ka*, Bukawa *a*, Kela *ai*, Silisili, Wampar *ga?*, Adzera, Sukurum, Wampur, Mari *gai*, Kaiwa *ei*, Mangga Buang *haah*, Kapin *xax*, Numbami *ai*

## 5.3.3 THE NORTH HUON GULF CHAIN

The North Huon Gulf chain consists of Yabem, Bukawa and Kela, scattered in villages along the shores of the Gulf, but on ethnographic evidence (Hogbin 1947, 1951) almost certainly originating on its northern shore. The close genetic relationship between Yabem and Bukawa has long been recognised (Capell 1949; Hooley 1971), but it is clear on the basis of shared innovations that Kela belongs with this pair. Sound correspondences for the three laminates are shown in Table 22. Shared innovations are:

A. POC/PHG *l, *r and *ʀ merged as PNHG *l non-finally.

B. Consonants which became word-final as a result of loss of POC final vowels and some final-VC were merged and reduced as follows:

    1. The POC non-labial voiceless stops and continuants *t, *l, *r, *ʀ, *s and *q merged as PNHG *-ʔ, *-∅, where *-∅ apparently results from unconditioned loss of *-ʔ (POC *k probably underwent the same process, but the data are insufficient to be certain).

    2. The POC non-labial voiced stops *d, *dr, *g and nasals *n, *ŋ merged as PNHG *-ŋ (POC *j probably underwent the same process, but no Bukawa or Kela reflexes occur in the data).

C. The morpheme PNHG *ŋa is prefixed to a number of nouns and adjectives.

D. A number of typically prepositional functions were taken over by the PNHG postposition *-ŋa .

Certain other PNHG innovations are reflected in Yabem and Bukawa, and have left relics in Kela. Capell (1949) described the tonal system of Yabem and Bukawa, and Bradshaw (1978b) reconstructed the genesis of tone in Yabem using Dempwolff's (1939) description as a starting point. Pre-PNHG evidently developed a form of consonant harmony in which the obstruents within a morpheme were either all voiced (PNG *v, *b, *d, *j, *ɣ, *g ) or all voiceless (PNG *p, *t, *s, *k ), whilst other consonants could occur with either voiced or voiceless obstruents. Where voiced and voiceless obstruents co-occurred in a morpheme, the voiceless became voiced. During the development of PNHG (and after the loss of PHG final vowels), vowels which followed voiced obstruents acquired low tone and those following voiceless obstruents high tone, and tonal harmony emerged such that all vowels in a morpheme carried the same tone. By the break-up of PNHG, as Table 22 shows,[59] PHG *v and *ɣ had become respectively PNHG *h and *∅, but low tone on the following vowel and tonal harmony remained.[60] The result of these developments was, for example, that PHG *tavuʀi 'Triton shell' (< POC *tapuʀi) became Pre-PNHG *davuri by obstruent harmony, then PNHG *dàhù? by consonant changes, resulting in Yabem dàù?, Bukawa dàhù? and Kela dau. Although available Kela data do not show a tonal contrast, the voiced initial d- of Kela dau reflects at least the PNHG development of obstruent harmony.

Innovation A, the merger of POC *l, *r, and *ʀ as PNHG *l non-finally, is illustrated below (for medial *ʀ, see example 5.64).

(5.58)    POC *lopu 'cross-sibling' > PHG *livu (section 5.5.2) >

           PNHG *l(i)hù- > Yabem lù-, Bukawa lhù-, Kela ro-

(5.59)    POC *talise 'Terminalia catappa ' > PHG *talis

           PNHG *tali? > Vabem tali, Bukawa dali, Kela tarik

(5.60)    POC/PHG *rua 'two' >

           PNHG *lua > Yabem lua(gi?), Bukawa lu, Kela rua

(5.61)    POC/PHG *raun 'leaf' >

           PNHG *lauŋ > Yabem, Bukawa (ŋa)lauŋ, Kela (ŋa)rauŋ

(5.62)  POC *ʀopok 'fly' > PHG *ʀovok >

PNHG *-lop > Yabem l<u>u</u>p, Kela -(g)rop<sup>a</sup>

(5.63)  POC *ʀapi 'evening' > PHG *ʀavi >

PNHG *lhà<sup>b</sup> > Yabem (ketu)là, Bukawa (ti)lhà, Kela (tu)ra-ra

<sup>a</sup>Kela pre-verbal g- is a fossilised reflex of PNHG *g- realis singular, also seen in Yabem, Bukawa ga- S:1S.R.

<sup>b</sup>PNHG *lhà 'evening' apparently arose by metathesis of earlier *làh (< PHG *ʀavi).

Innovation B occurred after the loss of POC final vowels and some final -VC sequences, and was the merger of the newly exposed final consonants. POC *t, *l, *r, *ʀ, *s and *q merged as PNHG *-ʔ/*-Ø (for *s, see example 5.59 above):

(5.64)  POC *kuʀita 'octopus' > PHG *kuʀit >

PNHG *kuliʔ > Yabem kuliʔ, Kela kurik

(5.65)  POC *kuluʀ 'breadfruit' > PHG *yuluʀ >

PNHG *ùʔ > Yabem ù, < Bukawa ùʔ, Kela (a)uk

(5.66)  POC *kasuari 'cassowary' > PHG *kasuar >

PNHG *kisuaʔ > Bukawa kisuaʔ, Kela kusua

(5.67)  POC *tapuʀi 'Triton shell' > PHG *tavuʀi >

PNHG *dàhùʔ > Yabem dàùʔ, Bukawa dàhùʔ, Kela dau

(5.68)  POC *mataq 'raw', 'green' > PHG *mataq 'young, green, alive' >

PNHG *mataʔ > Yabem mataʔ-mataʔ 'green', Bukawa mbataʔ-mbataʔ Kela (tamu)mata(ŋ) 'young man'

POC *d, *dr, *g, (probably) *j, *n, and *ŋ merged as PNHG *-ŋ (for *n, see example 5.61 above)

(5.69)  POC *pudi 'banana'> PHG *vudi >

PNHG *hùŋ > Yabem m̀ <sup>a</sup>, Bukawa huŋ, Kela (a)uŋ

(5.70)  POC *-dria P:3P > PHG *-di

PNHG *-ŋ > Yabem -ŋ, Kela (sei)ŋ<sup>b</sup> PP:3P

(5.71)  POC *waga 'canoe' > PHG *wag >

PNHG *waŋ > Yabem, Bukawa, Kela waŋ

(5.72)  POC *laje 'coral' > PHG *laj >

PNHG *laŋ > Yabem (le)laŋ, Bukawa (a)laŋ

<sup>a</sup>The PNHG sequence *hùŋ regularly becomes Yabem syllabic m̩: e.g. POC *puqun 'base', 'origin' > PNHG *hù(ʔ) > Yabem m̀; PNHG *abuhù 'thigh' > Yabem (l)abum̀, Bukawa apuhù

<sup>b</sup>Kela seiŋ PP:3P is probably derived from the POC possessive classifier *sa- (section 5.5.1.3) + *-dria P:3P.

Innovation C, the prefixation of PNHG *ŋa* to a number of possessed nouns and adjectives, is illustrated below:

(5.73)  Yabem

> *ka    ŋa-laka*
> tree   L-branch
> 'branch of a tree'

Bukawa

> *giam   ŋa-ŋguʔ*
> dog    L-tail
> 'dog's tail'

Kela

> *baim   ŋa   da*
> Baim   L    house
> 'Baim's house'

(5.74)  Yabem (Dempwolff 1939:80)

> *m̀      ŋa-kana       ŋa-yàm*
> banana  L-sweet  L-good
> 'a lovely sweet banana'

Bukawa

> *i       ŋa-hyàm*
> fish    L-good
> 'a tasty fish'

Kela

> *ae     ŋa-bom*
> D:3S    L-hot
> 'he is hot'

Although the structure with *ŋa* is the normal possessive noun phrase structure in Kela, its distribution in Yabem and Bukawa suggests that the PNHG sequence POSSESSOR + *ŋa + POSSESSUM was used for partitive relationships, as *ŋa-* is prefixed (often as an unsegmentable fossil) to Yabem and Bukawa nouns which semantically are usually parts of a whole. The situation whereby a noun phrase with an attributive adjective has a structure identical to a noun phrase expressing a partitive relationship occurs elsewhere in WM (sections 5.5.1.1 and 8.5.2.4). Historically, the adjective is a nominalised stative verb, serving as the head of the noun phase, i.e. Bukawa *i ŋa-hyam* 'a good fish' reflects a structure which originally meant 'a fish's goodness'. However, the use of *ŋa in these structures is limited to the languages of the North Huon Gulf chain, and the origin of the morpheme is unknown.

Innovation D is the occurrence of the PNHG postposition *-ŋa. This is apparently not cognate with the morpheme discussed in the previous paragraph; it is just possible that it reflects the preposition *ŋa 'instrumental, refective' discussed in section 4.5.2. However, its use as a postposition is limited to Yabem, Bukawa and Kela (by regular sound change, the Bukawa reflex is *ŋga*):

(5.75)   Yabem (Dempwolff 1939:38)

> si̱-siŋ         waŋ     mala<sup>ʔ</sup>-ŋa       si̱-ya
> S:3P-paddle   canoe   village-POSTP    S:3P-go
> 'They paddled towards the village.'

Bukawa

> ŋga<sup>ʔ</sup>   li̱    mbò̱    andu    ŋa-mbu-ŋga
> man      stand  stay   house   L-back-POSTP
> 'The man is standing behind the house.'

Kela

> de      gaŋ-ŋa
> basket  taro-POSTP
> 'a basket for taro'

The innovations described in this section are strong evidence that Kela is a close relative of Yabem and Bukawa (but not of its other coastal neighbours Kaiwa and Numbami, which share none of these innovations).

### 5.3.4 THE MARKHAM FAMILY

The languages of the Markham family penetrate far up the Markham valley and up the valleys of some of the Markham's tributaries. The family was divided above into three subgroups: the first consists of the Labu language, spoken in villages among the marshes near the mouth of the Markham river, and the other two are the Lower and Upper Markham networks. Holzknecht's (f/c.) work has revealed the complexity of inter-relationships among the languages listed above as members of the Lower and Upper Markham networks, but their membership of a single family is not controversial. What is potentially controversial is the suggestion (implied by Bradshaw 1978a) that Labu is more closely related to the Markham languages than to Yabem and Bukawa. However, Labu does not reflect the innovations of the North Huon Gulf chain described in section 5.3.3; it does share innovations with the languages of the Lower and Upper Markham networks. These innovations are the subject of this section. Sound correspondences of languages of the Markham family are shown in Table 23.

Innovations shared by Labu and the Lower and Upper Markham networks are:

A.  POC/PHC non-final *t, *r and *ʀ merged as PMK *r.

B.  PHG/PMK *γ (lenis reflex of POC *k, *q) became a stop in most Markham languages.

C.  PHG/PMK *l became n before front vowels in Labu and some other Markham languages.

D.  Labu and some Lower Markham languages reflect a numeral classifier PMK *sV.

Innovation A is evidence for the unity of the Markham family including Labu. Other innovations are shared by the Markham languages other than Labu, but these are not presented here. Instead, B, C and D show that Labu has shared in innnovations which have occurred in parts of the Lower Markham network. The position of Labu in relation to this network is not clear: it is different enough from all other Markham languages to suggest that it has had at least one period of geographical and social separation from them, but its participation in innovations C, D and E indicates that, at least for a

period immediately after the break-up of PMK, Labu remained in contact with languages of the Lower Markham network.

Innovation A, the merger of POC/PHG non-final *t, *r and *ʀ as PMK *r, is illustrated in the following examples (and 5.82 below):

(5.76)   POC *taŋis 'weep' > PHG *taŋi >

PMK *-raŋ > Labu -la, Yalu -reŋ, Wampar -riŋ, Danggal, Adzera, Sukurum, Wampur -raŋ

(5.77)   POC *taci 'younger sibling' > PHG *tasi- >

PMK *rasi > Labu las(ala) 'younger brother', Musom, Sirak, Danggal rasi-, Duwet rasa-, Wampar, Silisili rase-

(5.78)   POC *natu 'child' > PHG *natu- >

PMK *naru- Labu nalu-, Yalu, Adzera, Sukurum, Wampur, Mari naru-, Wampar, Danggal naro-

(5.79)   POC/PHG *karis 'scratch' >

PMK *-karis > Labu -kali̲, Adzera, Wampur -aris, Sukurum -koris

(5.80)   POC *ʀumaq 'house' > PHG *ʀumak >

PMK *rum > Labu lu(pusu) 'area under house', Sarisira, Sukurum rum

(5.81)   POC *kaʀat 'bite' > PHG *-ɣara(t) >

PMK *-ɣaʀa > Labu -klu, Yalu -ker, Wampar -aar, Adzera, Wampur, Mari -gara

Innovation B is the strengthening of PHG/PMK *g (lenis reflex of POC *k, *q) to a stop in most Markham languages. This innovation did not occur in Yalu, Duwet and Musom, where PMK *ɣ has become zero (suggesting that these languages form a subgroup), but in all other Markham languages PMK *ɣ is reflected by a stop – by k (in some items) in Labu, and by g elsewhere. Since the Labu reflexes of the three PMK non-prenasalised voiced stops *b, *d and *g are also voiceless (p, t, k: see Table 23), it is reasonable to infer that at an earlier period Labu reflected PMK *ɣ as g, and that the present-day reflex k is the result of a general devoicing of non-prenasalised stops in Labu. If this inference is correct, then Labu participated with other Markham languages in the strengthening of PMK *ɣ to *g, and – since the innovation is an unusual one – was presumably part of the Lower Markham network at the time. This innovation is reflected in (5.81) and the examples below:

(5.82)   POC *kutu 'louse' > PHG *ɣut(u) >

PMK *ɣur > Labu kul(uku), Yal (a)or, Musom ur, Wampar, Silisili, Maralango gor, Danggal, Adzera, Wampur, Mari gur

(5.83)   POC *quma 'garden' > PHG *ɣum(a) >

PMK *ɣum > Labu ku, Yalu (a)om, Wampar gom, Danggal, Adzera, Sukurum, Wampur gum

However, Labu also has reflexes of PHG *ɣ where the latter has become zero (see also 5.87):

(5.84)   POC *kuluʀ 'breadfruit' > PHG *ɣuluʀ >

Labu u̲

PMK *ɣuluk > Yalu (a)oŋg, Wampar goŋg, Adzera guni, Sukurum gunik

(5.85)  POC *kayu 'tree' > PNG *ɣai >

Labu a

PMK *ɣai > Duwet a, Wampar, Silisili, Maralango gaʔ, Adzera, Sarisira, Sukurum, Wampar, Mari gai

These Labu items have apparently acquired these forms during periods of contact either with one of those Markham languages which reflects PHG/PMK *ɣ as zero or with its coastal neighbour Bukawa (cf. Bukawa uʔ 'breadfruit', 'a tree').

As the incomplete set of reflexes of POC *l in Table 23 indicates, rapid lexical change in Markham languages has resulted in a shortage of reflexes in the data such that Markham developments affecting POC *l cannot be fully reconstructed. However, it is clear that POC *l is often reflected as n, an innovation which Labu shares:

(5.86)  POC *lopu 'cross-sibling' > PHG *livu- >

PMK *lafu- 'sister' Labu nuhu-, Wampar nafo-, Yalu, Adzera, Sarasira, Sukurum nafu-, Wampur, Mari nahu-

(5.87)  POC *qalipan 'centipede' > PHG *ɣalivan >

PMK *ɣalif > Labu ani, Yalu kanif, Wampar ganef, Adzera gaif, Sukurum gef

As Bradshaw (1978a) noted, Labu also shares with some of the Lower Markham languages reflexes of what is apparently an erstwhile numeral classifier, PMK *sV- (innovation E). Its Labu reflexes are in sa-lu 'two', si-di 'three', and so-ha 'four', whilst Lower Markham reflexes are all in words for 'two', namely Yalu si-luʔ, Wampar, Silisili se-rok, Danggal se-ruk. That this element was a numeral classifier is suggested quite strongly by the fact that Upper Markham languages reflect other forms, presumably other classifiers, in this slot: Sukurum le-ruk 'two', Adzera i-ruʔ 'two'. However, the comparison is complicated by two factors. The first is that all Markham languages other than Labu have lost the base-five system of PHG and replaced it by a base-two system, and therefore have no cognates of the Labu etyma for 'three' and 'four'. The second is that although the second morpheme of Labu so-ha 'four' reflects POC *pat[i] 'four', the origin of the numeral morpheme in si-di 'three' is unclear, whilst the numeral morpheme of sa-lu 'two' may reflect either POC/PHG *rua 'two' or PMK *tuk 'two'. The latter is reflected in the Markham items for 'two' mentioned above, and has cognates in the Buang languages (example 5.116). Although these complications mask the shared innovation, however, they do not detract from the fact that Labu, Yalu, Wampar, Silisili and Danggal reflect the same morpheme.

Although there are ample grounds for inferring that Labu has spent periods in contact with different languages, the fact that it shares none of the innovations of the North Huon Gulf chain but does share in the four innovations above leads to the conclusion that Labu was originally part of the Lower Markham network.

## 5.3.5  THE SOUTH HUON GULF CHAIN

The unity of the Buang languages as a chain has been clearly demonstrated by Hooley (1970). However, although Bradshaw (1978a) suggested on impressionistic grounds that Hote is a rather conservative relative of the Buang languages, and that Kaiwa (his Iwal) is as similar to Hote and the

Buang languages as it is to other coastal languages of the Huon Gulf, the chaining implicit in his suggestion has not been demonstrated, and the purpose of this section is to fill this gap.

Innovations reflected in all members of the South Huon Gulf chain are:

A. PHG word final *-ʀ merged with word-final *-k as PSHG *-k.

B. POC/PHG *s became voiced in all environments as PSHG *z.

C. POC *maliboŋi 'flying fox' underwent an unpredicted change resulting in PSHG *malibok for expected **maliboŋ.

Innovation A is illustrated for PHG *-ʀ in examples (5.82), (5.49) and below:

(5.88)   POC/PHG *mimiʀ 'urinate' >

PSHG *mimik > Kaiwa miemk, Hote momak, Mumeng (Kumaru) memk

(5.89)   POC/PHG *niuʀ 'coconut' >

PSHG *niuk > Kaiwa niuk, Hote (Misim) iak (for exp **niak)

Reflexes of PHG *-k occur in examples (5.50), (5.99), (5.106) and the following:

(5.90)   POC *buaq 'areca nut' > PHG *buak >

PSHG *buak > Kaiwa buk, Hote (Misim), Vehes, Mangga Buang buak

(5.91)   POC *nanaq 'pus' > PHG *nanak >

PSHG *nanak > Kaiwa nank, Mangga Buang naanak, Mapos Buang nenq, Mumeng (Patep) nenk

Innovation B refers to the fact that present-day reflexes of POC/PHG *s are all voiced: Kaiwa r, Hote l, Hote (Misim, Yamap) usually ð, Mangga and Mapos Buang r, Mumeng, Kapin and Piu l. If it were not for Hote (Misim, Yamap) ð, we could infer that POC/PHG *s had become a liquid in PSHG. However, although ð could have resulted from the inter-dental articulation of a lateral, the presence of separate correspondence sets reflecting PHG *l and *r and the improbability that PSHG had three liquids makes it more likely that the reflex of PHG *s was PSHG *z, i.e. that the innovation consisted only of voicing. Rhotacism then produced liquids in Kaiwa, Hote proper, and the Buang chain. Whilst intervocalic reflexes of POC *s are frequently voiced in other WM groups as part of a lenition process (section 3.6.2), the voicing of PHG *s to PSHG *z in all environments is an unusual innovation. Examples are (3.108) and:

(5.92)   POC *qusan 'rain' > PHG *ɣusan >

PSHG *ɣuzan > Kaiwa ur, Hote olom, Hote (Misim) oðum, Mapos (Mambump) aɣun (for exp **arum), Mumeng (Patep) lun, Vehes (ni)arun

(5.93)   POC *qasu 'smoke' > PHG *ɣasu >

PSHG *ɣazu > Kaiwa, Mapos Buang, Vehes aru, Mangga Buang (ahe)ru, Mumeng (Patep), Kapin lu, Piu lo

(5.94)   POC *susu 'breast' > PHG *susu- >

PSHG *zuzu- > Kaiwa ruru-, Mapos Buang, Vehes rur, Mumeng (Patep), Kapin lul, Piu lol

Innovation C is that POC *maliboŋi 'flying fox' became PSHG *malibok, instead of expected **maliboŋ. The reconstruction of *malibok is based on the following data:

(5.95)   PSHG *malibok 'flying fox' > Kaiwa molbok, Hote molobok, Hote (Misim) molubuk, Mangga Buang meebak, Mapos Buang malibk, Mumeng (Patep) vibak, Vehes mɛbɛk 'fruit bat'

On the surface, this looks like a simple replacement of *-ŋ by *-k. However, there is evidence that the whole second half of the word, recognisable as a reflex of POC *boŋi 'night', was replaced by a reflex of the PHG verb *bok 'be night'. This evidence consists in the fact that both PHG *boŋ(i) and PHG *bok(V) are reconstructible, and it is very improbable that the change in form from *maliboŋ(i) to *malibok took place independently of the semantic connection between these two items. Data supporting reconstruction of the latter are:

(5.96)   PHG *boŋ(i) 'night' >

PSHG *boŋ > Hote (buli)vuŋ, Hote (Misim) (bili)vuŋ, Hote (Yamap) (bili)buŋ

(5.97)   PHG *bok(V) 'be night' >

PNHG *-bȋʔ > Yabem -bȋʔ 'be night', Bukawa (tum)bȋʔ 'night-time'

PSHG *bok > Kaiwa (ta)bok 'night', Hote (wak)buk 'yesterday', Hote (Misim) (si)buk 'formerly', Mangga Buang bus(in) 'night', Mapos Buang, Mumeng (Patep) buk, Vehes bok(in) 'day', Kapin buk(iŋ) 'night', Piu juk 'day'

Although only three innovations have been found which are reflected throughout the South Huon Gulf chain, there are other pieces of evidence for the chain. One of these, a series of innovations in verbal morphology, is described in section 10.3.1.3. Another, reflexes of an ablative preposition PSHG *naŋ, connects Kaiwa with Hote (Kaiwa naŋ(ge), Hote naŋ), whilst several innovations indicate that Hote and the Buang languages form a grouping within the South Huon Gulf chain.

Two morphological innovations reflected in Hote and the Buang languages have been identified. The first of these concerns the realis singular subject pronominal prefixes listed below:

| (5.98) | S:1S | S:2S | S:3S |
|---|---|---|---|
| Yabem | ga- | gu- | gi- |
| Yalu (past) | ka- | ku- | ki- |
| Sukurum | gi- | gi- | gi- |
| Kaiwa | ga- | gu- | gi- |
| Hote | yaɣa- | yo- | ɣa- |
| Mapos Buang | h[a] | gw- | Ø- |
| Mangga Buang | ha- | ha- | ha- |
| Kapin | ɣ- | w- | y- |

If we set on one side the analogical levelling of vowels in the Sukurum and Mangga Buang forms and the prefixing of ya- (<POC *iau D:1S) to the Hote S:1S form, then two reconstructive facts emerge. Firstly, the PHG realis forms were *ga- S:1S, *gu- S:2S and *gi- S:3S. Secondly, the Hote, Mapos and Mangga Buang, and Kapin forms reflect a shared innovation, namely that they reflect *ɣ- where *g- is expected.

The second of these morphological innovations is that Hote and the Buang languages have lost the distinction between exclusive and inclusive forms of subject pronominal prefixes. Where Kaiwa has

the realis forms *a-* S:IEP and *ta-* S:11P (reflecting PHG *(γ)a-* and *ta-* respectively), Hote and Mangga Buang have only *a-* S:1P, whilst other Buang languages have undergone various (and complex) analogical levellings resulting in two or more verbal conjugations, none of which makes the exclusive/inclusive distinction. Whilst the loss of this distinction occurs elsewhere among WM languages, it commonly affects all pronoun sets. What is striking about its loss here is that it only affects subject prefixes: in disjunctive pronoun and possessive suffix sets, the distinction is retained.

Two further phonological innovations are shared by Hote and the Buang languages. The first resembles a sound change noted above for Labu and the Markham languages, namely that POC/PHG *t* becomes a liquid (I symbolise this as Proto Hote/Buang *L*, to distingush it from the reflexes of POC/PHG *l*, with which it did not merge in Proto Buang). However, this is not an innovation shared in common by Proto Hote/Buang and Proto Markham, as another change intervenes in the former. Unstressed vowels were deleted or became a non-phonemic schwa (re-phonemicised in some daughter-languages) in Proto Hote/Buang, creating consonant clusters, and where *t* was a member of such a cluster, it remained *[t]*. For example:

(5.99)   POC *mutaq* 'vomit' > PHG/PSHG *mutak* > Proto Hote/Buang *mutk* >

Hote (Misim), Vehes, Mangga Buang, Mumeng (Patep) *mutak*, Mapos Buang, Kapin *mutk*, Mapos (Mambump) *mutq*

(5.100)   POC *pituqun* 'star' > PHG *vituγun* > Proto Hote/Buang *ptuγŋ* >

Vehes *bituin*, Mapos Buang *btuγŋ*, Mumeng (Zenag) *vtuaŋ*, Kapin *betum*

The change from POC/PHG *t* to Proto Hote/Buang *L* is illustrated in the examples below. *L* subsequently underwent further changes in the Buang languages (see Table 24).

(5.101)   POC *taqe* 'faeces' > PHG/PSHG *taye-* > Proto Hote/Buang *Lay* >

Hote *la*, Vehes *yees*, Mangga Buang *(pae)rak*, Mapos Buang *laa*, Mapos (Mambump) *ley*, Mumeng (Patep) *yaa*, Mumeng (Zenag) *yay*, Piu *yɛ* (cf. Kaiwa, Numbami *tae-*)

(5.102)   POC *topu* 'sugarcane' > PHG/PSHG *tovu* > Proto Hote/Buang *Lov* >

Hote *luv*, Vehes, Mumeng (Zenag), Piu *yav*, Mapos Buang *lɔv*, Mapos (Mambump) *lav* (cf. Kaiwa *tov*, Numbami *towi*)

(5.103)   POC *tolu* 'three' > PHG/PSHG *tolu* > Proto Hote/Buang *Lol* >

Hote (Misim) *lu*, Vehes, Kapin *yar*, Mangga Buang *yaar*, Mapos Buang *lɔɔ*, Mapos (Mambump) *lal*, Mumeng (Patep) *yɔn*, Memeng (Zenag, Piu) *yan*, Mumeng (Kumaru) *yon*, Kapin *yar* (cf. Kaiwa *(ai)tol*, Numbami *toli*)

(5.104)   POC *mata* 'eye' > PHG *mata-* > PSHG *maLa-*

Hote *male-*, Vehes, Mumeng (Patep, Kumaru), Kapin, Piu *ma-*, Mapos Buang *mala-* (cf. Kaiwa *mata(no)*, Numbami *mata-*)

The second phonological innovation which occurred in Proto Hote/Buang is a somewhat unusual one: POC/PHG/PSHG *mw* became Proto Hote/Buang *my*, which in some daughter languages became *ñ* :

(5.105) POC/PHG/PSHG *mwata 'snake' > Proto Hote/Buang *myaL >

Hote (u)mya, Vehes myar, Mangga Buang ñeey, Mapos Buang ñel, Mapos (Mambump) myel, Mumeng (Patep) ñel, Kapin ñey, Piu nul (Kaiwa muat, Numbami mota)

(5.106) POC *ʀum[w]aq 'house' > PHG/PSHG *ʀumwak > Proto Hote/Buang *yumyak >

Hote uñak, Vehes, Mumeng (Patep) yumak, Mangga Buang humak

### 5.3.6 POC *r AND *ʀ IN HOTE AND THE BUANG CHAIN

Although POC *r and *ʀ have merged throughout the rest of the Huon Gulf family, there is some evidence that they have not done so, or have done so incompletely, in the Buang chain. For this reason, the merger of POC *r and *ʀ is not claimed as an innovation of Proto Huon Gulf. Instead, it appears that the merger may have spread through the rest of the family after the speakers of Proto Buang had moved into the mountains, leaving the latter as a relic area. If this interpretation is correct, then it is counter-evidence to Milke's (1958) claim that POC *r and *ʀ have merged in all New Guinea Oceanic languages. However, the evidence for this interpretation, presented below, is slim, because (i) lexical change has obliterated many of the etyma reflected in 'well-behaved' Oceanic languages and (ii) loss of POC final vowels means that the reflexes of POC *ʀ in items such as POC *tapuʀi 'Triton shell' are word-final and have velar reflexes in all Huon Gulf languages except Numbami, so that what is reflected is the final *-k of a post-PSHG form *tavuk.

TABLE 25: HOTE AND THE BUANG CHAIN: SELECTED CONSONANT CORRESPONDENCES

| POC | *r | *ʀ | | | *t |
|---|---|---|---|---|---|
| Proto Hote/Buang | *r | *y | | | *L- |
| Hote | y | Ø; γ-, Ø- | | | l- |
| Proto Buang | *r | *h | *y/i | | *l-/V |
| | | | *y/C | *-y | |
| Vehes | r | γ | y, Ø | s | y- |
| Mangga Buang | r | h, Ø; s/_i, e | h, Ø | y, h | y-, r- |
| Mapos Buang | r | h, Ø; -h, -γ | γ | y, Ø | l- |
| Mapos (Mambump) | r | h, Ø; -h, -γ, -w, -Ø | Ø | y, Ø | l- |
| Mumeng (Patep) | l | γ, h; -h, -γ, -k | γ, Ø | Ø | y- |
| Mumeng (Yanta) | l | γ, Ø; -k, -Ø | γ, Ø | h | y- |
| Mumeng (Zenag) | l | γ, Ø; -h, -γ, -w | Ø | y, γ | y- |
| Mumeng (Latep) | l | γ; -w | Ø | . | y- |
| Mumeng (Dambi) | l | γ; -w | . | . | y-, γ- |
| Mumeng (Kumaru) | l | γ, Ø; -h, -γ | y; -γ- | y | y-, γ- |
| Kapin | l | γ, Ø; -w | γ, Ø | y, Ø | y- |
| Piu | l; r/C | γ, Ø; -h, -γ, -k, -Ø | . | y, Ø | y- |

Table 25 lists the sound correspondences with which we are concerned here (extracted from Table 24), and requires some explanation. The correspondence sets listed in the table are based on my complete corpus of data for the Buang chain. The corresponding POC phonemes are determined on the basis of those etyma which are reconstructible in POC. In the case of POC *r, the correspondence set listed beneath it is well attested, but only four of the items in which it occurs are reconstructible in POC. These items are:

(5.107)  POC/PHG *rabia 'sago' > PSHG/Proto Hote/Buang *rabi >

Mumeng (Patep) lebi (cf. Kaiwa labi, Hote (Misim) yabi)

(5.108)  POC/PHG *raŋi '(be) daytime' > Proto Hote/Buang *raŋ(ai) >

Mangga Buang raŋ(aah), Mapos Buang rŋ(ah) (cf. Yabem lèŋ)

(5.109)  POC/PHG *ruʀi 'thorn' > Proto Hote/Buang *ruk >

Mapos Buang ru-ruk (cf. Numbami luli)

(5.110)  POC/PHG *kori 'scrape' > Proto Hote/Buang *kwer >

Mangga Buang qeer, Vehes ker, Mapos Buang kwer, Mapos (Mambump) kwɛr, Mumeng (Patep) kwel, Kapin, Piu kwil

It is clear that we have here only a limited quantity of data.

The correspondence set for POC *ʀ is no more readily exemplified than that for *r. The available examples are:

(5.111)  POC *ʀum[w]aq 'house' > PHG/PSHG *ʀumwak > Proto Hote/Buang *γumyak >

Hote uñ ak, Vehes, Mumeng (Patep) γumak, Mangga Buang humak, Mapos Buang humq, Mumeng (Kumaru) γumuk, Piu γom

(5.112)  POC *ʀeqi 'kunai grass' > PHG *ʀeγi > Proto Hote/Buang *γeγ >

Mangga Buang siih, Mumeng (Patep) heγ (cf. Numbami rei)

(5.113)  POC *baʀiq 'a sore' > PHG *baʀic > Proto Hote/Buang *baγic >

Mangga Buang bayiis, Mapos Buang pγes

There are, however, also cognate sets which have no known cognates outside the Huon Gulf, but in which PHG *ʀ is reconstructible because reflexes occur both within and outside the Buang chain:

(5.114)  PHG *baʀob 'freshwater eel' >

PMK *baro(p,b) > Adzera buaruf, Sukurum baruf

Proto Buang *bγob > Mangga Buang vayob, Mapos Buang bγob, Mumeng (Patep, Kumaru) vγɔb, Kapin vyob, Piu vsab

(5.115)  PHG *buʀub 'fog, cloud' >

Numbami bu-bulum(a)

Proto Buang *bγub > Vehes biγeb, Mangga Buang bayiib, Mapos Buang bγob, Mapos (Mambump) bγob, Mumeng (Patep) vγob

There is one other cognate set which must be considered, because it appears to reflect POC *rua 'two':

>   (5.116) Vehes γuy, Mangga Buang, Mumeng (Dambi, Patep, Kumaru) yuu, Mapos Buang
>   luu, Mapos (Mambump) lu, Mumeng (Zenag) yuuw, Mumeng (Kumaru) yuuγ,
>   Kapin ya-yuu, Piu lu

However, the initial consonants of this set more closely resemble POC *t- than *r- (cf. the reflexes of POC *tolu 'three' in example 5.103), apart from Piu lu which (like Hote yu) is the expected reflex of Proto Buang *ru. An explanation of these reflexes awaits a better understanding of the prehistory of Buang phonology. What is clear is that these initial consonants are different from that which reflects POC/PHG *R.

Although the evidence is less than one would like, it suggests that the merger of POC *r and *R has not taken place in the communalects of the Buang chain, and therefore had not occurred when PHG diversified into its daughter dialect chains.

## 5.4 THE NGERO/VITIAZ FAMILY

### 5.4.1 AN OVERVIEW

The term Ngero/Vitiaz *family* implies that the Ngero/Vitiaz languages diversified by separation (section 1.4), and this is true at the first level of subgrouping: Proto Ngero/Vitiaz split into Proto Ngero and Proto Vitiaz. However, whereas Proto Ngero became a small family of eight languages whose affinities with each other are quite evident despite their geographical dispersal (Map 3), Proto Vitiaz was not a proto language at all in the strict sense. I remarked at the beginning of this chapter that Proto North New Guinea itself was not a proto language but a linkage of communalects: it was apparently that part of the Oceanic dialect linkage which was situated in the area of the Vitiaz and Dampier Straits. Proto Vitiaz was the continuation of this linkage after the communalects ancestral to the Schouten, Huon Gulf and Ngero groups had separated from it. As the genetic trees in Figures 4 and 5 indicate, certain fairly compact groups of languages can be identified at its two geographical extremes (the Bel family in the north-west and the Mengen family in the south-east), and other groupings due to probably quite recent differentiation can be identified (the Korap, Pasismanua and Arawe linkages). However, the overall impression given by the languages and groups within the Vitiaz linkage is one of reasonable similarity, especially in the typological features outlined under Type A in the previous chapter, but a bewildering variety of isoglosses which cut across each other. The locations of the languages listed in Figures 4 and 5 are shown on Maps 4 and 6.[61]

The languages of the Ngero/Vitiaz Strait family remain very poorly described. Counts (1969) has published a short grammar of Lusi (= Kaliai) (of the Ngero family), and Dempwolff (n.d.) wrote a grammar of Gedaged (of the Bel family). Friederici (1912) provided a short sketch of Bariai (also of the Ngero family) and Müller (1907) for Maeng (= Orford)(of the Mengen family). Thurston (1984) gives a good lexicon of Amara (= Longa). R. Bugenhagen very kindly outlined various aspects of Mangap morphosyntax for me. For the languages of the Vitiaz Strait itself we have only a brief sketch of Tami (Bamler 1900), and for the languages of the entire south coast of New Britain, no published description at all.
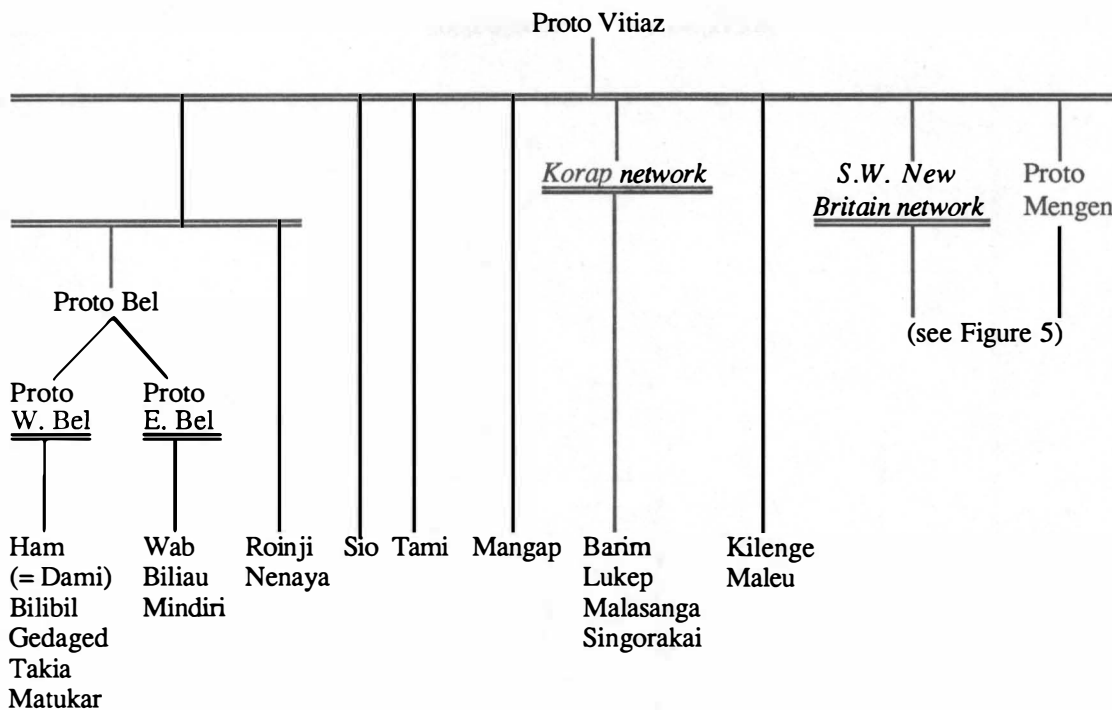
FIGURE 4: VITIAZ BRANCH OF THE NORTH NEW GUINEA CLUSTER: PARTIAL GENETIC TREE 1



MAP 6: LANGUAGES OF THE NORTH NEW GUINEA CLUSTER: NGERO/VITIAZ LANGUAGES OF NEW BRITAIN

Proto Vitiaz

(see Figure 4)

*South-West New Britain network*

*Proto Arawe/Pasismanua*

*Lamogai ch*

*Pasismanua chain*  *Arawe chain*

*W. Arawe
chain*  *E. Arawe
chain*  Proto Mengen

| Mok-Aria
Lamogai | Amara
(= Longa) | Miu
Kaulong
Sengseng | Psohoh
(= Bao) | Arove
(= Arawe)
Aiklep
Apalik | Akolet
Avau
Atui | Bebeli
(= Kapore) | Mangseng | Uvol | Mamusi
Kakuna | Poeng (= Mengen)
Maeng (= Orford) |
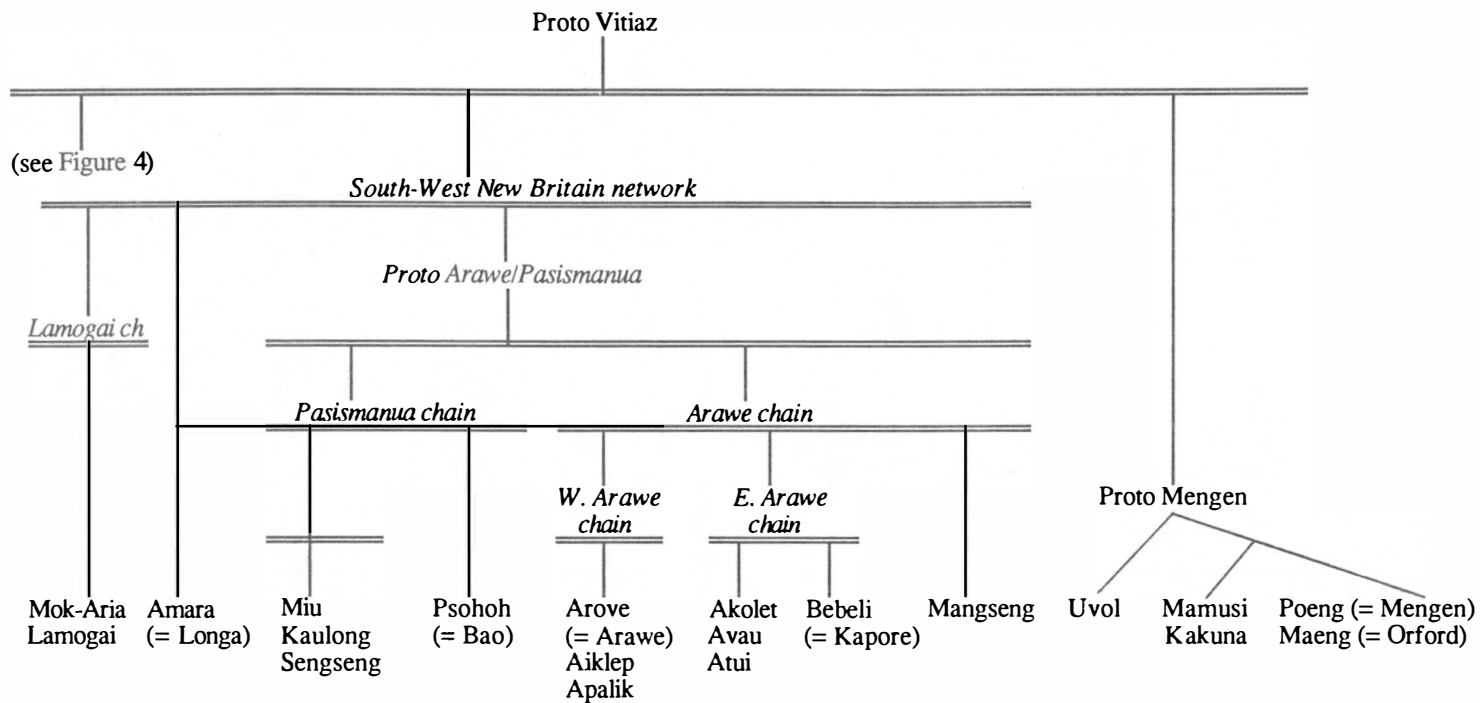
FIGURE 5: VITIAZ BRANCH OF THE NORTH NEW GUINEA CLUSTER: PARTIAL GENETIC TREE 2

Proposed subgroupings within the Ngero/Vitiaz Strait area have been published by Hooley (1971) for the island languages in the Strait and some of the nearby mainland coastal languages, by Chowning (1969, 1976) for New Britain, and Lincoln (1976d) for the mainland coastal languages from Gitua to Mindiri (and Ham, inland south-west of Madang town). Hooley's lexicostatistical finding was that the languages of the Strait and the nearby coast subgrouped more closely with each other than with the languages of the Huon Gulf, a finding which concurs with the account in the first paragraph of this section. Chowning (1976) identifies (on that part of New Britain with which this chapter is concerned) the Mengen, Whiteman, Lamogai, Arawe and Bariai groups. Her Mengen and Lamogai groups are identical in membership to mine (following Johnston, ed. 1980, I have collapsed the Lamogai family into fewer languages), and her Arawe group corresponds with my Western Arawe chain (her Arawe is Johnston's Arove; her Moewehafen is Johnston's Apalik combined with Aiklep). Akolet, Avau and Atui were not reported until the survey reported in Johnson, ed. (1980). Lincoln (1976d) recognised among the mainland coastal and some island languages two groups which he named Korap and Ngero (after the word for 'man' in some of them). He also recognised, as Chowning (1973) had suggested, that there was a link across the Strait and that some or all of the languages of Chowning's Bariai group were members of his Ngero group. I have retained Lincoln's nomenclature, as Chowning's Bariai group includes two languages which do not belong to the Ngero family. There are two points of difference between the classification in Figures 3, 4 and 5 and Chowning's grouping, but both are marginal:

a) Figure 4 shows Kilenge and Maleu together as a separate offshoot of the Vitiaz linkage and places Kove, Lusi and Bariai in the Ngero family: this splits Chowning's Bariai family in two;

b) the subgrouping in Figure 5 splits Chowning's Whiteman family into the Pasismanua chain (Miu, Kaulong, Sengseng and Psohoh [= Bao]) and two languages (Bebeli [= Kapore] and Mangseng) which I place in the Arawe chain.

It can be inferred from Chowning (1986) that she would agree with point (a) following the availability of Lincoln's data (1976e and n.d.).

The linguistic history of the Vitiaz Strait area has been affected both by regular trading contact (Harding 1967) and by cataclysmic volcanic eruptions. Recent events include the Krakataua-like eruption of Long Island, probably sometime in the seventeenth century (Blong 1982), the spectacular eruption of Langila (near Cape Gloucester) in 1878 (Palfreyman et al 1981), and the eruption which destroyed Ritter Island (between Umboi Island and New Britain) in 1888 (Cooke 1981c).

Chowning (1986) points out that even between closely related languages like Kove and Gitua (both of the Ngero family), there are irregular correspondences. She attributes these to the factors mentioned above and to movements of population caused by droughts, population growth and internal disputes, and intermarriage, and suggests that the prehistory of the region is probably far too complicated for conventional subgroupings to be made, either here or in other areas of frequent population movement. Whilst I agree with her that many local irregularities of the kind she describes are due to such factors, the very fact that sound correspondences can be deduced and that both phonological and morphological innovations can be identified means that some knowledge of both separations and dialect differentiations is attainable.[62] The effect of frequent movement, even though it can give rise to irregular correspondences, is rather of the kind identified by Lincoln (1976d) – that communalects which are closely related historically are not necessarily geographically contiguous.

The interesting fact is that despite their dispersion, the members of the Ngero family and the Korap network can be identified as such.

The linguistic history of the Vitiaz Strait is special not only because its geography ensures frequent movements of population, but because it was the dispersion centre of the North New Guinea cluster. The result of this is not that languages cannot be subgrouped because of irregular correspondences, but that they cannot be subgrouped because they are the descendants of the original network of communalects at the dispersion centre. No subgrouping relationship, except as descendants of the Vitiaz linkage, is possible for the following units:

a)  the Bel languages, probably with Roinji and Nenaya

b)  Sio

c)  Tami

d)  Mangap

e)  the Korap network

f)  Kilenge and Maleu

g)  the South-West New Britain network

h)  the Mengen family

The Ngero family is omitted from this list because it probably separated from the Vitiaz linkage at an early date.

No phonological innovations link the languages of the Ngero/Vitiaz family. There are three morphological features, all within the pronoun system, which are reflected across all groups in the Ngero/Vitiaz family. The first of these is that probably no language of the family reflects the POC disjunctive form *[i]ko[e] D:2S; it was replaced by Proto Ngero/Vitiaz *kom(u) "probably", because some reflexes are not diagnostic of the difference between the two forms). The final bracketed *-u of *kom(u) is inferred on the assumption that the form includes the Proto Ngero/Vitiaz reflex of POC *-mu P:2S; the final vowel is retained in no present day language. Reflexes of *kom(u) are:

(5.117)  Proto Ngero/Vitiaz *kom(u) D:2S >

PNg *i-om > Malai yom, Gitua yum, Malalamai yu (the forms Kove veao and Bariai eau are unexplained)

Residual Vitiaz: Kilenge (i)om, Sio (no)ko, Tami [ne]kom, Lukep, Malasanga oŋ

PBEL *koŋ > Wab, Bilbil, Gedaged o, Biliau un, Mindiri kuo, Ham, Takia, Matukar oŋ

PSB *wom > Aria, Lamogai (Rauto) wom, Arove, Aiklep, Apalik woŋ, Akolet (a)woŋ, Atui (e)uŋ, Mangseng wuŋ, Kaulong (ŋ)on, Sengseng o, Psohoh un,

PMGN *oŋ > Uvol (i)oŋ, Mamusi (Kakuna) oŋ, Poeng on(e), Maeng oen

## TABLE 26: NGERO FAMILY: CONSONANT CORRESPONDENCES

| POC | *p- | *p | | | *b | *w |
|---|---|---|---|---|---|---|
| PNg/Vitiaz | *p- | *p | | | *b | *w |
| | | fortis | lenis | | | |
| PNg | *p- | *v- | *-v- | *-v | *b | *w |
| Kove | p- | Ø- | -Ø-; -u-/_a | ... | v | w |
| Lusi | p- | u- | -Ø- | ... | v | w |
| Bariai | p- | u-, Ø- | -Ø- | ... | b; -p | w |
| Tuam | p- | v- | -v- | -v | b; -m | w-; -v-; -u |
| Mutu | p- | w- | -w- | -b | b | . ; -b-; -Ø |
| Malai | p- | v- | -v- | -b | b; -m | w-; -v-; -u |
| Gitua | p- | v- | -v- | -p | b; -u, -p | w |
| Malalamai | p- | w- | -w- | -p | b | w; -u |

| POC | *m | *t | *d, *dr | *r | *R | *l |
|---|---|---|---|---|---|---|
| PNg/Vitiaz | *m | *t | *d | *r | *R | *l |
| PNg | *m | *t | *d | *r | *R | *l |
| Kove | m | t | ð | l | h | l |
| Lusi | m | t | r | l | r̃ | l |
| Bariai | m | t | d | l, r | l, r; -d/i_ *i# | l |
| Tuam | m | t | d; -n | r | r | l |
| Mutu | m | t | d; -n | r | r | l |
| Malai | m | t | d; -n | r | r | l |
| Gitua | m; mw/u_a | t | d | r | r | l |
| Malalamai | m | t | d | l | ḷ-, l-; -l-, -r-; -ḷ, -l | l |

| POC | *s | | *s | | | *j | *n,*ñ |
|---|---|---|---|---|---|---|---|
| PNg/Vitiaz | *s | | *s | | | *j | *n |
| | fortis | | lenis | | | | |
| PNg | *s- | *-s- | *z- | *-z- | *-z | *z | *n |
| Kove | s- | -s- | ð- | -ð- | ... | -ð; s/_i | n |
| Lusi | s- | -s- | r- | -r- | ... | r; s/_i | n |
| Bariai | s- | -s- | d- | -d- | ... | d; s/_i | n |
| Tuam | s- | ... | z- | -z- | -z | -z-; -s; s/_i | n |
| Mutu | s- | ... | z- | -z- | ... | . ; s/_i | n |
| Malai | s- | ... | z- | -z- | -s | z; -s; s/_i | n |
| Gitua | s- | ... | z- | -z- | ... | z-, d-; -z-; s/_i | n |
| Malalamai | s- | -s- | z- | -z-, -Ø- | ... | z; s/_i | n |

TABLE 26: *(continued)*

| | *y | *k | *k | | | *q |
|---|---|---|---|---|---|---|
| POC | *y | *k | *k | | | *q |
| PNg/Vitiaz | *y | *k | *k | | | *q |
| | | fortis | lenis | | | |
| PNg | *y | *k- | *Ø- | *-y- | *-y- | *Ø-; y |
| Kove | e-, y-; -Øⁱ-; -i | k- | Ø- | -Ø-, -h- | -l | |
| Lusi | e-; -Øⁱ-; -i | k- | Ø- | -Ø-, -h- | ... | (as lenis |
| Bariai | ei; -Øⁱ-; -i | k- | Ø- | -Ø- | ... | grade of |
| Tuam | y; -i | ... | Ø- | -g-, -Ø- | -k, -g, -Ø | POC *k ) |
| Mutu | y | ... | Ø- | -g-, -Ø- | . | |
| Malai | y; -i | ... | Ø- | -g-, -Ø- | -k, -g, -Ø | |
| Gitua | y; -i | ... | Ø- | -g-, -Ø- | -k | |
| Malalamai | y | k- | Ø- | -g-, -Ø- | -k, -g, -Ø | |

| | *g | *ŋ | | *bw | *mw |
|---|---|---|---|---|---|
| POC | *g | *ŋ | . | *bw | *mw |
| PNg/Vitiaz | *g | *ŋ | *pw | *bw | *mw |
| PNg | *g | *ŋ | *pw | *mw | |
| Kove | γ | ŋ | p | v° | m° |
| Lusi | γ | ŋ | . | . | m° |
| Bariai | g; -k | ŋ | . | . | m° |
| Tuam | g; -ŋ | -ŋ-, -n-; -ŋ | p | b° | m° |
| Mutu | g | -n-; -ŋ | . | . | m° |
| Malai | g; -ŋ | ŋ; -ŋ, -n | p | b° | m° |
| Gitua | g | ŋ | p | bw | mw, m° |
| Malalamai | g | ŋ | p | b° | m° |

TABLE 27: VITIAZ LINKAGE: CONSONANT CORRESPONDENCES

| POC/PVZ | *p- fortis | *p lenis | | | *b |
|---|---|---|---|---|---|
| PSB | *p- | ... | *-Ø- | *-p | *b |
| Amara | p- | ... | -Ø- | -p | v |
| Aria | p- | ... | -Ø- | · | p |
| Lamogai | p- | ... | -Ø- | -p | p |
| PAP | *p- | ... | *-Ø- | *-p | *v |
| Arove | p- | ... | -Ø- | · | v |
| Aiklep | p- | ... | -Ø- | · | v |
| Apalik | p- | ... | -Ø- | · | v |
| Akolet | p- | ... | -Ø- | · | v |
| Avau | p- | ... | -Ø- | · | v |
| Atui | p- | ... | -Ø- | -p | v |
| Bebeli | p- | ... | -Ø- | · | b, v |
| Mangseng | p- | ... | -Ø- | · | v |
| Kaulong | p- | ... | · | · | · |
| Sengseng | p- | ... | · | · | p |
| Psohoh | p- | ... | -Ø- | · | b, v |
| PMGN | *p- | ... | *-Ø- | ... | *b |
| Uvol | h- | ... | -Ø- | ... | p |
| Mamusi | p- | ... | -Ø- | ... | v |
| Poeng | p- | ... | -Ø- | ... | v |
| Maeng | p- | ... | -Ø- | ... | v; Ø-/_o |
| Kilenge | p- | ... | -Ø- | ... | v; -p |
| Maleu | p- | ... | -Ø- | ... | v; -p |
| Sio | p- | ... | -Ø- | -u, -Ø | b |
| Tami | p- | ... | -Ø- | -u, -?, -p | b; -m |
| Mangap | p- | ... | -Ø- | -Ø, -u | b |
| Barim | p- | ... | -Ø- | -Ø | b |
| Lukep | p- | ... | -Ø- | -Ø | b; w/u_u |
| Malasanga | p- | ... | -Ø- | -Ø | b; w/u_u |
| Singorakai | p- | ... | -Ø- | · | b |
| Nenaya | h-; Ø-/_o | ... | -Ø- | -p | b |
| Roinji | p-; Ø-/_o, u | ... | -Ø- | -p | b; -p |
| PBEL | *p-; f-/_o· u | *f- | -Ø-; -w-/_o | *-v | *b |
| Wab | p-; f-/_o, u | f- | -Ø- | -u, -b | b |
| Biliau | p-; f-/_o, u | f- | -Ø- | -u | b |
| Mindiri | p-; f-/_o, u | f- | -Ø-; -w-/_o | -Ø | b |
| Ham | h-; Ø-/_u | Ø- | -Ø- | -Ø | b; -Ø |
| Bilibil | p-; h-/_o, u | f-; h-/_o, u | -Ø-; -w-/_o | -Ø | b |
| Gedaged | p-; f-/_o, u | f- | -Ø-; -w-/_o | -u, -Ø | b |
| Takia | p-; f-/_o, u | f- | -Ø-; -w-/_o | -u | b |
| Matukar | p-; f-/_o; h-/_u | h- | -Ø- | -u | b |

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TABLE 27: *(continued)*

| | *w | *m | *t | *d, *dr | *r, *R | *l |
|---|---|---|---|---|---|---|
| POC | *w | *m | *t | *d, *dr | *r, *R | *l |
| PVZ | *w | *m | *t | *d | *r | *l |
| PSB | *w | *m | *t | *d | *r | *l |
| Amara | u- | m | t; -d | d | r | l |
| Aria | . | m | t | d | r | l |
| Lamogai | ∅°-, -u- | m | t | d | r | l |
| PAP | *w | *m | *t | *r | *r | *l |
| Arove | v-; ∅-; -w- | m | t | r | r | l |
| Aiklep | -∅- | m | t | r | r | l |
| Apalik | v-; -∅°- | m | d | r | r | l |
| Akolet | v-; -u-, -∅- | m | t | r | r | l |
| Avau | v-; -u- | m | t | r | r | l |
| Atui | v-; -u- | m | t | r | r | l |
| Bebeli | -∅°-, -u- | m | t | r | r | l |
| Mangseng | -w- | m | t | r | . | l |
| Kaulong | ∅-, -w- | m | t | h | h | l |
| Sengseng | w-; -v- | m | t; k-/_l | h | h | l |
| Psohoh | ∅-; -∅°-, -∅- | m | t | r | r | l |
| PMGN | *w | *m | *t; s/_i | *r | *l | *l |
| Uvol | ∅-; -∅-; -u | m | t; s/_i | r | l | l |
| Mamusi | ∅-; -w- | m | t; . | r | l | l |
| Poeng | w-; -o- | m | t; s/_i | r | l | l |
| Maeng | -u- | m | t; s/_i | r | l; -r | l |
| Kilenge | w | m | t | r | l | l |
| Maleu | w | m | t | r | l | l |
| Sio | w | m; ŋm/_o | t | d; z/_i | l, r | l; -n |
| Tami | w; -u | m | t | d; j/_i; -n | l | l |
| Mangap | w | m | t | d; -n | r | l |
| Barim | . | m | t | d; -t | r | l |
| Lukep | w | m | t | d; -r | r | l |
| Malasanga | . | m | t | d-; -r-; -t | r | l |
| Singorakai | w | m | t | r | l-, d-; -l-, -r- | n |

|  | | | fortis | lenis | | | |
|---|---|---|---|---|---|---|---|
| Nenaya | w | m | t | γ | .; -r-; -z-/_# | l; -r-, -l-, -γ- | l |
| Roinji | w; -u | m | t | r, l | d-; -r-; -d-/_i | l, r | l |

| PBEL | *w | *m | *t | | *d | *r | *l |
|---|---|---|---|---|---|---|---|
| Wab | w; -u | m | t | l | r | l | l |
| Biliau | w; -u | m | t | l | d | r | l |
| Mindiri | w | m | t | l | d; -n | r | l |
| Ham | w; -u | m | t | l | d | r; -l | l |
| Bilibil | w | m | t | l | d | r | l |
| Gedaged | w | m | t | l | d | l | l |
| Takia | w | m | t | l | d | r | l |
| Matukar | w | m | t | t | d | r | l |

TABLE 27: *(continued)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| POC | *s | | *s, *c | | *j | *n, ñ | *y |
| PVZ | *s | | *s | | *j | *n | *y |
| | | | fortis  lenis | | | | |
| PSB | *s | | *-y- | | *s | *n | *y |
| Amara | s | | -i- | . | . | n | ∅ⁱ, i |
| Aria | s | | -i- | -s | . | n | ∅ⁱ, i |
| Lamogai | s | | -i- | . | . | n | ∅ⁱ |
| PAP | *s | | *-i- | *-s | *s | *n | *y |
| Arove | s | | -i- | -s | . | n | i |
| Aiklep | s | | . | . | . | n | . |
| Apalik | s | | -i- | . | . | n | i |
| Akolet | s | | -i- | . | s | n | . |
| Avau | s | | -i- | -s | . | n | i |
| Atui | s | | . | -s | . | n | i |
| Bebeli | s | | . | . | s | n; -ŋ | . |
| Mangseng | s | | . | . | . | n | ð |
| Kaulong | s | | . | -s | . | n | y-; i |
| Sengseng | s | | . | . | . | n; -ŋ | y-; i |
| Psohoh | s | | -i- | -s | . | n | i |
| PMGN | *s | *t | *-y- | ... | *r | *n | *y |
| Uvol | s | t | -∅- | ... | r | n | e |
| Mamusi | s | . | -i- | ... | . | n; -ŋ | ∅- |
| Poeng | s | t | -∅- | ... | r | n | ∅- |
| Maeng | s | t | -∅- | ... | r | n | ɣ- |
| Kilenge | s | | -∅- | ... | r-; -l-; s/_i | n | y-; -∅-; -i |
| Maleu | s | | -∅- | ... | r-; -r- | n | y-; -∅-; -i |
| Sio | s | | -∅- | ... | z; s/_i | n; -n, -∅ | y; -i |
| Tami | s | | -j- | -t | j-; -j-, -s-; -n, -t | n | y; -∅- |
| Mangap | s | | -z- | -s | z; s/_i | n | y-; -i- |
| Barim | s | | -∅- | -i | d- | n | ∅ⁱ- |
| Lukep | s | | -∅- | -i | d-; -r-; s/_i | n | ∅ⁱ-, y-; -∅- |
| Malasanga | s | | -y-; -∅-/i, e | ... | d-; -r-; -s; s/_i | n | ∅ⁱ-; -i |
| Singorakai | s | | -y-; -∅-/i, e | ... | d-; -r-; -s | n | y-, ∅ⁱ- |
| Nenaya | s | | -y-; -∅-/i, e | ... | z | n; -ŋ, -n | y- |
| Roinji | s | | -y-; -∅-/i, e | ... | d-; -j-, -d-, -r- | n; -ŋ | y-; -i |
| PBEL | *s | | *-y-; -∅-/i, e | ... | *j | *n | *y-; -i |
| Wab | s | | -y-; -∅-/i, e | ... | d | n; -ŋ, -n | y-; -i |
| Biliau | s | | -y-; -∅-/i, e | ... | z | n; -ŋ, -n | y-; -i |
| Mindiri | s | | -y-; -∅-/i, e | ... | d; -n | n | y-; -i |
| Ham | s | | -y-; -∅-/i, e | ... | d | n | y-; -∅ |
| Bilibil | s | | -y-; -∅-/i, e | ... | d | n | y-; -i |
| Gedaged | s | | -y-; -∅-/i, e | -i | d | n | y-; -i |
| Takia | s | | -y-; -∅-/i, e | -i | d | n | y-; -i |
| Matukar | s | | -y-; -∅-/i, e | ... | d | n | y-; -i |

TABLE 27: *(continued)*

| POC/PVZ | *k fortis | *k lenis | | *q | | |
|---|---|---|---|---|---|---|
| PSB | *k- | ··· | *-Ø- | | | |
| Amara | k- | ··· | -Ø- | -k | | |
| Aria | k- | ··· | -Ø- | -k | | (as POC *k) |
| Lamogai | k- | ··· | -Ø- | · | | |
| PAP | *k- | ··· | *-Ø- | *-k | | |
| Arove | k- | ··· | -Ø- | -k | | |
| Aiklep | k- | ··· | · | -k | | |
| Apalik | k- | ··· | -Ø- | -k | | |
| Akolet | k- | ··· | -Ø- | -k, -Ø | | |
| Avau | k- | ··· | -Ø- | · | | (as POC *k) |
| Atui | k- | ··· | -Ø- | · | | |
| Bebeli | k- | ··· | -Ø- | · | | |
| Mangseng | Ø- | ··· | · | · | | |
| Kaulong | k- | ··· | · | -k | | |
| Sengseng | k- | ··· | · | -k | | |
| Psohoh | k- | ··· | -Ø- | · | | |
| PMGN | *k- | ··· | *-Ø- | *-k | | |
| Uvol | h-, Ø- | ··· | -Ø- | · | | |
| Mamusi | k- | Ø- | -Ø- | · | | (as POC *k) |
| Poeng | k- | ··· | -Ø- | · | | |
| Maeng | k- | ··· | -Ø- | · | | |
| Kilenge | k-; -k- | · | -Ø- | ··· | k-, Ø-; -Ø- | |
| Maleu | k-; -k- | · | -Ø- | ··· | k-, Ø-; -Ø- | |
| Sio | k- | ··· | -Ø- | · | k-; -k-; -k | |
| Tami | k- | ··· | -Ø-, -g- | · | k-; -k-, -Ø-; -k | |
| Mangap | k-; -k- | ··· | -Ø- | · | k-; -g-; -k | |
| Barim | k- | ··· | -Ø- | · | k-; -Ø- | |
| Lukep | k-; -g- | ··· | -Ø- | · | k-; -k-, -Ø-; -k | |
| Malasanga | k- | ··· | -Ø- | · | k-; -Ø-; -k | |
| Singorakai | k- | ··· | -Ø- | · | k-; -Ø-; -k | |
| Nenaya | k- | ʔ-; Ø | -Ø- | · | k-, g-, h-, Ø-; -Ø- | |
| Roinji | k- | ɣ- | -Ø- | · | k-, g-, ɣ-; -Ø- | |
| PBEL | *k- | *ɣ- | *-Ø- | *-ɣ | *ɣ-; -Ø- | |
| Wab | k- | Ø- | -Ø- | · | | |
| Biliau | k-, Ø- | Ø- | -Ø- | · | | (as lenis grade of POC *k) |
| Mindiri | k- | k- | -Ø- | -k | | |
| Ham | k- | Ø- | · | · | | |
| Bilibil | k- | Ø- | -Ø- | · | | |
| Gedaged | k- | Ø- | -Ø- | -k | | |
| Takia | · | Ø- | -Ø- | -k | | |
| Matukar | k- | Ø- | -Ø- | -k | | |

TABLE 27: *(continued)*

| | *g | *ŋ | *pw | *bw | *mw |
|---|---|---|---|---|---|
| POC | *g | *ŋ | . | *bw | *mw |
| PVZ | *g | *ŋ | *pw | *bw | *mw |
| PSB | *g; -k | *ŋ | *pw | . | *mw |
| Amara | g; -k | ŋ | p | . | m |
| Aria | g- | ŋ | p | . | m |
| Lamogai | g | ŋ | p | . | m |
| PAP | *g; -k | *ŋ | *pw | . | *mw |
| Arove | g-; -k | ŋ | . | . | m |
| Aiklep | ∅-; -k | . | . | . | m |
| Apalik | ∅-; -k | ŋ | . | . | m |
| Akolet | g-; -ɣ-, -y-; -k | ŋ | p° | . | m |
| Avau | ɣ- | ŋ | p° | . | m |
| Atui | y-; -k | ŋ | p° | . | m |
| Bebeli | g-; -h- | . | p | . | m |
| Mangseng | k | ŋ | p° | . | mw, m |
| Kaulong | . ; -k | -n, -m | . | . | . |
| Sengseng | h- | ŋ | . | . | m |
| Psohoh | g; -ŋ | ŋ | p, p° | . | mw, m |
| PMGN | *g | *ŋ | *p | . | *mw |
| Uvol | k | ŋ | . | . | m |
| Mamusi | k | ŋ-; -ŋ-, -n- | p | . | m |
| Poeng | g-; -k- | ŋ-; -ŋ-, -n- | . | . | m |
| Maeng | g-, ɣ- | ŋ-; -ŋ-, -n- | . | . | m |
| Kilenge | ɣ; -k | ŋ | p° | . | m°, m |
| Maleu | ɣ; -k | ŋ | p° | . | m°, m |
| Sio | g | -ŋ-; -∅ | p°, p | . | mw, m |
| Tami | g; -ŋ | ŋ | . | bw, b° | m |
| Mangap | g | -ŋ-, -n-; -ŋ | p | . | m° |
| Barim | g-; -ɣ- | ŋ | . | . | m°, m |
| Lukep | k, g | ŋ-; -ŋ-, -n-; -ŋ | p°, p | b° | m°, m |
| Malasanga | g | -ŋ-, -n-; -ŋ | . | b° | m°, m |
| Singorakai | g | ŋ | . | . | m°, m |
| Nenaya | g | ŋ | ∅° | b | m° |
| Roinji | g | ŋ | ∅° | bw, b | mw, m° |
| PBEL | *g | *ŋ | *pw | *bw | *mw |
| Wab | g | ŋ | p, f | . | m°, m |
| Biliau | g | ŋ | f | bw | m°, m |
| Mindiri | g | ŋ | f° | b° | mw, m |
| Ham | g | . | p | . | m°, m |
| Bilibil | g; -ŋ | ŋ | p | b°, b | m°, m |
| Gedaged | g | ŋ | . | b° | m°, m |
| Takia | g | ŋ | . | b°, b | m°, m |
| Matukar | g | ŋ | . | b | m |

The second feature concerns the fact that the reflexes of POC *-dria P:3P (and disjunctive forms containing the same morph) in Ngero/Vitiaz languages collectively manifest the correspondence set not of POC *dr but of POC *j (see sound correspondences in Tables 26 and 27). The forms are:

(5.118)  POC *-dria P:3P > Proto Ngero/Vitiaz *-ji

PNg *-ji >

Residual Vitiaz: Kilenge -re, Sio -zi, Tami, Mangap -n, Lukep -di, Roinji -di(ŋ)

PBEL *-ji > Biliau -z, Mindiri, Bilbil -di, Gedaged -di(n), Ham -edi, Takia, Matukar -di

PSB *-ji > Amara -de, Avau -sV, Bebeli -si

This innovation does not warrant detailed discussion: suffice it to say that in each language where POC *dr and *j are reflected differently (in the Bel family, for example, this is Biliau), the form reflected is *-ji, not *-dri. The origin of the form is obviously palatalisation before *i, but this is not a regular process in most of the languages involved.

The third feature is that in many, but not all, languages, the subject pronominal proclitic Proto Ngero/Vitiaz *ŋa- S:1S replaces other forms. The latter, discussed in detail in section 10.3.1.3, are *u-, which occurs in the Schouten languages but nowhere in the Ngero/Vitiaz family, and *[y]a-, which is reflected in Ham, Biliau, Tami, Lukep and the Arawe and Mengen languages. Reflexes of *ŋa- S:1S are:

(5.119)  PNg *ŋa- > Kove, Gitua, Malalamai ŋa-, Bariai, Malai na-

Residual Vitiaz: Kilenge, Sio na-, Mangap aŋ-, Roinji ŋa-

PBEL *ŋa- > Mindiri, Bilbil, Gedaged, Takia, Matukar ŋa-

PSB *ŋa- > Aria ŋV-, Lamogai (Rauto), Kaulong, Sengseng, Psohoh ŋa-

Features which chain together various units in the Ngero/Vitiaz linkage include the following:

A. Kilenge, the Korap network, Mangap and the South-West New Britain network, none of which normally undergo lenition of POC initial *k-, lose *k- from the POC disjunctive pronouns *ka[m]i D:1EP, *kita D:1IP, and *kamu D:2P (e.g. POC kayu 'tree' > Lukep kai, but *kami D:1EP > am). The Ngero languages other than Bariai also lose *k-, but this is not significant, as lenition may occur there anyway. The one Bel language which never reflects lenition, Mindiri, retains *k- (e.g. kaŋ D:1EP), as do Sio and Tami.

B. The Ngero languages, Roinji and Biliau have reflexes of the postposition *iai locative; other languages of the Ngero/Vitiaz family do not.

C. The Ngero languages, Kilenge, Mangap, Amara and the Eastern Arawe chain reflect a form *paŋe 'four' (e.g. Kove paŋe, Mangap paŋ, Arove peŋ), and the Lamogai communalects, the Pasismanua and Western Arawe chains, Mangseng and Uvol a form *panal (e.g. Aria apanal, Avau penel, Kaulong mnal, Mangseng pinel), which have replaced the usual POC *pat[i], reflected in Tami pat and the Bel languages (e.g. Biliau wal(bad), Bilbil pali).

D. Across the boundary of the Ngero family, geographically close Kove and Kilenge share fricativisation of voiced stops: POC *b > Kove, Kilenge-Maleu v, POC *g > γ. This change does not occur in other Ngero languages or any of Kilenge-Maleu's neighbours.

E. In Kilenge, Maleu, Sio, Tami and the Mengen family POC *r, *ʀ, and *l have merged as l.

F. Kilenge, the Korap network, Mangap, and Amara express alienable possession with a reflex of the preposition *ka- + object enclitic/noun (e.g. Lukep rume ke-au 'house' PREP-O:1S 'my house'). This is used alongside or instead of the inherited Oceanic construction with a possessive classifier (e.g. Tami yau ne-ŋ panu D:1S PCL-S:1S 'house') which i s retained by other languages.

The features above – and many more could be added to them – are listed to give an impression of the intersecting isoglosses which characterise the Ngero/Vitiaz family. Whilst similar situations exist on a smaller scale in other parts of WM *within* definable subgroups, this is the only area where such a situation of apparently almost POC antiquity is found.

Even against this background, however, it is possible to perceive some events in linguistic prehistory which have left their mark in small bundles of shared innovations.

## 5.4.2 THE NGERO FAMILY

Despite their geographical dispersion, the members of the Ngero family share several innovations not found in languages of the Vitiaz linkage. For this reason, it seems that Proto Ngero went through a period of development separated from other Vitiaz languages before dispersion occurred. An interesting point about the dispersion is that on the linguistic evidence Malalamai, on the mainland ninety kilometres west of its geographically nearest Ngero relative, Gitua, is in fact more closely related to Bariai, Lusi and Kove on New Britain. The straight-line distance from Malalamai to Bariai is about two hundred kilometres.

Innovations shared in common by the members of the Ngero family are:

A. POC *j merged with the lenis-grade reflex of POC *s as Proto Ngero *z. Elsewhere in the Ngero/Vitiaz family, such a merger occurred only in Tami and Mangap, which do not share in the other Ngero innovations (see Tables 26 and 27). This merger is illustrated by the examples in sections 3.6.1 and 3.6.2.1.

B. POC initial *k- underwent lenition resulting in loss. Originally this resulted in a split into fortis PNg *k- and lenis zero, preserved in the languages of the Bariai chain of the family (the Tuam network has also lost fortis *k-). Lenition of POC initial *k- has occurred nowhere else in the Ngero/Vitiaz family. This innovation is illustrated by the examples in section 3.5.2.

C. There is a fossilised morphophonemic alternation between fortis- and lenis- grade reflexes of POC initial *p- (section 3.5.1.1, from example 3.38) and POC initial *s- (section 3.6.2.1, from example 3.109), whereby the noun has a fortis-grade initial consonant, whilst the corresponding verb has the lenis-grade initial consonant. No case with POC *k- has been found, but the contrast between Gitua umwa 'garden' (< POC *quma) and -gumwa 'work (in garden)' is part of the same system.

D. The object pronominal enclitics for the first and second persons (which are derived from the corresponding disjunctive forms) acquired PNg initial *g- (see discussion below). The only similar forms elsewhere in the Ngero/Vitiaz family are the Tami plural object enclitics.

E. Kove (Chowning 1986), Bariai, Gitua and Malalamai reflect the possessive preposition PNg *to- (information for the other languages is not available). Its exact usage varies from language to language, but its syntax is similar to that of Vitiaz *ka- discussed above. For example, Kove *waya to-ri tamone* (canoe PREP-O:3P man) 'the men's canoe'. Cognate forms are not found elsewhere in the Ngero/Vitiaz family.

F. The declarative negative is formed with a clause-final reflex of PNg *mayo (Kove *mao*, Bariai, Malalamai *mau*, Malai *mako*, Gitua *mayo*) . For example:

(5.120) Gitua

> yau    ŋa-la    mayo
> D:1S   S:1S-go  NEG
> 'I didn't go.'

Bariai

> siko   i-dai       e-le        waga-iai     made       mau
> Siko   S:3S-go.up  D:3S-PCL    canoe-POSTP  yesterday  NEG
> 'Siko didn't board his canoe yesterday.'

Of the six innovations above, only D requires further explanation. The forms concerned are the Ngero object enclitics, the disjunctives from which they are apparently derived, and cognate forms in other Ngero/Vitiaz languages (represented below by Kilenge, Tami, Malasanga and Mindiri; S.W. New Britain and Mengen languages have no object enclitic forms). Reconstructible forms are as follows (POC object enclitics are not reconstructible):

(5.121)

|     | POC disjunctive | PNg disjunctive | PNg object |
|-----|-----------------|-----------------|------------|
| 1S  | *[i]au          | *yau            | *-gau      |
| 2S  | (*[i]ko[e])     | *y-om           | *-gom      |
| 1EP | *ka[m]i         | *y-ai           | *-gai      |
| 1IP | *kita           | *ita            | *-gita     |
| 2P  | *kam[i]u        | *y-amiu         | *-gamiu    |

The replacement of POC *[i]ko[e] D:2S by Proto Ngero/Vitiaz *kom(u) D:2S was discussed above (see example 5.117). The loss of initial *k- from PNg disjunctive forms is either the result of lenition or of the common Ngero/Vitiaz innovation described earlier, and their prefixed PNg *y- probably reflects the earlier personal article *e. Supporting data for the above forms and for Kilenge, Tami, Malasanga and Mindiri is as follows:

(5.122) Disjunctives:

|           | 1S   | 2S   | 1EP  | 1IP    | 2P   |
|-----------|------|------|------|--------|------|
| Kove      | iau  | veau | yai  | ta-ita | amiu |
| Lusi      | viao | veao | v-iai| te-ita | amiu |
| Bariai    | yau  | eau  | gai  | gita   | gimi |
| Malai     | you  | yom  | yei  | yit    | yam  |
| Gitua     | yau  | yum  | yei  | ita    | yam  |
| Malalamai | you  | yu   | yei  | ita    | yam  |

| Kilenge | iau | iom | iem | ita | iami |
|---|---|---|---|---|---|
| Tami | yau | kom | gai | git | gam |
| Malasanga | au | oŋ | am | ita | aŋ |
| Mindiri | ŋa | kuo | kaŋ | n-ida | kami |
| Object enclitics: | 1S | 2S | 1EP | 1IP | 2P |
| Kove | -ɣau | -ɣo | -ɣai | -ɣita | -ɣimi |
| Lusi | -ɣao | -ɣo | -ɣai | -ɣita | -ɣimi |
| Bariai | -ɣau | -go | -gai | -gita | -gimi |
| Malai | -go | -gom | -gei | -git | -gam |
| Gitua | -gau | -gom | -gai | -gita | -gamim |
| Malalamai | -go | -gom | -gei | -git | -gimo |
| Kilenge | -au | -m | -em | -ra | -ami |
| Tami | -yau | -kom | -gai | -git | -gam |
| Malasanga | -au | -uŋ | -am | -ita | -aŋ |
| Mindiri | -onŋa | -o | -ma | ... | -aŋa |

It can be seen from these data that Ngero object enclitics all entail the addition of *g- to the disjunctive forms (except in Bariai, where analogy has led to the use of the object forms as disjunctives), whereas in other Ngero/Vitiaz languages, the object enclitic is usually identical to (or a slightly reduced form of) the disjunctive, or occasionally a possessive pronominal suffix (e.g. Mindiri -ma above).

In addition to the six innovations above, evidence for the separation of Proto Ngero from the rest of the Ngero/Vitiaz family lies in the innovations which almost all other languages of the family underwent, but which did not occur in Proto Ngero. These innovations are:

a) lenis reflexes (which are always medial in languages other than the Ngero family) of POC *-p- and *-k- are lost throughout the rest of the Ngero/Vitiaz family, but were retained as PNg *-v- and *-ɣ- (cf. Table 26), and POC *-s-, which became -y- or was lost throughout the rest of the Ngero/Vitiaz family, was retained as PNg *-z- (Tables 27 and 26);

b) POC *r and *R merged throughout the other languages of the Ngero/Vitiaz family; there is some evidence that this merger was incomplete in Proto Ngero, and this is discussed briefly below.

As Figure 3 shows, the Ngero family split into two sections, the Tuam network and the Bariai chain. The former is characterised by the merger of POC *r and *R and the loss of the fortis reflex of POC initial *k-, the latter by the fact that POC *r sometimes merged with POC *l but apparently not with POC *R. The sound correspondences relevant to the latter point are:

| (5.123) POC | *r | *R | *l |
|---|---|---|---|
| PNg | *r | *R | *l |
| Kove | l | h | l |
| Lusi | l | r̃ | l |
| Bariai | l,r | l,r; d-/i_ *-i | l |
| Malalamai | l | l̥-,l-; -r-,-l-;-l̥,-l | l |

Bariai chain reflexes of POC *r are exemplified in:

(5.124)  POC *raun 'leaf' > PNg *rau > Proto Bariai *lau > Kove, Lusi lau(ni), Bariai lau-, Malalamai lou-lou

POC *ruyuŋ 'dugong' > PNg *rui > Proto Bariai *(r,l)ui > Kove, Lusi lui, Bariai rui

POC *kuron 'clay pot' > PNg *uro > Proto Bariai *ulo > Kove, Lusi, Bariai ulo

Proto Ngero/Vitiaz *riu 'bathe', 'swim' > PNg *-riu > Proto Bariai *-liu > Kove (-pali)liu 'wash (s.o.)', Bariai -li-liu, Malalamai -li-lieu (cf. Kilenge (-wa)liu 'wash (s.o.)', Malai, Gitua -ri-riu, Mukep, Malasanga -riu, Sio -li-li(ŋ))

Examples of Bariai chain reflexes of POC *ʀ are:

(5.125)  POC *ʀapu 'hit' > PNg/Proto Bariai *-ʀavu > Kove -hau, Lusi r̃ao, Bariai -rau, Malalamai -ɟop

POC *ʀaqi 'south-east monsoon' > PNg/Proto Bariai *ʀayi > Kove hai, Lusi r̃ai, Bariai rai, Malalamai ,e

POC *ʀopok 'fly' > PNg/Proto Bariai *-ʀovo > Kove -ho-ho, Lusi r̃o-r̃o, Bariai -ro-ro, Malalamai -ɟowo

POC *suʀuq 'liquid' > PNg/Proto Bariai *suʀu > Kove suhu, Lusi sur̃u, Bariai sul

POC *waʀoc 'vine, string' > PNg/Proto Bariai *waʀo > Kove waho, Lusi oar̃o, Bariai oaro, Malalamai waro

There is, however, an objection to the claim that POC *r and *ʀ did not merge in the languages of the Bariai chain. This is that, whilst a computer search of the data supports the sound correspondences above in the large majority of cases, it also turns up a few cases where the correspondence sets have 'changed places'. Thus the following Proto Bariai etyma reflect POC *ʀ as if it were POC *r or *l:

(5.126)  POC *ʀumaq 'house' > PNg *ʀum(w)a > Proto Bariai *luma > Kove, Lusi, Bariai, Malalamai luma (cf. Proto Tuam *rum(w)a > Tuam, Mutu, Malai rum, Gitua rumwa)

POC *ʀapi 'evening' > PNg *ʀavi-ʀavi > Proto Bariai *lavi-lavi > Kove, Lusi, Bariai lai-lai, Malalamai lap-lap (cf. Proto Tuam *ravi-ravi > Tuam rav-rav, Gitua ra-ravi(a))

Two cases reflect POC *r as if it were POC *ʀ:

(5.127)  POC *rua 'two' > Proto Bariai *ʀua > Kove hua, Lusi r̃ua, Bariai rua

POC *muri 'back' > Proto Bariai *muʀi- > Kove muhi-, Lusi mur̃i, Bariai muri-

One case reflects POC *l as if it were POC *ʀ:

(5.128)  POC/PNg *pitolo 'hungry' > Proto Bariai *pitoʀo > Kove pitoho, Bariai pitor (cf. Proto Tuam *pitolo > Tuam, Malai pitola)

The cases where reflexes have changed places may be attributed either to the influence of a neighbouring communalect which had undergone different sound changes or (accepting that sound change may be lexically gradual) to the beginnings of a merger of the reflexes of POC *r and *ʀ (at a time when a merger of the reflexes of *r and *l was nearing completion). Either way, the fact is that POC *r and *ʀ had not merged completely in Proto Bariai, adding to the cases already observed (in the Schouten and Buang chains) where the merger claimed by Milke (1958) for 'New Guinea Oceanic' had not occurred.[64]

### 5.4.3 THE VITIAZ LINKAGE

### 5.4.3.1 SHARED INNOVATIONS

As noted above, the Vitiaz linkage underwent certain changes after Proto Ngero had separated from it. These were:

A. Loss of POC medial *-p- (except before -o- in the Bel languages).

B. Loss of POC medial *-k-.

C. POC medial *-s-, *-c- became -y- or zero except in Tami (> -j-) and Mangap (> -z-).

D. POC *r and *ʀ merged as *r.

Examples of innovation A are:

(5.129)  POC *ʀapi 'evening' > Proto Vitiaz *rai >

Residual Vitiaz: Malasanga ra-rai, Lukep nai- nai, Tami, Sio la-la

PBEL *rai > Takia (gi)rai(an)

PMGN *lai > Uvol (u)lei, Mamusi (Kakuna) loi(o), Poeng lai(go-punna), Maeng lo-lei(k)

(5.130)  POC *papine 'woman' > Proto Vitiaz *paine >

Residual Vitiaz: Mangap waine, Roinji pain, Nenaya hain

PBEL *pain > Wab, Bilbil, Gedaged, Matukar pain, Biliau paen, Mindiri pen, Takia pein

(5.131)  POC *mwapo[65] 'taro' > Proto Vitiaz *mwao >

PBEL *mau > Biliau, Mindiri, Ham, Gedaged, Matukar, mau, Bilbil ma, Takia mou

PMGN *mao > Mamusi (Kakuna) mao, Mamusi, Poeng mo, Maeng ma

PSB *e-mwa > Amara ama, Arove me, Apalik eme, Akolet, Avau ema, Atui ma, Mangseng mwa, Bebeli ma

(5.132)  POC *nopu 'stonefish' > Proto Vitiaz *nou >

Residual Vitiaz: Lukep nau

PBEL *nou > Minidiri nuo, Bilbil, Gedaged no, Takia nou

PMGN *nou > Uvol nou

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PSB *e-nou > Aria *nou*, Lamogai (Rauto) *(o)nou*, Psohoh *nu-nu*, Arove *nou*, Apalik *unu*, Akolet, Avau *enu*, Atui *nu*

Examples of innovation B are:

(5.133) POC *matakut* 'fear' > Proto Vitiaz *matau* >

Residual Vitiaz: Kilenge, Maleu *motau*, Mangap *moto*

PMGN *matau* > Uvol *matau(a)*, Poeng *matau*

PSB *matau* > Amara *motou*, Avau *mto*

(5.134) POC *takuʀ* 'back' > Proto Vitiaz *tau* >

PMGN *tau-* > Mamusi *to-*

PSB *tou-* > Lamogai *tou-*, Lamogai (Rauto) *to-*

(5.135) POC *ikan* 'fish' > Proto Vitiaz *ia* >

Residual Vitiaz: Malasanga *ia*, Mangap *ie*, Sio *i(ŋa)*, Tami, Lukep *i*

PBEL *ia* > Biliau, Mindiri, Gedaged, Takia *i*, Bilbil *ia*

Examples of innovation C are:

(5.136) POC *pose* 'paddle' > Proto Vitiaz *poe* >

Residual Vitiaz: Malasanga *poi*, Sio *poe*, Lukep *pe*, Nenaya *oi*, Roinji *ui*

PBEL *foe* > Wab *fuoe*, Biliau *foi*, Mindiri *fiei*, Bilbil *heo*, Gedaged, Takia *fei*, Matukar *fe*

PSB *e-poye/*ne-poye* > Amara *opoi*, Lamogai (Rauto) *pue*, Sengseng, Psohoh *nepui*, Arove *epoi*, Apalik *upui*, Avau, Akolet *epui*

(5.137) POC *kusupeq* 'rat' > Proto Vitiaz *kuyue* >

Residual Vitiaz: Kilenge, Maleu *(na)kiue*, Barim, Malasanga *kui*, Lukep *kuyu*, Roinji *kuyu-yu* (but Mangap *kuzi*, as expected)

PBEL *kuyu* > Wab *kuyo*, Biliau *uyu*, Bilbil *kiu* (but: Mindiri *kusue* = borrowing ?)

PSB *e-kuyue* > Amara *ekiue*, Aria *kiwe*

(5.138) POC *kasuari* 'cassowary' > Proto Vitiaz *kayuari* >

Residual Vitiaz: Malasanga *kaior*

PBEL *kiwar* > Mindiri *kiwor*, Ham *yol*, Bilbil *iwir*, Gedaged *kiwaḻ*, Matukar *iwar*

PSB *e-kayuar* > Amara *akaiuor*

(5.139) POC *qusan* 'rain' > Proto Vitiaz *quya* >

Residual Vitiaz: Barim, Lukep *kui*, Malasanga *kuya*, Nenaya *uya*, Roinji *kuya*

PBEL *(k)uya* > Wab *(a)uyo(ŋ)*, Ham *uye(ŋ)*, Gedaged, Takia *ui*

PMGN *kuye* > Mamusi, Mamusi (Kakuna) *kui*, Poeng, Bush Mengen, Maeng *kue*

(5.140) POC *qase 'chin', 'jaw' > Proto Vitiaz *qaye- >

Residual Vitiaz: Lukep ke-ke- (but: Mangap keze-, as expected)

PBEL *kaye- > Biliau i-aye, Mindiri kaye-, Bilibil, ai-, Gedaged ae-, Matukar ayo-

PSB *kaye- > Lamogai (aguga)kai- 'tooth', Apalik (sepen)ka-kai 'jawbone', Akolet (epya)kai 'jawbone'

(5.141) POC *pican 'how many?' > Proto Vitiaz *piya >

Residual Vitiaz: Kilenge, Malasanga pia, Sio (ŋa)pia, Lukep pi (but: Mangap pizi, as expected)

PBEL *pi > Bilbil pi(ne), Gedaged pi, Takia (sa)pi(tai),

PMGN *piya > Mamusi (Kakuna) pie, Poeng pia, Maeng pei

Examples of innovation D, the merger of POC *r and *ʀ, are (see also examples 5.138 and 5.129):

(5.142) POC *raun 'leaf' > Proto Vitiaz *rau >

Residual Vitiaz: Tami lau, Sio lao, Mangap ru-, Barim, Lukep rau-, Malasanga rau, Nenaya, Roinji lo-

PBEL *rau- > Mindiri ro-, Ham, Bilbil, Matukar rau-, Gedaged,au-, Takia (i)rou-

PMGN *lau- > Mamusi (Kakuna) lo-lo-, Poeng, Bush Mengen lau-, Maeng lou-

(5.143) POC *rua 'two' > Proto Vitiaz *rua >

Residual Vitiaz: Sio, Malasanga rua, Mangap, Barim, Lukep ru, Nenaya, Roinji lua

PBEL *ru > Biliau ru, Mindiri ru(be), Ham (u)ru, Bilbil (o)ru, Gedaged (a)ļu(gen), Matukar (a)ru, Takia (u)ra-ru

PMGN *lua > Mamusi, Mamusi (Kakuna), Poeng, Bush Mengen lua, Maeng (ta)luo

PSB *rua > Amara ruo, Aria (o)ruo, Mok (o)xuo, Sengseng huo

(5.144) POC *ñoʀap 'yesterday' > Proto Vitiaz *ñorap >

Residual Vitiaz: Sio, Roinji nola, Mangap neri

PBEL *nor > Wab nul(ne), Biliau nur(an), Mindiri nur(nen), Ham, Bilbil, Matukar, Takia nor, Gedaged noļ(nen)

PMGN *ŋala > Mamusi (Kakuna) ŋala(na), Poeng ŋalla, Maeng (iyo)ŋal

PSB *narap > Amara noro, Aria narep, Lamogai (Ivanga) nar(nop)

(5.145) POC *kiʀam 'axe' > Proto Vitiaz *kira

Residual Vitiaz: Tami kil, Roinji kila

PBEL *kir > Wab el, Mindiri kir, Bilbil kir, Gedaged iļ

PMGN *kila > Mamusi kila, Poeng kil

PSB *e-kira > Lamogai, Lamogai (Ivanga, Rauto) akra

(5.146) POC *waʀoc 'vine', 'string' > Proto Vitiaz *waro >

Residual Vitiaz: Tami wal, Sio wɔlo, Mangap woro, Lukep, Malasanga oro

PBEL *war > Wab wol, Mindiri, Biliau war, Gedaged waḻ

PMGN *walo > Peng walo

PSB *e-waro > Amara ouro


### 5.4.3.2 INTERNAL RELATIONSHIPS

Space precludes discussion of the internal relationships of languages in the Vitiaz linkage beyond certain points which emphasise some of the connections which assure us that the Vitiaz linkage indeed is a linkage.

The Bel languages are all characterised by the fact that they have strict SOV clause order, use postpositions, and have sentence-medial verb forms which are syntactically similar to those of their non-AN neighbours. Their membership of the Vitiaz network is confirmed, however, not only by their participation in the innovations listed in the previous section, but by the fact that even their sentence-medial verb forms are recognisable as erstwhile co-ordinating conjunctions with cognates in neighbouring languages of the linkage. Takia is typical: a sentence-final verb has a tense/aspect enclitic, but a sentence-medial verb replaces it with enclitics marking its relationship to the verb of the following clause. The last enclitic of a sentence-medial verb phrase is -g non-future or -p future. For example:

(5.147) iŋ     fud     ta     i-ani-gu-g          you     i-luk-a
        D:3S   banana  ART    S:3S-eat-SEQ-SM     water   S:3S-drink-PF
        'He ate a banana and then he drank some water.'

        ŋai     ŋ-ani-gu-p          panu    na      ŋ-au-wa
        D:1S    S:1S-eat-SEQ-SM     village POSTP   S:1S-go-FUT
        'I shall eat and then go to the village.'

However, although the syntax is non-AN, the morphemes are a reinterpretation of Oceanic co-ordinating conjunctions: -g is a reflex of Proto North New Guinea *ga 'and' (Kove ya, Bariai, Sio ga, Sissano ka, Mapos Buang g), whilst -p reflects Proto North New Guinea *be 'and, but' (Gitua ve, Malalamai be, Lukep in-be, Manam, Wogeo, Kaiwa, Mangga Buang be, Uvol pe, Mamusi (Kakuna) ve). These developments are described in greater detail in Ross (1987).

In Chapter 2 I described the North New Guinea cluster as four spokes of a misshapen wheel. In a sense, Kilenge and Maleu form the axle of that wheel. They have been discussed in the literature and above in relation to the languages of the Vitiaz Strait and the Ngero family, but there are also features which they share with the languages of southern New Britain. An obvious shared innovation is the replacement of the POC reciprocal prefix *paʀi- by the post-verbal morpheme (? Proto Vitiaz) *palu, which does not appear to be cognate with the POC prefix. This innovation is common to Kilenge, Maleu, the Lamogai chain, Amara, the Pasismanua chain, all languages of the Arawe chain except (apparently) Mangseng, and Uvol (but apparently not the other languages of the Mengen family):

(5.148)  Kilenge

> *ti-ulo-pol-re*
> S:3P-help-RCP-O:3P
> 'They helped each other.'

Lamogai (Rauto)

> *uduk   uru    ti-ula      pulu*
> man    DEM    S:3P-help   RCP
> 'Those men helped each other.'

Akolet

> *etu    kiip    pun    pol*
> man    two    hit    RCP
> 'The two men fought each other.'

Psohoh

> *vuoŋ    kot    val*
> two    hit    RCP
> 'The two fought each other.'

Uvol

> *hana    nemur    te-haɬau    hel    ŋa    ume*
> man    DEM      S:3P-help   RCP    PREP   garden
> 'The two men helped each other in the garden.'

The languages of the South-West New Britain network (see Figure 5) share certain features with regard to the noun phrase. POC divided nouns into two categories, common and personal. The latter included personal names, the disjunctive pronouns, and certain human nouns (probably those with reference to a known individual, e.g. '(my) father'). The POC common article was *a/*na (section 4.1), whilst the personal article, at least in the WM Oceanic area, was *e. The features common to the South-West New Britain network are:

A.  The common article is prefixed to the noun and in many languages seems to have become a fossilised part of many nouns, especially monosyllables (Kilenge also prefixes the article, but it remains separable; cf. section 4.1).

B.  The prefixed common article is PSB *e/*ne.

C.  The personal article is PSB *a.

D.  Placenames are treated as personal nouns (this also occurs in the Mengen family).

Innovations B and C imply that the two POC articles have changed places. Whilst I find this doubtful, I have no explanation for what has occurred.

Innovations A and B are illustrated in the examples below. The article *e has been affected by vowel harmony in Amara, the Lamogai communalects, and Apalik:

(5.149)  POC *kutu 'louse' > PSB *e-kutu/*e-ŋutu > Amara *ekid*, Aria *out*, Sengseng *emut*, Kaulong *emut*, Arove, Akolet *ekut*, Apalik *ukud*, Avau, Atui (Lesing) *eŋut*

POC *mwata 'snake' > PSB *e-mwata > Amara omot, Lamogai, Sengseng amat, Arove, Akolet emat, Apalik amak

POC *manuk 'bird' > PSB *e-manuk > Amara, Atui emen, Arove, Akolet, Kaulong emon, Apalik omon (but Lamogai munuk, Aria monuk)

POC *pose 'paddle' > PSB *e-poe/*ne-poe > Amara opoi, Sengseng, Psohoh nepui, Arove epoi, Apalik upui, Avau, Akolet epui

POC *waga 'canoe' > PSB *e-waga/*ne-waga > Kaulong naak, Psohoh noax, Bebeli noho, Apalik nak, Akolet evak

Innovations C, the personal article a, and D, the treatment of placenames as personal nouns, are seen in the following:[66]

(5.150) Arove

a       maikel   vu    kut
ART  Michael  dance  PF
'Michael has already danced.'

a-me        a     kumbon   ke
S:1S-come  ART  Kumbon  POSTP
'I've come from Kumbon village.'

(5.151) Akolet

som    a     gaume
D:3SM  ART  Gaume
'He is Gaume '
(note: 3SM = third singular masculine)

a-le      a    nato
S:1S-go  ART  Nato
'I'm going to Nato village.'

(5.152) Bebeli

ene   p-a          soluma
DEM  D:3SM-ART  Soluma
'This (man) is Soluma.'

ka    rehenen  anaha  a     waisisi
S:1S  live       up       ART  Waisisi
'I live up at Waisisi village '

Pasismanua languages make a gender distinction between masculine and feminine nouns, Kaulong and Sengseng marking masculine with a, feminine with e:

(5.153) Kaulong

a     susupa   wa    kama  se    ta      e     kristin
ART  Susupa   carry  areca  go   PREP  ART  Christine
'Susupa took areca nut to Christine.'

Placenames in Kaulong are treated as feminine personal nouns:

> (5.154) ŋa     me      e      papsa
>         D:1S    come    ART    Papsa
>         'I have come from Papsa village.'

Within the Pasismanua/Arawe linkage, Figure 5 separates Bebeli and Mangseng from the Pasismanua chain, whereas Chowning (1976) groups them all together in her Whiteman family. In the case of Mangseng, the reason for this separation is that the Pasismanua communalects have undergone changes which have increased their level of morphological complexity. Two changes which stand out are the creation of dual and trial pronoun forms which have no obvious Oceanic forebears, and the innovation of a masculine/feminine/neuter gender distinction which affects both third person singular pronouns and the articles which occur before human nouns. Mangseng shows no sign of such changes, and resembles the languages of the Western Arawe chain.

In the case of Bebeli, the situation is less clear, as it also reflects the gender distinction. So, however, do the Eastern Arawe languages Akolet, Avau and Atui, and Bebeli appears morphologically more similar to them than to its nearest neighbour, the Pasismanua language Psohoh. Bebeli and Avau both have three third person singular pronouns: *pu* 'masculine', *ti* 'feminine', and Beleli *i* / Avau *e* 'neuter' (the neuter pronoun apparently used only as object, not as subject).

## 5.5 SHARED FEATURES OF THE NORTH NEW GUINEA CLUSTER

At the beginning of this chapter I described Proto North New Guinea as a linkage of communalects which had broken off from a larger Oceanic network, with no innovations shared by all its members, but nonetheless identifiable as an ancestral linkage by the fact that certain isoglosses include some languages belonging to two or to all three of its member groups, the Schouten chain, the Huon Gulf family, and the Ngero/Vitiaz family.

Two features which were evidently present in POC are missing, or almost missing, from the North New Guinea cluster. The first of these is the fact that POC distinguished between a true object noun phrase and an 'incorporated object', the latter being a noun with a generic or non-specific referent which was treated as part of the verb phrase (analogously to 'road' in 'he's road-building') rather than as its object. This distinction is reported for Fijian by Clark (1973), for South-East Solomonic languages by Simons (1980), for the languages of Buka Island by Ross (1982b), for Tolai by Mosel (1984), and so it is presumably of POC antiquity. However, this distinction is not recorded in descriptions of member-languages of the North New Guinea cluster, and systematic attempts to elicit it have failed. It appears that the linkage which made up Proto North New Guinea lost it, and also lost the POC transitive marker *-i* as a productive morpheme.

The second missing feature was dealt with at length in section 4.5.4 and the preceding sections. POC distinguished between three categories of preposition-like morpheme. Proto North New Guinea had apparently lost the preposition *i* entirely, and fused the noun-like and verb-like prepositional categories into a single category of preposition.

A missing feature of a different kind concerns the fact that POC clearly had a decimal number system, which numerals from one to ten. The ancestral North New Guinea network, however, apparently lost the numerals from six to nine, and the majority express them additively as five *and* one, etc. ('the majority', because the languages of the Markham family and Sissano and Sera of the Schouten chain have replaced this system by binary counting).

There are four morphological features and three lexical innovations which indicate that the Schouten, Huon Gulf and Ngero/Vitiaz groups once formed a common linkage.

### 5.5.1 MORPHOLOGICAL FEATURES

#### 5.5.1.1 THE ATTRIBUTIVE USE OF STATIVE VERBS

There is a considerable body of evidence for inferring that POC had two classes of adjectives: a small class of 'true' adjectives and an open class of stative verbs which could be used adjectivally. One of the devices employed to use a stative verb attributively was to nominalise the verb and make the nominalisation the head of a noun phrase in which the noun being described becomes the possessor (cf. sections 5.3.3 and 8.5.2.4). One means of nominalising the verb was to add the POC nominalising suffix *-(a)ŋa, and this became a regular means of forming attributive adjectives in at least parts of the ancestral North New Guinea network. Although reflexes of the suffix are common enough outside the cluster, the use to which it is put in the examples below occurs only within it. The clearest reflex of this structure is found in Mangap:

> (5.155) *ruumu      popo-ŋa-na*
> house      new-NOM-P:3S
> 'the new house'
>
> *ruumu      popo-ŋa-n*
> house      new-NOM-P:3P
> 'the new houses'
> (More literally: 'the newness of the house(s)')

The structural transparency of these examples lies in the fact that Mangap uses the possessive pronominal suffixes on the nominalised form (note that *-n* P:3S reflects POC *-dri* ), although the structure now includes 'true' adjectives as well, as in this example, and *-ŋa* appears to have been reinterpreted as an integral part of the adjective. In Uvol and Mamusi of the Mengen family, reinterpretation has proceeded a step further and the singular possessive suffix has also become part of the adjectival form (despite the diachronically biassed gloss below):

> (5.156) Uvol
>
> *pele      heuheu-ŋa-na*
> house   new-NOM-P:3S
> 'the new house(s)'

In other languages which reflect the same ancestral syntagm, the possessive suffixes are lost. However, in Adzera (of the Markham chain), the distinction between 'true' adjectives and stative verbs is retained, and stative verbs used attributively are suffixed with *-an*, the Adzera reflex of *-(a)ŋa* (Holzknecht 1986a):

> (5.157) *nam   sasus-an*
> food    hot-NOM
> 'hot food'

Other languages reflecting *-(a)ŋa* on attributive adjectives are Amara, Avau, Atui, and Mangseng (all four are members of the South-West New Britain network) and Yabem of the Huon Gulf family.

Note, however, that the PNHG morpheme *ŋa described in section 5.3.3 is not a suffix and is not a reflex of *-(a)ŋa.

### 5.5.1.2 PRONOMINAL POSSESSIVE SUFFIXES

Two innovatory forms among the pronominal possessive suffix set are found in languages of the North New Guinea cluster.

In section 5.4.1 evidence was presented that in all those languages of the Ngero/Vitiaz family which reflect a distinction between POC *dr and *j, the third person plural possessive form reflected *-ji rather than *-dri. Only two languages of the Huon Gulf family satisfy the two criteria of preserving the third person plural possessive suffix and making the appropriate phonological distinction. Kaiwa -s, Mapos Buang -j both reflect *-ji P:3P rather than *-dri. It is obvious that a palatalisation of this kind could have occurred independently in the Ngero/Vitiaz and Huon Gulf families, and there are no means of checking this. The languages of the Schouten chain reflect the phonemic distinction, and it is clear that all Schouten reflexes are derived from *-dri, not -ji.

The second innovatory possessive form is *-mim P:2P, a reflex of which has in a number of languages replaced POC *-miu. The reflexes are:

(5.158)   <u>Schouten chain:</u> Manam -miŋ, Bam, Wogeo -mim

       <u>Huon Gulf family:</u> Mapos Buang -min

       <u>Ngero/Vitiaz family:</u> Gitua, Tami, Biliau, Matukar, Akolet -mim

Note that *-mim did not replace POC *-miu in the North New Guinea cluster. It appears to have existed alongside it in the ancestral linkage and as a result to occur scattered through the cluster. To my knowledge it is not found outside it.

### 5.5.1.3 POSSESSIVE CLASSIFIERS

Pawley (1973) reconstructed for POC a noun phrase structure in which an alienably possessed noun is preceded by a sequence of possessive classifier plus possessive pronominal suffix, as in the Gitua phrases:

(5.159)   *ne-na*     *rumwa*
         PCL-P:3S  house
         'his house'

         *a-gu*     *dogi*
         PCL-P:1S  betelpepper
         'my betelpepper'

More recently, Lichtenberk (1986) has suggested that POC had three possessive classifiers, *na- general, *ka- 'food'/subordinate, and *ma- 'drink' (my glosses do not do justice to Lichtenberk's definitions). However, it seems probable that POC in fact had a somewhat larger collection of such classifiers, and that it is the most frequently used which have survived. In the whole WM region, for example, *ma- 'drink' survives only in Tabar, Lihir and Duke of York (all in the Meso-Melanesian cluster), and yet I agree that the data requires its reconstruction in POC. Similarly, scattered reflexes of a possessive classifier *sa- are found in Takia (Bel family, North New Guinea cluster), Torau and

Mono-Alu (North-West Solomonic linkage), and Atchin and Port Sandwich (Malekula, Vanuatu). Hence in proposing below that two classifiers are characteristic of the North New Guinea cluster, I do so in the knowledge that the innovation, if any, was probably to retain these classifiers and broaden their usage (to the detriment of other classifiers), rather than to generate something new.

The first of these classifiers is *ne-, which appears to have had considerable currency in the ancestral North New Guinea network. reflexes are seen in (5.159) and in the following phrases:

(5.160)  Medebur (Schouten chain)

> ŋa    ne-g      rum
> D:1S   PCL-P:1S   house
> 'my house'

Sio (residual Vitiaz)

> kida   ne-da      luma
> D:1IP  PCL-P:1IP  house
> 'our house'

Bukawa (North Huon Gulf chain)

> am    ne-m      andù
> D:2S   PCL-P:2S   house
> 'your house'

reflexes of *ne- are found in the following languages:

a)   Schouten chain: Medebur, Manam, Wogeo

b)   Ngero/Vitiaz family: Gitua, Sio, Tami, Biliau, Ham

c)   Huon Gulf family: Bukawa, Yabem, Wampar[67]

Pawley (1973) and Lichtenberk (1985) both suggest that possessive classifiers of the form nV- should be collectively attributed to one POC classifier *na-, which has undergone assimilation of its vowel. This explanation is less than wholly satisfactory for two reasons: (i) there is little evidence, at least in WM, that the classifier *ka- undergoes parallel assimiliations; and (ii) whilst there are clearly languages where the vowel of the classifier is assimilated to the vowel of the following suffix, this does not explain why, for example, we find reflexes of *ne- spread across the North New Guinea cluster, but nowhere else in WM Oceanic. It therefore seems legitimate to me to suggest that *ne-, apparently used as a general classifier, had displaced other general classifiers within the North New Guinea network.

The second classifier which apparently has widespread use in the ancestral network was *le-. In most languages which reflect it today, it is the general classifier, having displaced both *ne- and *na-, but in two languages of the cluster it contrasts with the general possessive classifier, and appears to be associated in both Mangap (Bugenhagen 1985) and Medebur with inchoative possession:

(5.161) Mangap (residual Vitiaz)

> le-ŋ       ke
> PCL-P:1S   wood
> 'a stick for me'

Medebur (Schouten chain)

ŋa     lo-g      rua
D:1S   PCL-P:1S  work
'work for me'

Its use as a general possessive classifier in present-day languages is seen in:

(5.162)  Bariai (Ngero family)

γau    le-k      luma
D:1S   PCL-P:1S  house
'my house'

Uvol (Mengen family)

le-k      pele
PCL-P:1S  house
'my house'

Languages which reflect *le- are:

a)  Schouten chain: Medebur

b)  Ngero/Vitiaz family: Kove, Bariai, Kilenge, Mangap, Amara, the Lamogai chain, the Arawe chain (inc. Mangseng), Uvol

Again, it is emphasised that the claim being made here is not of an innovation in form but of a generalisation in function.  In all probability *le- was present with a very limited function in POC (perhaps marking inchoative possession as illustrated in 5.119): possible reflexes also occur in the Sudest le- (Papuan Tip cluster) and in Wayan Fijian (Pawley 1973:159).

### 5.5.1.4  PROTO NORTH NEW GUINEA *komu 'D:2S'

In section 5.4.1 it was shown that the Proto Ngero/Vitiaz form of the second person singular disjunctive pronoun was *kom(u).  There are indications, however, that the same form was present in the part of the ancestral North New Guinea network from which Proto Huon Gulf broke away, as it is apparently reflected in the following forms:

(5.163)  Yabem (a)um, Bukawa (a)m, Mapos Buang, Mangga Buang hoŋ

The Yabem and both Buang forms are the expected reflexes of PHG *γom(u), which is the form predicted from Proto North New Guinea *kom(u), since all *k-initial disjunctives undergo lenition of that *k- in Proto Huon Gulf.

### 5.5.2  LEXICAL INNOVATIONS

The three lexical innovations which are characteristic of the North New Guinea cluster but have not been found outside it are *lipu- 'cross-sibling' (for POC *lopu), noted by Milke (1965); *paqu 'new' (for POC *paqoʀu); and *loŋon-i 'hear' (for POC *loŋoʀ-i).

The evidence for these reconstructions is:

(5.164)  Proto North New Guinea (?) *lipu- 'cross-sibling' >

Schouten chain: Wogeo *liwu-*, Kairiru *luwi-* (metathesis?)

Ngero/Vitiaz family: Tami *liwu-*, Kove, Bariai, Bilbil, Gedaged *liu-*, Kilenge *lua-lia*, Maleu *liwa*, Tuam, Malai, Gitua, Malalamai *livu-*, Amara *lio-*, Uvol, Mamusi (Kakuna) *lio-* (but Lamogai *lou-*)

Huon Gulf family: Hote *livu-* (but Kaiwa *luvu-*)

(5.165)  Proto North New Guinea (?) *\*paqu* 'new' >

Schouten chain: Medebur *wau(n)*, Manam *wau- wau*, Bam *(a)wau*, Kis *(i)uau(ni)*, Kairiru *(yivi)au*, Tumleo *wo-wiu*, Sissano *awu-au*, Sera *wau*[68]

Ngero/Vitiaz family: Kove, Bariai *pau*, Kilenge, Maleu *pau(a)*, Tuam, Malai, Gitua *pagu*, Malalamai *pou*, Tami *o-po*, Mangap *po-po(ŋa-na)*, Barim *pau(n)*, Lukep *pau(nu)*, Malasanga, Roinji *pau(na)*, Wab, Biliau *fau*, Mindiri *fo(na)*, Gedaged, Takia *fou(na)*, Matukar *hau(na)*, Amara *uak(ŋe)*, Aria *oku*, Atui *poŋ(ŋa)*, Mamusi Kakuna) *po-po(ŋa-na)*, Poeng *pau*, Maeng *pou*

Huon Gulf family: Yabem, Bukawa *waku(ʔ)*, Kela *wau(n)*, Kaiwa *pako*, Mumeng (Patep) *paha*, Piu *pah*, Kapin *vako*, Numbami *wou*

(5.166)  Proto North New Guinea (?) *\*loŋon-i* 'hear' >

Schouten chain: Manam *-loŋori*, Kis *-laŋaŋ*

Ngero/Vitiaz family: Kove *-loŋoni*, Gitua, Malalamai *loŋon*, Tami *-liŋon*, Lamogai (Rauto) *loŋone*, Aria *(t)liŋen*

Huon Gulf family: Yalu *-riŋin*, Wampar *ruŋum*, Numbami *-loŋoni*

## 5.6 NORTH NEW GUINEA CLUSTER: CONCLUSIONS

The argument of this chapter has been that the languages of the North New Guinea cluster are descended from a piece of an early Oceanic communalect linkage which became 'Proto North New Guinea'. Two pieces of this separated off as Proto Schouten and Proto Huon Gulf.

The separation of Proto Schouten seems to have been the earlier event. The Schouten chain preserves at least one reflex (Manam *-aʔi*) of the POC remote transitive suffix, which is lost throughout the Ngero/Vitiaz and Huon Gulf groups. It preserves the more ancient form of the first person singular subject proclitic, *\*u-*, rather than the more recent *\*[y]a-* (discussed in section 10.3.1.3). It does not reflect either *\*-ji* P:3P or *\*kom(u)* D:2S, nor *\*-ŋa* as an adjective-marker.

It might be thought that to speak of the 'separation' of Proto Huon Gulf is foolhardy, given the closeness of the Gulf to the Vitiaz Strait. However, it is noteworthy that the most conservative language of the Gulf is also the language which is furthest south, namely Numbami, and that Numbami forms a primary subgroup of the Huon Gulf family. This suggests the possibility that Oceanic speakers (at any rate, those speaking Proto Huon Gulf) settled first to the south of the Gulf, and only later did speakers of the communalect ancestral to the South Huon Gulf, Markham Valley, and North Huon Gulf groups move northwards. The location of the South Huon Gulf chain shows that its ancestors moved inland, rather than northwards along the coast. The linguistic history of the other two groups is unclear, but this scenario allows for a period of separate development for Proto Huon Gulf.

By showing that the coastal languages of the Huon Gulf subgroup with their inland neighbours and by positing a cluster of languages which takes in an area considerably larger than Hooley's 'Siasi family', I have proposed an alternative hypothesis which does not allow for such a family. It is interesting to consider, however, what it was that Hooley (1971) actually found. Grace (1985) applies to historical linguistics the biological concept of the *paraphyletic group*, 'a category which includes some but not all of the descendants of a particular ancestor'. A paraphyletic group of languages is one from which some descendants of the relevant proto language are omitted because they have undergone further innovations which mask or obliterate the shared innovations on the basis of which the group was proposed. It seems to me that Hooley's 'Siasi family' (albeit lexicostatistically based) is just such a paraphyletic grouping. It includes those members of the North New Guinea cluster which (i) were known at the time of Hooley's pioneering study, and (ii) had not undergone the radical phonological changes which make Hote and the Buang and Markham linkages look so different.

CHAPTER 6

THE PAPUAN TIP CLUSTER

6.1 INTRODUCTION AND OVERVIEW

Of the four clusters of WM Oceanic languages recognised in Chapter 2, the Papuan Tip cluster is the only one whose probable unity has long been recognised by scholars (see Figures 6, 7, 8 and 9 for a listing of languages). Although he assumed them to be the result of successive waves of AN immigration, Capell (1943) recognised the interconnections between the various groups of languages in the region. Grace (1955) recognised just two groups of languages in the area, one in what is now the Central Province of PNG, the other in the Milne Bay and Oro Provinces. Pawley (1975) provided a model application of the comparative method to the languages of the Central Province, showing on the basis of shared phonological and lexical innovations that they form a closed subgroup, and suggesting that they were part of a larger Oceanic grouping to which Grace's Milne Bay/Oro group also belonged. Work by other scholars has added to and/or modified Pawley's findings, but has not overturned his major conclusions. Dutton (1976) added the three moribund languages Ouma, Yoba and Bina to the Central Papuan grouping. Lynch (1978a, 1978b, 1980, 1983b) and Ross (1979a, 1983b) presented alternative interpretations of Central Papuan linguistic prehistory,[69] and Ross (1979b, 1983c) investigated and confirmed Pawley's suggestion that the Central Province and Milne Bay/Oro groups were a single higher-order Oceanic subgroup, to which he applied the name 'Papuan Tip'.[70] This grouping seems to have gained acceptance among Oceanic linguists writing about PNG (Lynch 1981:110-111, 114; Pawley and Green 1985).

Although the application of the comparative method to Papuan Tip langages is limited to Pawley's study of Central Papua and to Cooper's (1975) study of some of the Suauic communalects, our knowledge of the languages of the cluster is, by WM Oceanic standards, considerable. Capell (1943) brought together earlier sources of lexical material from the whole area. Lithgow (1976) surveyed the Oceanic languages of the Milne Bay Province and provided a lexicostatistically based subgrouping. A thorough grammar exists for no language in the cluster, but we have a knowledge of two mission lingue franche, Dobu (Dixon 1928; Arnold 1931; Grant 1953; Lithgow 1984) and Motu (Lister-Turner and Clark 1954a, 1954b; Taylor 1970a), numerous vocabularies from early Annual Reports to the government on Papua, and short grammars of Are (= Mukawa)(Giblin n.d., and perhaps the first published description by Papua New Guineans of a PNG language, Paisawa et al 1975), Tawala (= Tavara, Kehelala)(Ezard 1979), Sinagoro (Kolia 1975), the Hula dialect of Keapara (Short 1935) and Lala (= Nara) (Clunn and Kolia 1977). Other sources are listed in Appendix B.

(Proto Oceanic)

non-AN source
*(Trans N.G. phylum?)*

Proto Papuan Tip

*Nuclear Papuan Tip network*

*Peripheral papuan Tip network*

Maisin          Proto North Mainland/          Proto          *Kilivila-Louisiades network*          Proto Central
                D'Entrecasteaux              Suauic                                                   Papuan
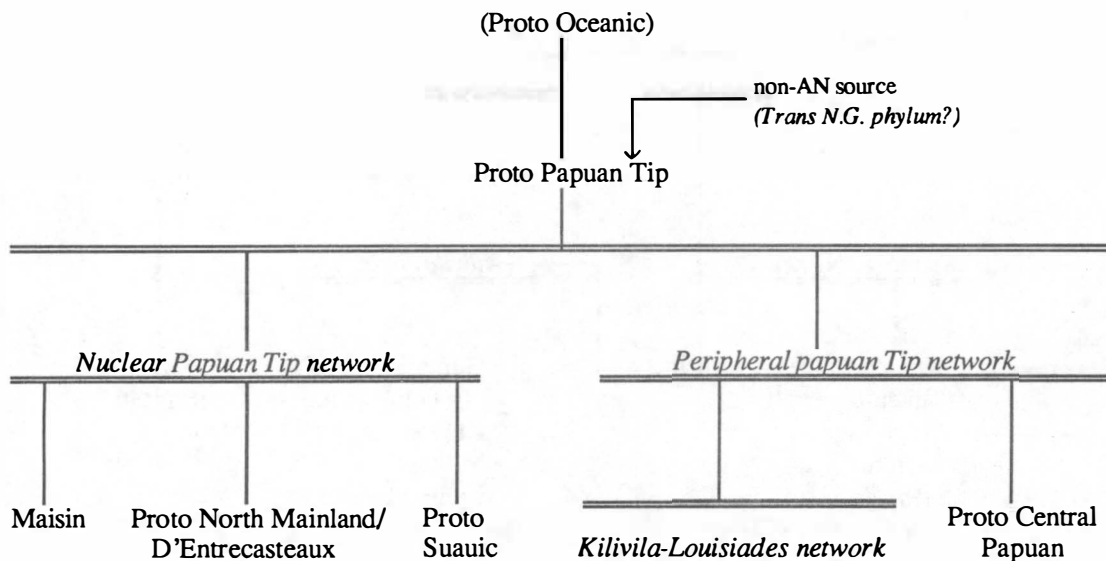
FIGURE 6:  THE PAPUAN TIP CLUSTER: GENETIC TREE

Proto North Mainland/
D'Entrecasteaux

*Dobu-Duau*          *Bwaidoga*          *Are-Taupota chain*          *Kakabai chain*
*network*            *network*

                                     *Are chain*      *Taupota chain*

Bosilewa          Diodio     Anuki     Arifama-          Kukuya          Dawawa
Dobu              Bwaidoga             Meniafia           (= Minaveha)    Kakabai
Sewa Bay          Kalokalo             Ubir             Wedau            (= Igora)
Duau              Yamalele             Doga             Taupota
Bunama            Fagululu             Are (= Mukawa)   Garuwahi
                  Molima               Paiwa            Tawala
                                        (= Gapapaiwa)   Taupota
                                       Boianaki

                                                        Wagawaga
                                                        *(Suau network)*

FIGURE 7:  NORTH MAINLAND/D'ENTRECASTEAUX BRANCH OF THE PAPUAN TIP CLUSTER: GENETIC
TREE
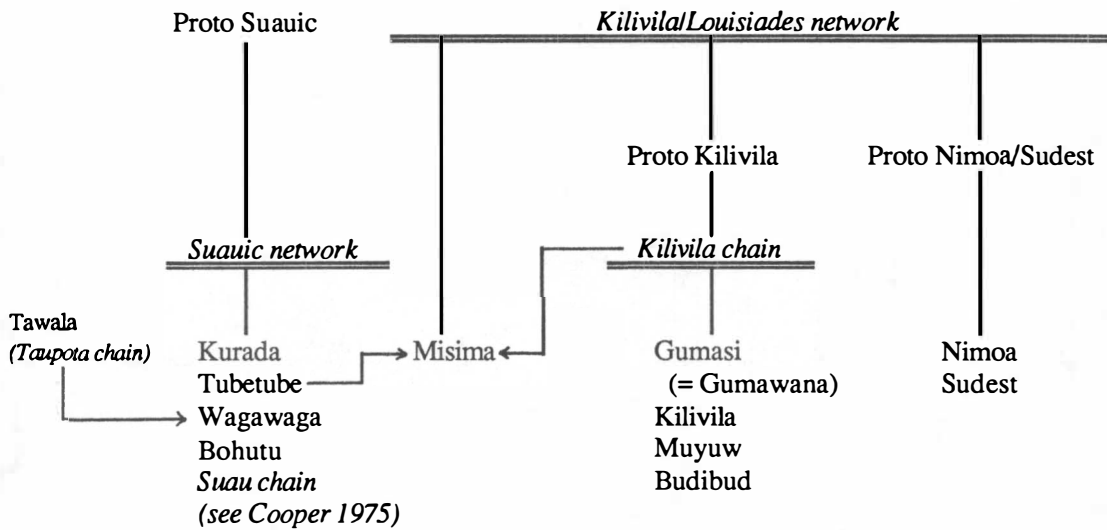
FIGURE 8: SUAUIC AND KILIVILA/LOUISIADES BRANCHES OF THE PAPUAN TIP CLUSTER: GENETIC TREE
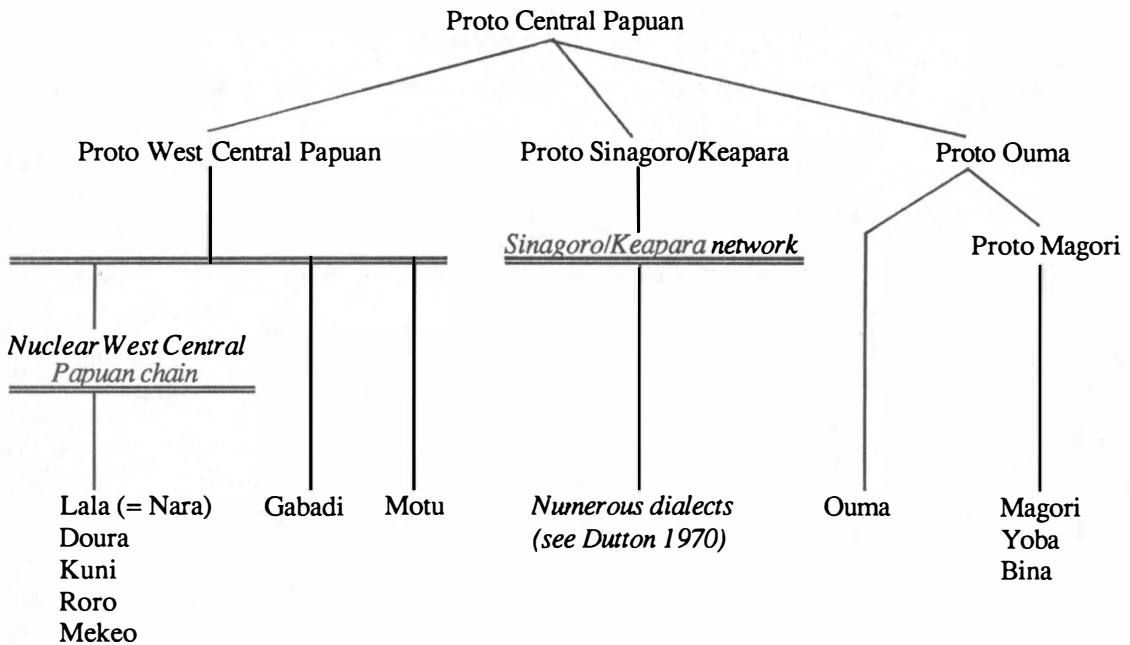


FIGURE 9: CENTRAL PAPUAN BRANCH OF THE PAPUAN TIP CLUSTER: GENETIC TREE
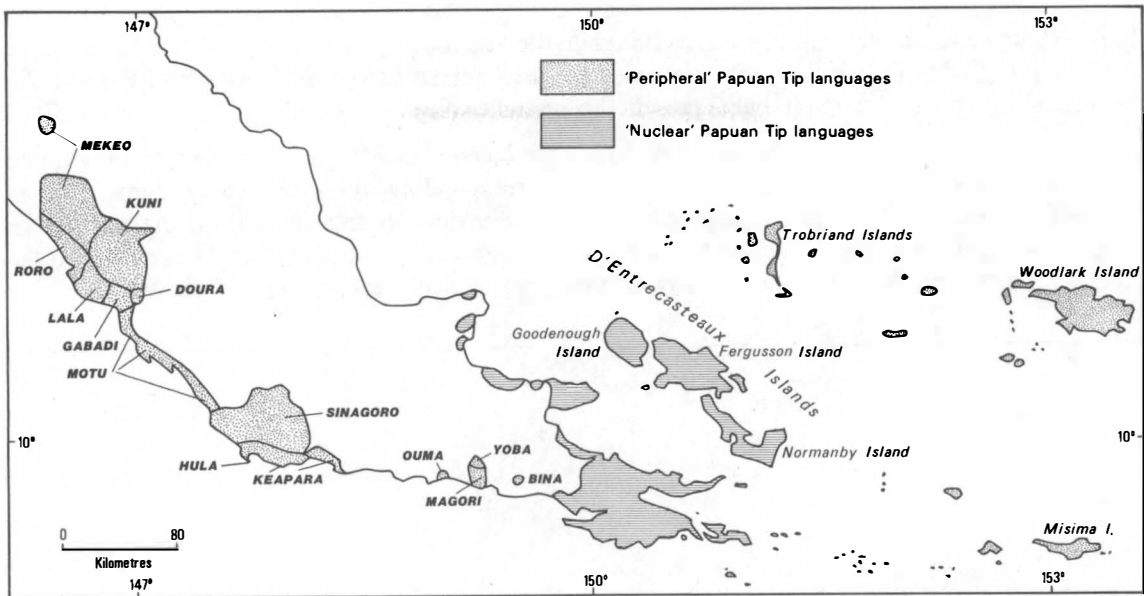
MAP 7: LOCATION OF THE PAPUAN TIP CLUSTER OF OCEANIC LANGUAGES AND ITS MAJOR SUBGROUPS

Because the unity of the Papuan Tip cluster is relatively uncontroversial (apart perhaps from the position of the Kilivila chain: see below) and because the internal relationships of the cluster have no major contribution to make to explicating the genetic relationships of WM Oceanic languages in general, presentation here will be limited to the shared innovations of the Papuan Tip cluster.

Proto Papuan Tip seems to have separated from an early Oceanic dialect chain (discussed in Chapter 10.3), and, to judge from the exclusively shared innovations of most member-languages, to have remained separate from it. There are clear records of continuing contact (i) among the island communities of the Milne Bay Province in the form of the famous 'Kula ring'[71]) and its offshoots; (ii) among the communities of Central Papua;[72] and (iii) between the communities of the Milne Bay Province and those of Central Papua (Allen 1977a; Bulmer 1982). However, there is no record of any contact across the 270 kilometres between the southernmost language of the North New Guinea cluster (Numbami) and the northernmost of the Papuan Tip cluster (Arifama-Meniafia) nor between any other groups belonging to the two clusters, and it seems probable that the picture given by Brookfield with Hart (1971:321) of two completely separated long-distance trade networks of Oceanic-speakers had been valid for a very long period before European contact, and perhaps since soon after the separation of the ancestors of Proto Papuan Tip speakers from other Oceanic-speaking communities.

How this 270-kilometre gap came into being, and whether the coastline in the gap was once occupied by Oceanic-speaking groups, we have no evidence. The principal innovations of the Papuan Tip cluster, namely SOV clause order and postpositions, indicate (as Lynch 1981:110-111 points out) contact between Proto Papuan Tip speakers and speakers of mainland (i.e. Trans New Guinea phylum) non-AN languages. The one surviving non-AN language in the islands of the Milne Bay Province, however, is Yeletnye, on Rossel Island at the eastern extreme of the Louisiade Archipelago, and this is a probable member of the East Papuan phylum, with possible relationships to

non-AN languages in New Britain and/or Bougainville. Its location implies that it may have been a last bastion of non-AN speakers who occupied the archipelago before the speakers of Papuan Tip communalects spread through it, but at present this inference remains speculation.

In Chapter 2, I divided the Papuan Tip cluster for convenience's sake into the Central Papuan family and the languages of south-eastern Papua, corresponding to Grace's two groups. But, as Figure 6 shows, this is not the most probable genetic division. It appears that the dialect linkage which developed from Proto Papuan Tip became split into two networks which I have labelled the Nuclear and the Peripheral Papuan Tip networks for geographical reasons evident from Map 7.
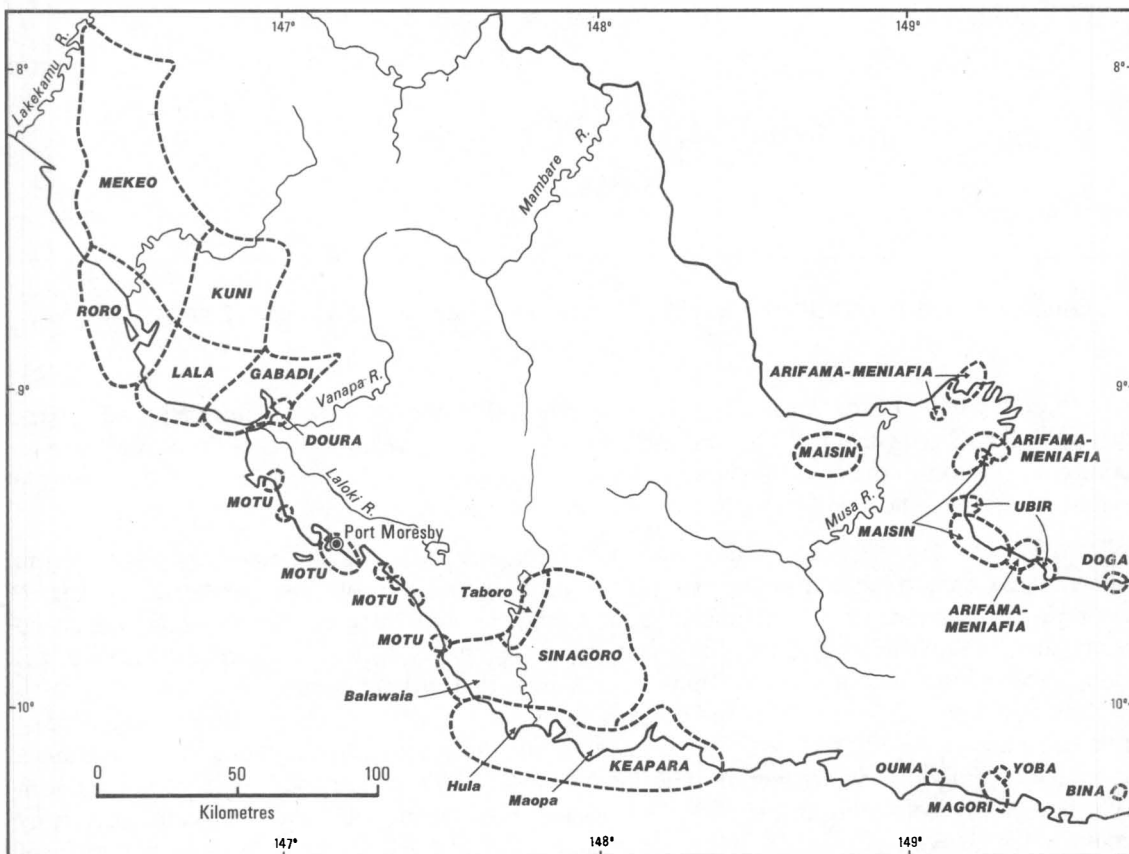


MAP 8: OCEANIC LANGUAGES OF THE CENTRAL PAPUAN AND ORO COASTS

This means that the closest surviving relatives of the Central Papuan family are probably not its nearest geographical neighbours in the Suauic network, but members of the Kilivila/Louisiades network, particularly Nimoa and Sudest (see Maps 8 and 9). Whilst this latter connection is by no means certain, it is clear that the languages of the Central Papuan family have been linguistically separate from the rest of the Papuan Tip cluster, and especially from those of the Nuclear Papuan Tip network, for a long time relative to the history of the cluster. The largest continuous area occupied by

Central Papuan communalects is the area of the Sinagoro/Keapara network, which also contains the most conservative communalects of the Central Papuan family[73] and is perhaps the area originally settled by speakers of a Papuan Tip communalect and the area where the innovations peculiar to Central Papuan languages occurred (i.e. where Proto Central Papuan came into being).[74] I make these points here because of their possible relevance to the archaeological record. There is general agreement (i) that people who were probably AN-speakers have been in Central Papua since sometime around 100 B.C. (Vanderwal 1973; Bulmer 1982; Allen 1977a, 1977c) and (ii) that rapid cultural change occurred sometime around 1000 A.D. both in the area occupied today by the Are chain (Collingwood Bay) (Allen 1977a:396-397) and along the coast inhabited today by speakers of Central Papuan languages. With regard to the latter, however, there is disagreement as to the extent to which cultural change resulted from the arrival of a new group of AN-speaking settlers from the east. From Vanderwal's (1973), Allen's (1977c) and Bulmer's (1979) accounts, a linguist might infer that speakers of present-day Central Papuan languages are descended from the new arrivals. From Swadling's (1980a, 1980b) account he would infer linguistic continuity despite the arrival of intruders, whilst Bellwood (1978:269-270) argues that there was no intrusion of population but cultural innovation spreading from what is now the Milne Bay Province. The linguistic evidence suggests continuity, since (i) the Central Papuan languages have a lengthy history separate from those of the Milne Bay Province; and (ii) there is no substantial evidence of two different Oceanic sources in Central Papuan languages.
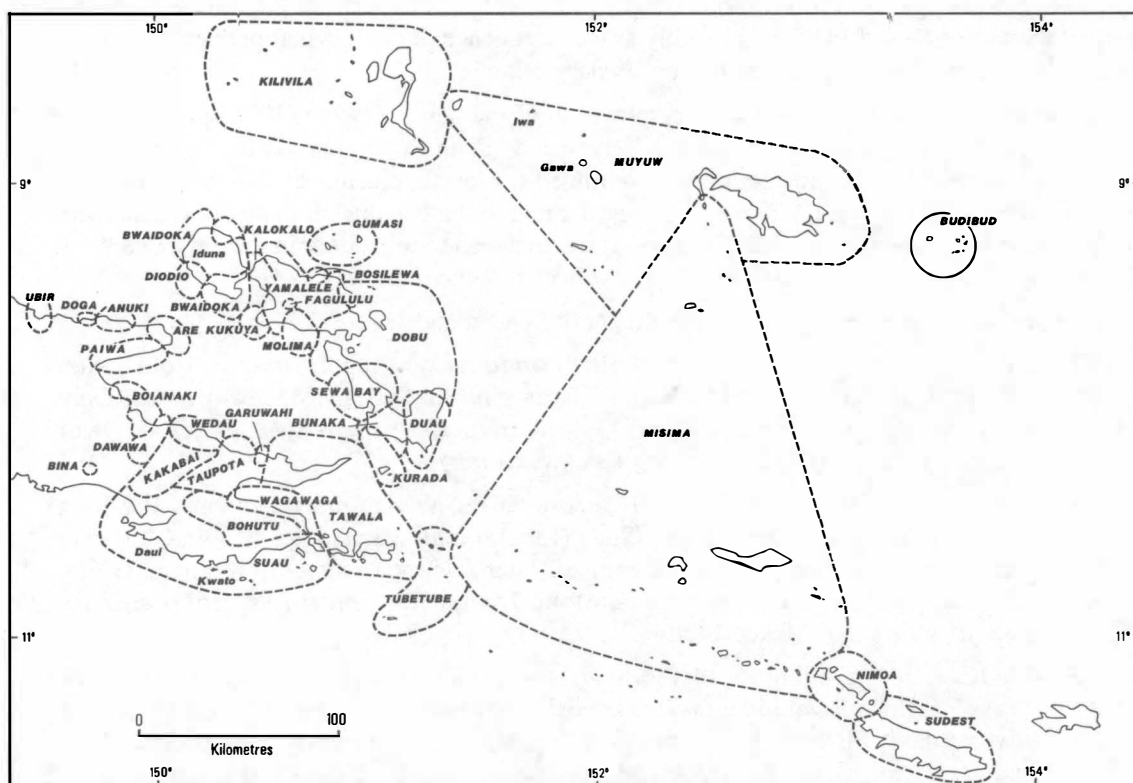
MAP 9: OCEANIC LANGUAGES OF SOUTH-EASTERN PAPUA

## 6.2 SHARED INNOVATIONS OF THE PAPUAN TIP CLUSTER

### 6.2.1 PHONOLOGICAL INNOVATIONS

The shared phonological innovations of the Papuan Tip cluster are as follows:

A.  POC *r and *ʀ merged as PPT *r.

B.  POC *d and *dr merged as PPT *d.

C.  POC *s and *c merged as PPT *s.

D.  POC *p split into (fortis) PPT *p and (lenis) PPT *v, with all languages agreeing on their reflex of POC *p in a given item. PPT *v occurs far more often than PPT *p.

E.  POC *k split into (fortis) PPT *k and (lenis) PPT *q, with all languages agreeing on their reflex of POC *k in a given item. PPT *q occurs far more often than PPT *k.

F.  POC *q merged with the lenis reflex of POC *k as PPT *q.

G.  POC *ñ merged with POC *n in all items except POC *ñamuk 'mosquito'.

Of the seven innovations listed above, the first five perhaps tell us more about the relationships of the Papuan Tip cluster to the North New Guinea and Meso-Melanesian clusters than about the unity of the Papuan Tip cluster, as they are apparently shared by all three clusters. Innovation E is also shared by many languages of the Huon Gulf family, by the Ngero family, and by Bali-Vitu, but the probability of independent innovation is high: where POC *k underwent lenition to *[ɣ], it often merged with the reflex of POC *q, probably as a consequence of the fact that phoneme systems tend not to tolerate a proliferation of velar and post-velar obstruents.

Innovations A and B represent a reinterpretation of the data. Pawley (1975) presents identical Central Papuan correspondence sets for POC *r, *ʀ and *dr and a separate set for *d, and the papers by Lynch and myself listed in section 6.1 continued this arrangement. In the course of the work which resulted in section 3.4.1 above, however, I came to the conclusion that this was an incorrect interpretation of the data: items which each of us has assumed to reflect *dr in fact reflected *r, whilst a scattering of items occur in which POC *dr is reflected in the same way as *d.

Examples illustrating innovation A, the merger of POC *r and *ʀ, are:

(6.1)    POC *maquri(p) 'be alive' > PPT *maquri > Taupota maguli 'old', Suau (Kwato, Daui) mau-mauli, Misima, Nimoa molu, Sudest (Madawa) moru, Ouma maʔuri, Magori, Motu, Doura, Gabadi mauri, Keapara (Maopa), Lala, Kuni mauli, Keapara (Hula), Sinagoro (Balawaia) mayuli

(6.2)    POC *muri 'back' > PPT *muri- > Are, Paiwa, Wedau muri-, Tawala, Bwaidoga (Iduna), Yamalele, Dobu, Duau, Suau (Kwato) muli-, Bwaidoga, Molima, Tubetube muli- 'follow (s.o.)', Misima mul(a) 'later', Nimoa muy(a), Keapara (Hula), Sinagoro (Balawaia), Lala muli-, Motu, Doura, Roro muri-, Gabadi (kai)muri-, Kuni muli(kai-), Mekeo muni-

(6.3)    POC *ʀapi 'evening' > PPT *ravi > Are rabi(si), Paiwa ravi(ai), Wedau ravi-ravi 'night', Bwaidoga lavi, Yamalele, Molima lave- lavi, Tubetube lai(na) 'yesterday', Misima (koko)yavi, Nimoa (ko)yavi, Sudest yavi- yavi(e), Bina, Yoba ra-ravi, Ouma ravi 'yesterday', Magori ravi 'evening', Keapara (Maopa) lavi-lavi,

Sinagoro (Balawaia) *(lei)lei*, Motu *(ado)rahi*, Gabadi *ravi(na)* 'yesterday', Lala *lavi* 'yesterday', Roro *rabi-rabi*, Kuni *labi*, Mekeo *napi-napi*

(6.4)  POC *kiʀam* 'axe' > PPT *qirama* > Are, Paiwa *kirama*, Tawala *ilama*, Yamalele, Molima *ʔilama*, Dobu *ʔila*, Duau *kila*, Keapara (Maopa), Sinagoro (Taboro) *yiro*, Motu, Gabadi *ira*, Lala, Kuni *ila*, Mekeo *ine-ina*

Examples illustrating innovation B, the merger of POC *d* and *dr*, are:

(6.5)  POC *pudi* 'banana' > PPT *pudi* > Bwaidoga, Dobu, Sewa Bay *udi*, Molima *vudi*, Duau *hudi*, Kilivila *usi*

(6.6)  POC *-da* P:1IP > PPT *-da* > Ubir *-t*, Arifama, Doga, Are, Paiwa, Boianaki, Wedau, Taupota, Tawala *-ta*, Dawawa, Kakabai, Bwaidoga, Yamalele, Molima, Dobu, Sewa Bay, Duau, Bunama, Suau (Sariba), Kilivila, Muyuw, Budubud, Gumasi, Sudest *-da*, Tubetube, Misima *-la*, Magori, Yoba, Bina *-da*, Keapara (Maopa, Hula), Sinagoro (Balawaia) *-ra*, Motu *-da*, Gabadi *-ga*, Doura, Lala *-ta*, Kuni, Roro *-ka*, Mekeo *-ʔa*

(6.7)  POC *-dria* P:3P > PPT *-dia* > Ubir *-si*, Are, Paiwa, Doga *-si*, Wedau *-i*, Taupota, Tawala *-hi*, Bwaidoga, Yamalele, Molima, Dobu, Sewa Bay, Duau, Bunama, Suau (Sariba) *-di*, Tubetube *-li*, Kilivila, Muyuw *-si*, Sudest *-ji*, Misima *- lia*, Nimoa *-de*, Magori, Yoba, Bina *-di*, Keapara (Maopa, Hula), Sinagoro (Balawaia) *-ria*, Motu *-dia*, Gabadi *-da*, Doura, Lala *-ta*, Kuni *-si*, Roro *-kia*, Mekeo *-ʔi*

(6.8)  POC *draʀaq* 'blood' > PPT *daraq-i-* > Doga *dara-daragi-*, Anuki *dara-darayi-*, Are *darag(a)*, Taupota *dalah(a)*, Bwaidoga *dayag(i)*, Yamalele *dayag(a)*, Molima *dayavi-*, Keapara (Hula) *rala* (*but*: Magori, Ouma, Motu, Doura, Gabadi *rara-*, Keapara (Maopa), Sinagoro (Balawaia), Lala, Kuni *lala-*)

(6.9)  POC *droman* 'leech' > PPT *doman* > Are, Paiwa *domen(i)*, Tawala *doman(a)*, Yamalele, Dobu *doman(a)*, Nimoa *dome*, Keapara (Hula) *roma*, Sinagoro (Balawaia) *roma*, Motu *doma*, Lala *toma*, Roro *koma*

Items containing POC *d* are notoriously rare, but of the two above, one (*pudi* 'banana') occurs before POC *i* and undergoes the palatalisation common to reflexes of POC *d* and *dr* in that environment in a number of Papuan Tip languages (cf. *-dria* P:3P above), whilst the other (*-da* P:1IP) reflects the non-palatalised set which occurs before other vowels and is also reflected in *draʀaq* 'blood' and *droman* 'leech'. The reflexes above are also complicated by two other factors. One is that the Are-Taupota languages reflect POC *-da* P:1IP with *-ta*, i.e. with *-t-* rather than with the *d* seen in their reflexes of *draʀaq* 'blood' and *droman* 'leech'. However, this is part of a process whereby PPT *b*, *d*, and *g* are devoiced in many items in these languages: in Table 28 the voiceless reflexes are attributed to shared inheritance and voiced reflexes to indirect inheritance through borrowing. Whether this solution is correct or not, the point to be made is that the voiceless reflexes of PPT *-d-* in *-da* are part of a general phonological innovation in the Are-Taupota chain, and not attributable to the fact that this item contains a reflex of POC *-d-* rather than *-dr-*. The other source of complication is that, as shown above, the Central Province reflexes of POC *draʀaq* 'blood' reflect an initial consonant which is the same as the medial — but the occurrence of a predicted reflex, Keapara (Hula) *rala*, implies that the other languages have simply assimilated the initial consonant to the medial. In spite of these complications, it remains clear that the merger of POC *d* and *dr* in PPT is highly probable, and that a merger of *dr* with *r* and *ʀ* is not defensible.

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| POC | *p fortis | *p lenis | *b | *m | . | *bw |
|---|---|---|---|---|---|---|
| PPT | *p | *v | *b | *m | *pw | *bw |
| Maisin | f | v; w/_u; Ø/o_, _# | f (b) | m | f | b° |
| Arifama | f | b; Ø/_u | f | m | f | . |
| Meniafia | f | b; Ø/_u | f | m | . | . |
| Ubir | f | b; Ø/_u | f (b) | m | fw | f° |
| Doga | p | b; Ø/_u | p (b) | m | p | p° |
| Are | p | b; Ø/#_u | p (b) | m | p° | (b°) |
| Paiwa | p | v; Ø/#_u | p (b) | m | p° | (b/ᵁ) |
| Boianaki | p | v; Ø/#_u | p (b) | m | p°, p | . |
| Anuki | p | v; Ø/_u; w/_o | b | m | p°, p | b° |
| Kukuya | p | v; Ø/_u; ɣ/_o | b-; -p- | m | pw | . |
| Wedau | p | v; Ø/_u | p (b) | m | p° | (b°; b/ᵁ) |
| Taupota | p | v; Ø/_u | p (b) | m | p° | . |
| Garuwahi | p | v; g/_u | p (b) | m | . | (b°) |
| Tawala | p | w; w/_u | p (b) | m | p° | p° (b°; b/ᵁ) |
| Dawawa | p | v | b | m | p° | pw |
| Kakabai | p | v | b | m | p° | bw |
| Diodio | f | v; Ø/_u; w/_o | b | m | . | b° |
| Bwaidoga | f | v; Ø, ɣ/_o, u | b | m | f° | bw |
| Iduna | f | v; Ø/_u; w/_o | b | m | fw, f° | b° |
| Kalokalo | f | v; Ø/_u; g/_o | b | m | fw, f° | bw, b° |
| Yamalele | f | v; v, Ø/_u; g/_o | b | m | fw | bw, b° |
| Fagululu | f | v | b | m | . | . |
| Molima | p | v | b | m | pw | bw, b° |
| Bosilewa | p | v | b | m | . | . |
| Dobu | p | Ø | b | m | pw | bw; b/ᵁ |
| Sewa Bay | p | Ø | b | m | pw | bw, b |
| Duau | p | h; w/_o | b | m | pw | bw |
| Bunama | p | h; v/_o | b | m | pw | bw |
| Kurada | p | v (h) | b | m | p | b°; b/ᵁ |
| Tubetube | p | Ø; w/#_o | b | m | pw, p° | bw, b° |
| Suau (Kwato) | p | h; w/#_o | b | m | p° | b° |
| Suau (Daui) | p | h; w/#_o; Ø/V_u | b | m | p° | b° |
| Bohutu | p | f; Ø/#_u | b | m | pw, p° | bw, b°, b |
| Wagawaga | p | f (w) | b | m | pw | bw, b° |

TABLE 28: *(continued)*

| POC | *mw | *w | *t | | *r, *R | *d, *dr |
|---|---|---|---|---|---|---|
| PPT | *mw | *w | *t | | *r | *d |
| Maisin | m° | v; -∅ | t | | r | t (d) |
| Arifama | m° | . | t; ∅/_i | | r | t; ∅/_i |
| Meniafia | m° | . | t; s, t/_i | | r | t; h/_i (d) |
| Ubir | m° | w; -u, -b | t; s/_i | | r | t; h/_i |
| Doga | m° | w | t; s/_i | | r | t; h/_i (d) |
| Are | m° | w | t; s/_i | | r | t; s/_i (d) |
| Paiwa | m° | w | t; s/_i | | r | t; s/_i (d) |
| Boianaki | m° | w | t; . | | r | t; . |
| Anuki | m° | w | t; s/_i | | r | d |
| Kukuya | mw | w | t; ∅/_i | | n | t; ∅/_i |
| Wedau | m° | w | t; γ, ∅/_i | | r | t; ∅/_i (d) |
| Taupota | m° | w | t; h/_i | | l | t; h/_i (d) |
| Garuwahi | m° | w | t; . | | l | t; . |
| Tawala | m° | w | t; h/_i | | l | t; h/_i (d) |
| Dawawa | m° | w | t; c/_i | | r | d; j/_u |
| Kakabai | mw | w | t; c/_i, u | | l | d |
| Diodio | m° | w | t; . ; | s/_e | l, n | d |
| Bwaidoga | m° | w | t; γ/_i; | s/_e | l | d |
| Iduna | m° | w | t; h/_i; | s/_e | l | d |
| Kalokalo | mw | w | t; ∅/_i; | . | l | d |
| Yamalele | mw, m° | w | t; ∅/_i; | s/_e | l | d |
| Fagululu | m° | w | t; . | | l | d |
| Molima | mw | w | t; . | | l | d |
| Bosilewa | mw | w; -u | t; . | | r | d |
| Dobu | mw | w; -u | t; s/_i | | l | d |
| Sewa Bay | mw | w | t; s/_i | | l | d |
| Duau | mw | w | t; s/_i | | l | d |
| Bunama | mw | w | t; s/_i | | l | d |
| Kurada | mw, m° | w | t; h/_i | | l | d |
| Tubetube | mw, m°, m | w | t; t, s/_i | | l | t-, d-; -l- |
| Suau (Kwato) | m° | w | t; s/_i | | l | d |
| Suau (Daui) | m° | w | t | | l | d |
| Bohutu | m° | w | t | | l | d |
| Wagawaga | mw | w | t (h/_i) | | l | d |

TABLE 28: *(continued)*

| | POC *l / PPT *l | POC *y / PPT *y | POC *n, *ñ / PPT *n | POC *s, *c / PPT *s fortis | PPT *s lenis | POC *j / PPT *j | POC *ñ / PPT *ñ |
|---|---|---|---|---|---|---|---|
| Maisin | r | Ø-, -y- | n | . | s, Ø | t | n |
| Arifama | n | y | n | r | s, Ø | t | y |
| Meniafia | n; Ø-_i | y | n | . | s, Ø | . | y |
| Ubir | n; n, Ø-_i | y | n | r | s, Ø | . | n |
| Doga | n; Ø/_i | y | n | . | s, Ø | . | y |
| Are | n; Ø/_i | y | n | Ø | s, Ø | t, d | n |
| Paiwa | n; Ø/_i | y-; -y-, -l- | n | Ø | s, Ø | . | . |
| Boianaki | n; Ø-_i | y | n | ɣ | s, Ø | d | n |
| Anuki | n; n, Ø/_i | y | n | . | s, Ø | . | n |
| Kukuya | n | y | n | g | Ø | . | $n^i$ |
| Wedau | n; Ø/_i | D | n | ɣ | Ø | t, d | . |
| Taupota | n; Ø-_i | D | n | g | h, Ø | . | . |
| Garuwahi | n | y | n | ɣ | h, Ø | . | . |
| Tawala | n | y | n | g | h, Ø | d | . |
| Dawawa | n | y, ɣ | n | s | s | d | . |
| Kakabai | n | y | n | s | s | . | . |
| Diodio | n | y | n | y | Ø (s) | d | $n^i$ |
| Bwaidoga | n | y | n | ɣ | Ø (s) | . | $n^i$ |
| Iduna | n | y | n | y | Ø (s) | d | $n^i$ |
| Kalokalo | n | y | n | g | Ø (s) | . | $l^i$ |
| Yamalele | n | y | n | g, y | Ø (s) | d | . |
| Fagululu | n, l | . | n | . | Ø (s) | d | . |
| Molima | n | y | n | . | Ø (s) | d | n |
| Bosilewa | n; .;   l/_ *# | l | n | s | s | . | . |
| Dobu | n; Ø/_i;   l/_ *# | y | n | s | s | d | $n^i$ |
| Sewa Bay | n; Ø/_i;   l/_ *# | y | n | s | s | d | $n^i$ |
| Duau | n; Ø-_i;   l/_ *# | y | n | s | s | d | $n^i$ |
| Bunama | n; .;   l/_ *# | y | n | s | s | . | $n^i$ |
| Kurada | l (n) | y | n | h; s/_i | h; s/_i | . | . |
| Tubetube | l | y | n | s | s | -l- | $n^i$ |
| Suau (Kwato) | l | y | n; Ø/_i | s | s | d | . |
| Suau (Daui) | l | y | n | s | s | d | . |
| Bohutu | l | y | n | s | s | . | . |
| Wagawaga | l (n) | y | n; Ø/_i | s (Ø) | s (Ø) | . | . |

TABLE 28: *(continued)*

| POC | *k fortis | *k, *q lenis | | *g | *ŋ |
|---|---|---|---|---|---|
| PPT | *k | *q- | *-q- | *g | *ŋ |
| Maisin | k-; -∅- | ∅-, k- | -∅- | . | -∅- |
| Arifama | k- | ∅- | -∅- | ∅ | -n- |
| Meniafia | . | ∅- | -∅- | ∅-; -ʔ- | -n- |
| Ubir | k-; -∅- | ∅- | -∅- | g-; -∅- | -n- |
| Doga | . | ∅- | -∅- | k- | -n- |
| Are | k | k- | -∅- | k | -n- |
| Paiwa | k | k- | -∅- | k (g) | -n- |
| Boianaki | k | k- | -∅- | k | -n- |
| Anuki | k | k- | -g-, -∅- | g | -n- |
| Kukuya | k- | ∅- | -∅- | -∅- (-g-) | -g- |
| Wedau | k-; -∅- | ∅- | -∅-, -ɣ- | -∅- (g) | -ɣ- |
| Taupota | k- | ∅- | -∅-, -g- | (g) | -g- |
| Garuwahi | .; -ʔ- | ∅- | -∅- | -ʔ- (g) | . |
| Tawala | k-; -∅- | ∅- | -∅-, -h- | -∅-; -m (g) | -g- |
| Dawawa | k | k- | -∅-, -ɣ- | g | -n- |
| Kakabai | k | k- | -∅-, -h- | g | . |
| Diodio | ∅ | ∅-, k- | -∅-, -ɣ- | k | -ɣ-; ∅/_o |
| Bwaidoga | k | ∅-, ʔ-, k- | -ɣ- | g | -ɣ- |
| Iduna | k-; -ɣ- | ∅-, ʔ-, k- | -∅-, -ɣ- | g | -ɣ-; ∅/_o |
| Kalokalo | -k- | k- | -∅, -ɣ-, -g- | g | -g- |
| Yamalele | ʔ, k | ∅-, ʔ-, k- | -∅-, -h-, -g- | k (g) | -g- |
| Fagululu | . | ʔ- | -∅-, -g- | g | -g- |
| Molima | k-, ʔ-; -ʔ- | ʔ-, ∅- | -∅-, -v- | g | -v-, -∅- |
| Bosilewa | . | ʔ-, ∅- | -h- | g | -g- |
| Dobu | k-, ʔ-; -ʔ- | ʔ-, ∅-, k- | -∅- | g | -n-; ∅/_i |
| Sewa Bay | k-; -∅- | ∅-, k- | . | g | -n- |
| Duau | k- | k-, ʔ- | -∅-, -h- | g | -n-; ∅/_i |
| Bunama | ʔ- | ʔ-, ∅- | -∅- | g | -n-; ∅/_i |
| Kurada | ʔ-; -∅- | ʔ-, ∅- | -∅- | g | -n- |
| Tubetube | k | k- | -∅- | g | -n-; ∅/_i# |
| Suau (Kwato) | k-; -ʔ- | ʔ-, ∅- | -h-, -∅- | g | -n-; ∅/_i# |
| Suau (Daui) | k-, ʔ-; -ʔ- | ʔ-, ∅- | -∅- | g | -n- |
| Bohutu | k-; -ʔ-, -∅- | ʔ-, ∅- | -h-, -∅- | g | -n- |
| Wagawaga | -ʔ- (k-) | ʔ-, ∅-, k- | -h-, -∅- (-g-) | g (-m) | (-g-) |

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TABLE 28: *(continued)*

| POC | . | . |
|---|---|---|
| PPT | *kw | *gw |
| Maisin | k- | . |
| Arifama | k°- | . |
| Meniafia | . | . |
| Ubir | kw-, k°- | . |
| Doga | kw- | w- |
| Are | kw- | w-, gw- |
| Paiwa | kw- | . |
| Boianaki | kw- | . |
| Anuki | . | . |
| Kukuya | w-; w/_*# | . |
| Wedau | k-, Ø°-; -u | . |
| Taupota | ʔ°-, k°-; -u | . |
| Garuwahi | Ø°- | . |
| Tawala | Ø°-, k°- | gw- |
| Dawawa | kw-, Ø°-; -u | gw- |
| Kakabai | kw- | . |
| Diodio | kw-, w-; w/_*# | kw- |
| Bwaidoga | kw-; w, kw/_*# | . |
| Iduna | . ; w/_*# | gw- |
| Kalokalo | kw-; w/_*# | gw- |
| Yamalele | ʔw-, w-; w/_*# | kw-, gw- |
| Fagululu | w-, -ʔw- | gw- |
| Molima | o-; w/_*# | gw- |
| Bosilewa | w-, kw- | . |
| Dobu | kw-; w/_*# | gw- |
| Sewa Bay | kw-, w-; w/_*# | gw-, g° |
| Duau | kw-, w-, k°-; w/_*# | gw- |
| Bunama | w- | gw-, g°- |
| Kurada | Ø°- | g- |
| Tubetube | kw-, k°-; k/_*# | g- |
| Suau (Kwato) | Ø°- | . |
| Suau (Daui) | Ø°-, w- | g°- |
| Bohutu | w- | gw- |
| Wagawaga | w- | gw- |

## TABLE 29: KILIVILA/LOUISIADES NETWORK: CONSONANT CORRESPONDENCES

| POC | *p fortis | *p lenis | *b | *m | ... | *bw |
|---|---|---|---|---|---|---|
| PPT | *p | *v | *b | *m | *pw | *bw |
| Gumasi | . | v; Ø/_u | b | m | p° | bw, b°; b/U |
| Kilivila | p | v; Ø/_u; w/#_o; -Ø | b | m | pw, p° | bw, b° |
| Muyuw (Iwa) | p | v | b | m | pw | bw |
| Muyuw (Gawa) | p | v | b | m | pw | bw |
| Muyuw | p | v; Ø/_u; w/#_o, u | b | m | pw | bw, b° |
| Budibud | p | v; Ø/_u; w/#_o | b | m | pw | bw |
| Misima | p | p; -Ø (v; Ø/u; w, Ø/_o) | b | m | pw | bw |
| Nimoa | p | p; -Ø (v; Ø/_o, u) | b | m | p | bw, b° |
| Sudest (M) | b | v; w/_o, u; -Ø | b | m | . | bw, b° |
| Sudest (P) | b | v; Ø/_o, u | b | m | . | bw |
| Sudest (V) | b | v; w/_o, u | b | m | . | bw |
| PCP | *p | *v | *b | *m | *p | *w; *b/U |

| POC | *mw | *w | *t | *r, *R | | *d, *dr |
|---|---|---|---|---|---|---|
| PPT | *mw | *w | *t | *r | | *d |
| Gumasi | m° | w; -u | t; s/_i | y;. | (l) | d; s/_i |
| Kilivila | mw | w | t; s/_i | y; -Ø | (l) | d; s/_i |
| Muyuw (Iwa) | . | w | t; . | y;. | (l) | d; s/_i |
| Muyuw (Gawa) | . | w | t; . | y;. | (l) | d; s/_i |
| Muyuw | mw | w | t; s/_i | y; -Ø | (l) | d; s/_i |
| Budibud | mw | w | t; s/_i | y; -Ø | (l) | d; s/_i |
| Misima | mw, m | w; -u | t; t, s, (h)/_i | l | | t-, d-; -l- |
| Nimoa | mw, m° | w; -o, -u | t | y; -Ø | (l) | d |
| Sudest (M) | mw, m° | w; -o, -u | r; t-; -Ø | y; -Ø | (r) | d; j/_i |
| Sudest (P) | mw | w; -u | r; t- | y;. | | d |
| Sudest (V) | mw, m° | w; -o | r; t- | . | | d |
| PCP | *mw | *w | *t | *l | | *d |

*Note:* Sudest (M) = Sudest (Madawa) (Twomey n.d.b.); Sudest (P) = Sudest (Pamela) (Lithgow 1976); Sudest (V) = Sudest (Varavarae) (my data).

TABLE 29: *(continued)*

| POC | *l | *y | *n, *ñ | *ñ | *s, *c | | *j |
|---|---|---|---|---|---|---|---|
| PPT | *l | *y | n | *ñ | *s fortis | *s lenis | *j |
| Gumasi | n | y | n | . | Ø | s | . |
| Kilivila | l; Ø/_i | y | n, l | nⁱ | l | s | d, s |
| Muyuw (Iwa) | l | y | n | . | l | s | . |
| Muyuw (Gawa) | l | y | n | . | l | s | . |
| Muyuw | n | y | n | . | l; -n | s | d |
| Budibud | l | l | n, l | . | r | s | . |
| Misima | n | y | n | nⁱ | l | h; s/_i; -l | -l- |
| Nimoa | l | y | n | . | Ø | s; -Ø | d |
| Sudest (M) | l | . | n/_# | ñ | Ø | z; -Ø | j |
| Sudest (P) | l | . | . | . | Ø | ð; -Ø | . |
| Sudest (V) | l | . | . | . | Ø | ð; -Ø | . |
| PCP | *y | *y | *n | *ñ | *r | *r | *d |

| POC | *k fortis | *k, *q lenis initial | *k, *q lenis medial | *g | *ŋ | | |
|---|---|---|---|---|---|---|---|
| PPT | *k | *q- | *-q- | *g | *ŋ | *kw | *gw |
| Gumasi | Ø- | k-, Ø- | -Ø-; -Ø | g | -y-; Ø/_i | kw-, k-; kw/_*# | g- |
| Kilivila | k | k- | -Ø-; -Ø | g | -g- | k | g- |
| Muyuw (Iwa) | . | k- | -Ø-; -Ø | g | -g- | k-; k°-/_*# | g- |
| Muyuw (Gawa) | . | k- | -Ø-; -Ø | g | -g- | k-; k/_# | g- |
| Muyuw | k- | k- | -Ø-; -Ø | g | -g- | kw-; k/_# | g- |
| Budibud | . | k-, Ø- | -Ø-; -Ø | g | -g-, -n- | kw-; k/_*# | g- |
| Misima | k | Ø-, k- | -Ø-; -Ø | g | -n-; Ø/_*# | k°-, k-, Ø-; -Ø-; -Ø | g- |
| Nimoa | k-, h-; -k- | h- | -Ø-; -Ø | g | -n-; Ø/_*# | w-, k°-, Ø°- | . |
| Sudest (M) | k- | ɣ- | -Ø-; -Ø | g | .; -Ø | w-, kw-, ʔw- | . |
| Sudest (P) | . | ɣ- | -Ø-; -Ø | g | . | . | g- |
| Sudest (V) | . | ɣ- | -Ø-; -Ø | . | . | . | . |
| PCP | *k | *ɣ-, Ø- | *-ɣ-, -Ø- | *g | *-ŋ- | *kw-, w- | *gw- |

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TABLE 30: CENTRAL PAPUAN FAMILY: CONSONANT CORRESPONDENCES

| | *p fortis | *p lenis | *b | *m | *mw | *w | *t | *r, *R |
|---|---|---|---|---|---|---|---|---|
| POC | *p | *p | *b | *m | *mw | *w | *t | *r, *R |
| PPT | *p | *v | *b | *m | *mw | *w | *t | *r |
| PCP | *p | *v | *b | *m | *mw | *w | *t | *l |
| Mekeo | f | p; p, f/_u | f | m | m | f | ?-, Ø-; -?- | n |
| Mekeo (West) | . | b; b, p/_u | p | m | m | o | ?-, Ø-; -k- | n |
| Kuni | f | b | f | m | m° | v | k; s/_i | l |
| Roro | p | b; Ø/a_u | p | m | m, m° | w, b | h; h, s/_i | r |
| Lala | p | v | b | m | m, m° | v | k; s/_i | l |
| Gabadi | p, v | v; Ø/_o, u | b | m | m° | v, u | k; s/ī | r |
| Doura | p | h | b, p | m | . | v | k; s/_i | r |
| Motu | p | h | b | m | m, m° | v | t; s/_i, e | r |
| Sinagoro (B) | p | v; γ, Ø/o, u | b | m | m° | w, v | t; s/_i, e | l, r |
| Sinagoro (T) | f | v; γ, Ø/o, u | b | m | m° | v | t; s/_i, e | r |
| Keapara (Hula) | p | v; Ø/a_u | p | m | m | w | Ø, ?, k | l |
| Keapara (Aroma) | p | v; Ø/a_u | p | m | m | w | Ø, ? | l |
| Ouma | p | v; Ø/_u | b | m | . | v, Ø | t, h, ?; h, s/_i | r |
| Magori | p | v; Ø/_u | b | m | m° | v | t | r |
| Yoba | p | v; Ø/_u | b | m | m° | v, w | t; s/_i | r |
| Bina | p | v; Ø/_u | b | m | m° | v, w | t; s/_i | l |

| | *d, *dr, *j | *l/_i, u | *y; *l/_e, a, o | *Ø- | *n | *ñ |
|---|---|---|---|---|---|---|
| POC | *d, *dr, *j | *l/_i, u | *y; *l/_e, a, o | *Ø- | *n | *ñ |
| PPT | *d, *j | *l/_i, u | *y; *l/_e, a, o | *Ø- | *n | *ñ |
| PCP | *d | *i | *y | *Y/*_a | *n | *ñ |
| Mekeo | -?- | i | l | ɬ | n | . |
| Mekeo (West) | k; s/_i | i | Ø-; -l- | . | n | . |
| Kuni | k; s/_i | i | y | y- | n; Ø/i, e_a | . |
| Roro | k; | i | Ø-; -e- | Ø- | n | . |
| Lala | t; d/_i | i | l | Ø- | n | . |
| Gabadi | g; d/ī | i | Ø-; -r- | Ø- | n | . |
| Doura | t | i | r | Ø- | n | . |
| Motu | d | i | l | ɬ | n | n |
| Sinagoro (B) | d, r | i | Ø-; -γ- | Ø- | n | n |
| Sinagoro (T) | d | i | i | ɨ- | n | n |
| Keapara (Hula) | r | i | Ø-; -r- | Ø- | n | . |
| Keapara (Aroma) | r | i | ð-; -r- | ð- | n | . |
| Ouma | d | i | Ø-: -e- | Ø- | n | n |
| Magori | d; t, d/_i | i | y-; -e- | Ø- | n | . |
| Yoba | d; d, s/_i | . | y | Ø- | n | n |
| Bina | d | . | y | Ø- | n | n |

*Note:* Sinagoro (B) = Sinagoro (Balawaia) (Kolia 1975); Sinagoro (T) = Sinagoro (Taboro) (my data).

TABLE 30: *(continued)*

| POC | *s, *c | *k fortis | *k, *q lenis | *g |
|---|---|---|---|---|
| PPT | *s | *k | *q | *g |
| PCP | *r | *k | *ɣ | *g |
| Mekeo | k | Ø-; -ʔ- | Ø | Ø |
| Mekeo (West) | g; j/_i | Ø | Ø | Ø |
| Kuni | d | Ø | Ø | Ø |
| Roro | t; s/_i, u | Ø, ʔ | Ø, ʔ | Ø, ʔ |
| Lala | d | Ø | Ø | Ø |
| Gabadi | g; d/i | ʔ, Ø | Ø, ʔ | ʔ, Ø |
| Doura | t | ʔ, Ø | Ø | Ø, ʔ |
| Motu | d | k | Ø, ɣ | g |
| Sinagoro (B) | r, d | k | ɣ | ɣ, g |
| Sinagoro (T) | d, r | k | ɣ | g |
| Keapara (Hula) | r | k | ɣ/_i, e, u; Ø/_a, o | k |
| Keapara (Aroma) | r | Ø-; -ʔ- | Ø/_i, u; ɣ/_e, a, o | k |
| Ouma | r | ʔ-, k-, Ø- | ʔ, g; Ø- | g |
| Magori | k-; -r-, -k- | ʔ-, k-, Ø-; -ʔ- | ʔ, g | g |
| Yoba | ʔ | k | ʔ, Ø | g |
| Bina | ʔ | k | Ø | g |

| POC | *ŋ | | |
|---|---|---|---|
| PPT | *ŋ | *kw | *gw |
| PCP | *ŋ | *kw | *gw |
| Mekeo | n, Ø | o-; -ʔo- | Ø°-; -f- |
| Mekeo (West) | n, Ø | . | . |
| Kuni | Ø; n/_i | Ø°-; -v- | -v- |
| Roro | Ø, n; n/_i | Ø- | Ø- |
| Lala | Ø, n; n/_i | v- | Ø°-; -Ø- |
| Gabadi | Ø, n | Ø° | Ø°-; -ʔ°- |
| Doura | Ø; n/_i | . | Ø°- |
| Motu | Ø, ɣ | kw | gw |
| Sinagoro (B) | ɣ | kw | ɣw |
| Sinagoro (T) | ɣ; Ø/#_ | kw- | gw |
| Keapara (Hula) | ɣ | kw- | kw- |
| Keapara (Aroma) | ɣ | w- | kw |
| Ouma | ʔ; n/_i | . | g° |
| Magori | Ø | . | g° |
| Yoba | Ø; n/_i | . | . |
| Bina | Ø; n/_i | . | Ø- |

I will not illustrate innovation C, the merger of *s and *c, as it is only their retention as separate phonemes (in some Admiralties languages) which is of interest.

Innovations D and E, the fortis/lenis split of *p and *k, were illustrated in sections 3.5.1.2 and 3.5.2. Fortis reflexes of items reflecting known POC etyma are few and far between.

With regard to innovation F, the merger of the PPT lenis reflex of POC *k with POC *q as PPT *q, the reader is again referred to section 3.5.2, where lenis reflexes of POC *k are exemplified. Initial POC *q is illustrated in the following:

(6.10)  POC *qate 'liver' > PPT *qate- > Ubir ate-, Are, Paiwa, Boianaki kate-, Wedau ate- 'gall bladder', Tawala ate-, Bwaidoga (Iduna), Yamalele ʔase-ʔase-, Molima, Dobu ʔate-, Sewa Bay ate-, Duau kate-kate-, Tubetube kate-, Suau (Kwato, Daui) ʔate-, Kilivila kata, Muyuw kat, Keapara (Maopa) ɣae-, Keapara (Hula) ae-, Sinagoro (Balawaia) ɣase-, Motu ase-, Doura, Kuni ake-, Roro ahe-, Mekeo aʔe-

(6.11)  POC *qaqe 'leg' > PPT *qaqe > Arifama, Ubir a-, Doga ae-, Anuki, Are, Paiwa, Boianaki kae-, Taupota ʔae-, Wedau, Tawala ae-, Dawawa kaya-, Bwaidoga aye-, Bwaidoga (Iduna) aye-, Yamalele ʔage-, Molima ʔave, Dobu ʔae-, Sewa Bay kae-, Duau kahe-, Tubetube kai-kai-, Suau (Kwato, Saui) ʔae-, Bohutu, Wagawaga ahe-, Kilivila keke-, Muyuw kake-, Misima ae-, Nimoa he-hae-, Sudest yeye-, Ouma aʔe-, Magori ake-, Keapara (Maopa), Sinagoro (Balawaia) ɣaye-, Keapara (Hula) aye-, Motu, Doura, Gabadi, Lala, Roro, Kuni ae-

Medial *-q- is reflected in examples (6.1) and (6.11) and in those reflexes of POC *draʀaq 'blood' (6.8) which add a possessive pronominal suffix after POC final *-q.

The one PPT phonological innovation which has no parallels in WM outside the Papuan Tip cluster is the merger of POC *ñ with POC *n in all items except POC *ñamuk 'mosquito' – and it is the exception which is unusual. The data for the latter are:

(6.12)  POC *ñamuk 'mosquito' > PPT *ñamuq 'mosquito' >

Anuki, Are namo-namo 'housefly', Molima namo(kili), Boianaki namo(kiri), Motu namo

Arifama yamu(sikir), Doga yamo(giri)

Kukuya, Tubetube nimwai, Diodio, Bwaidoga (Iduna) nimoya, Bwaidoga nimoya, Dobu, Sewa Bay, Duau, Bunama nemwa, Kilivila, Misima nimu, Magori, Yoba, Bina, Ouma, Keapara (Hula, Maopa), Sinagoro (Balawaia) nemo

Sudest (Madawa) ñamo-ñamo 'fruitfly'

The reflexes in (6.12) are divided into four groups. In the first (drawn from the extremes of the Papuan Tip cluster) are those which reflect POC *ñ- as if it were *n-. In the second are reflexes from communalects of the Are chain, which reflect *ñ- as if it were *y-. In the third are cases (geographically well scattered), where *ñ- becomes n- but the following vowel is raised. And in the fourth is the one language which reflects *ñ- as ñ- in this item. Since there is no other item reflecting the same correspondence set, an inference must be made from these data alone. Since we know that this item began with POC ñ-, it is a reasonable inference that the reflexes in (6.12) do reflect PPT ñ-. But the latter is reflected nowhere else where we would expect it. POC -ña P:3S, *poñu 'turtle',

*mañawa* 'breath', *moña(k)* 'fat' and *ñonu* '*Morinda citrifolia*' are all reflected in Papuan Tip languages, but with PPT *n*.

## 6.2.2 MORPHOSYNTACTIC INNOVATIONS

The strongest evidence that the Papuan Tip cluster is a genetic unit lies in its morphosyntactic innovations. These are:

A. All Papuan Tip languages except Nimoa, Sudest, and the Kilivila chain have verb-final (SOV) clause order. (The exceptions have SVO.)

B. All Papuan Tip languages except the Kilivila chain, Magori and Yoba have postpositions (as opposed to prepositions), and, of these, all except Tubetube reflect the POC locative proform *iai* as a locative postposition.

C. All Papuan Tip languages except those of the Kilivila chain retain or reflect the addition of a pronominal possessive suffix to the adjective (both attributive and predicative) agreeing in person and number with the noun it describes.

D. All Papuan Tip languages except Misima, Nimoa and Sudest reflect the possessive pronominal suffixes both in their original function and as object pronominal suffixes on the verb. Misima reflects the plural suffixes in this way.

E. No language of the Papuan Tip cluster reflects the POC common article *a/*na*, and no language has a common article.

Four of the five innovations above have exceptions, languages which either have not participated in the innovation or have lost the feature concerned. In the first three cases, the exceptions include the Kilivila chain, and, because its languages are so different from their neighbours to the south, it is possible that they do not belong to the Papuan Tip cluster. However, they are linked to the Louisiades languages by several phonological innovations, and we can track down in other Papuan Tip languages the seeds of some of the morphosyntactic innovations which have occurred in the Kilivila chain. Since the position of the Kilivila chain is not relevant to larger subgrouping questions, and my interpretation of the data was summarised in Ross (1983c), I shall not deal with the Kilivila chain here – except to note that it does participate in innovation D above, which among WM Oceanic languages is limited to the Papuan Tip cluster.

The innovations above are in part syntactic, and therefore at first sight only weak evidence for subgrouping. However, if we consider them in conjunction with the morphological innovations contained in B, C and D, and in the context of the fact that a change from SVO (the apparent clause order of POC) to SOV is very unnatural (section 1.6.2), then we have strong subgrouping evidence. To echo Lynch (1981:110-111): 'It is clearly ridiculous to propose that *each* of the sixty or seventy members of this group acquired these two grammatical features [A and B above] from neighbouring Papuan languages. It is *not* ridiculous, however, to suggest that these features were acquired by either a *single* language, Proto Papuan Tip, or by the two or three interstage languages immediately descended from Proto Papuan Tip.'

Each of the examples below illustrates both morphosyntactic innovations A (verb-final order) and B (postpositions):

(6.13)   Sewa Bay (Dobu/Duau network)

*nabwanimo    maikel   na   kewou   deina-na-i        i-gelu-na*
yesterday    Michael   P:3S   canoe   surface-P:3S-POSTP   S:3S-board-TA
'Yesterday Michael boarded his canoe.'

(6.14)   Taupota (Are/Taupota chain)

*maiware-i      a-ne-nai*
Maiwara-POSTP   S:1S-RD-come
'I have come from Maiwara village.'

(6.15)   Suau (Sariba)

*inosi   duha-ena      ye-beku*
Inosi   ditch-POSTP   S:1S-fall
'Inosi fell into the ditch.'

(6.16)   Roro (Central Papuan family)

*miria   matiu-ai      e-ahu-na-ʔu*
Miria   wood-POSTP   S:3S-hit-TR-P:1S
'Miria hit me with a stick.'

Examples (6.13), (6.14) and (6.16) reflect the postposition PPT *[i]ai* (< POC *iai* locative proform ), which is reflected in Papuan Tip languages as shown in Table 31.

Note that Nimoa and Sudest, which have SVO clause order, retain reflexes of the postposition PPT *[i]ai* in temporal expressions, e.g. Nimoa *yovi-na-i* 'in the evening', *heana-na-i* 'in the morning', Sudest *yavi-yai-e* 'in the evening'. These seem to be fossils rather than cases of a productive enclitic, but they indicate that these two languages are descended from one which used a reflex of PPT *[i]ai*, and, since it used the postposition, probably had verb-final clause order.

Tubetube has replaced its reflex of PPT *[i]ai* by the postposition *-me*. However, a reflex of *[i]ai* remains as a fossil in the expression *boni-ai-me* 'at night'.

Reflexes of the POC locative proform *iai* also occur as a postposition in the North New Guinea cluster in the Ngero family, Roinji and Biliau (section 5.4.1) and in the Meso-Melanesian cluster in Torau and Mono-Alu (section 7.6.4). In the latter languages, as the discussion in section 10.2 shows, there is little doubt that this is a case of independent parallel innovation. In the case of the Ngero languages, it is remotely possible (i.e. there is no contrary evidence) that PPT was an offshoot of the North New Guinea cluster and that the innovation is a shared inheritance.

Morphosyntactic innovation C is the obligatory use of a pronominal possessive suffix on the adjective (both attributive and predicative) agreeing in person and number with the noun it describes. Examples are:

(6.17)   Ubir (Are/Taupota chain)

*goa   bobou-n*          *goa   bobou-s*
house   new-P:3S          house   new-P:3P
'a new house'            'new houses'

TABLE 31: REFLEXES OF PROTO PAPUAN TIP *[i]ai

| Maisin | -e | locative, allative |
|---|---|---|
| Arifama | -ai | locative, allative, ablative |
| Ubir | -[y]ai | locative, instrumental, temporal |
| Are | -ai | locative, instrumental, temporal |
| Wedau | -ai | ablative, instrumental, temporal |
| Tawala | -ai | locative, ablative, instrumental, temporal |
| Bwaidoga | -ya | locative, allative, ablative, temporal |
| Yamalele | -ye | locative, allative, temporal |
| Molima | -ya | locative |
| Dobu | -ya | locative, allative, temporal |
| Sewa Bay | -ai | locative, allative |
| Duau | -ai | locative, allative |
| Suau | -[i]ai | locative, instrumental |
| Misima | -[y]a | locative, temporal |
| Nimoa | -ai | temporal |
| Sudest | -e | temporal |
| Ouma | -ai | locative |
| Bina | -e | locative |
| Keapara | -ai | locative, allative, temporal |
| Sinagoro | -ai | locative, temporal |
| Motu | -ai | locative, temporal |
| Gabadi | -ai | locative, instrumental, temporal |
| Lala | -ai | locative, ablative, instrumental, temporal |
| Kuni | -ai | locative, ablative, instrumental, temporal |
| Roro | -ai | locative, ablative, instrumental, temporal |
| Mekeo | -ai | locative, ablative, instrumental, temporal |

(6.18) Yamalele (Bwaidoga network) (Beaumont and Beaumont 1975:131)

> yau    kwamana    siai-ku
> D:1S    child          small-P:1S
> 'I was a small child'

(6.19) Suau (Kwato)

> numa    halihaliu-na        numa    halihaliu-di
> house    new-P:3S          house    new-P:3P
> 'a new house'             'new houses'

(6.20) Sinagoro (Balawaia) (Central Papuan family)

> numa    variɣu-na        numa    variɣu-ri
> house    new-P:3S          house    new-P:3P
> 'a new house'             'new houses'

In Misima the third person singular prefix now serves as an adjective-marker for both singular and plural: *limi bwabwata-na* 'big house(s)'.

It is clear that the structure above existed in the Oceanic dialect chain from which PPT separated. However, to judge from the fact that reflexes of the pronominal suffixes elsewhere occur only on some adjectives (e.g. in the Admiralties) or only in limited syntactic environments (e.g. predicatively in Roviana), its generalisation to all adjectives in apparently all syntactic environments is a PPT innovation.

Morphosyntactic innovation D, the use of possessive pronominal suffixes as object suffixes, is illustrated in example (6.16) and below. This usage does not occur elsewhere in WM Oceanic, and appears to be a PPT innovation. POC appears not to have had object pronominal enclitics.

(6.21) Tawala (Are/Taupota chain)

> *manasa  i-launi-u*
> Manasa    S:3S-hit-P:1S
> 'Manasa hit me.'

(cf. *mata-u* 'my eye')

(6.22) Sewa Bay (Dobu/Duau network)

> *maikel   i-unui-gu-na*
> Michael   S:3S-hit-P:1S-TA
> 'Michael hit me.'

(cf. *tama-gu* 'my father')

(6.23) Sinagoro (Saroa) (Central Papuan family)

> *miana      na      au      b-e-kwari-gu*
> Miana       **      D:1S    TA-S:3S-hit-P:1S
> 'Miana hit me.'

(cf. *au ɣima-gu* 'my arm')
**na marks *miana* as subject of a transitive verb.


## 6.3 INTERNAL RELATIONSHIPS OF THE PAPUAN TIP CLUSTER

The internal relationships of the Papuan Tip cluster are of consequence to the theme of this work only insofar as, like the North New Guinea linkage and the linkages into which it divided, they illustrate the role of dialect differentiation in the diversification of WM Oceanic languages. Whilst it is reasonably certain that PPT was descended from a communalect which *separated* from an early Oceanic linkage, resulting in a set of shared innovations in most of its descendants, the further history of the Papuan Tip cluster was largely one of *differentiation*. PPT speakers evidently spread through the islands of the D'Entrecasteaux and Louisiades archipelagos and established themselves on the nearby mainland coastal strip, resulting in its gradual differentiation into a dialect linkage. Contact at certain points in the linkage weakened, however, resulting in the division of the Papuan Tip linkage into the Nuclear and Peripheral Papuan Tip linkages. However, neither the Nuclear nor the Peripheral Papuan Tip languages are characterised by a set of shared innovations. Instead, each linkage is chained together by a series of intersecting isoglosses as was described for the linkage ancestral to the Ngero/Vitiaz family in section 5.4.1, but there is a distinct gap between the two linkages in the chains of isoglosses.

It is well known from research into the Kula ring that there have been very complex patterns of contact within the D'Entrecasteaux and Louisiades archipelagos, and it is probable that these contact patterns have changed on various occasions in the past (cf. Allen 1977a:396-397). The result has been that many people have been bilingual in Papuan Tip languages of different subgroups, and languages have influenced each other to the degree that we can speak of 'indirect inheritance' in Biggs' (1965) sense. Indirectly inherited correspondences are shown in brackets in Tables 28 and 29. Cases of indirect inheritance include the following:

a) the inherited reflex of PPT *r in the Kilivila chain is apparently y, but many items have l, apparently in borrowings from languages of the Bwaidoga or Dobu-Duau networks;

b) Kurada is a Suauic communalect, with v as its inherited reflex of PPT *v, but because of its proximity to communalects of the Dobu/Duau chain, many items reflect PPT *v with h;[75]

c) Wagawaga is another Suauic communalect whose contact pattern has altered, and much of its lexicon is transparently borrowed from communalects of the Taupota chain, resulting in a very obvious set of indirectly inherited reflexes.

At some point after the division of the Papuan Tip linkage, the communalect which was to become Proto Central Papuan broke away from the Peripheral Papuan Tip linkage and became separated from it. Features which indicate a closer relationship to the languages of the Kilivila/Louisiades network than to the Nuclear Papuan Tip linkage are:

A. POC/PPT *s became a liquid ([l] or [r]) in Proto Kilivila, Misima and Proto Central Papuan, but nowhere in the Nuclear Papuan Tip linkage.

B. PPT initial *q- (< POC *k-, *q-) is reflected as a voiced fricative ([ɣ-]) in Proto Central Papuan and Sudest; Nimoa [h-] presumably has the same source. The languages of the Nuclear Papuan Tip linkage reflect PPT initial *q- as a voiceless stop ([k-] or [ʔ-]).

C. POC/PPT final consonants are lost in the Proto Central Papuan, the Kilivila chain, Sudest and Nimoa (in Misima PPT *-p, *-q, *-ŋ are lost but *-r, *-l, *-s, *-n remain). In the languages of the Papuan Tip linkage, POC final consonants are retained, with a vowel (descended from schwa?) added: -i in the Suauic network and -a elsewhere.

D. PPT *[sa]ŋavulu 'ten' is reconstructible, but is replaced in Nimoa and some Central Papuan languages by reflexes of PPT *gwau(a)-ta (Nimoa hwawate, Motu gwauta, Gabadi, Lala ouka, Mekeo ouʔa(na)). The etymon PPT *gwau is evidently also the source of Sewa Bay gwauina 'very many', but only the languages listed here reflect the meaning 'ten'. PPT *ta is a reflex of the morpheme discussed below in section 10.3.1.2.

It must be admitted that in its syntax Proto Central Papuan was evidently more similar to the present-day Nuclear Papuan Tip languages than to the Peripheral Papuan Tip languages, but on the hypothesis proposed here, this is attributable to changes in the Kilivila/Louisiades languages (radical changes in the case of the Kilivila chain) after the separation from them of Proto Central Papuan. On the other hand, as noted in Ross (1983b), Proto Central Papuan and the other Peripheral Papuan Tip languages share a probable retention in that tense/aspect-marking morphemes occur both before and after the subject pronominal proclitic; this no longer occurs in the Nuclear Papuan Tip languages.

Just as this work was going to press, extensive lexical and morphosyntactic data for Gumasi (known to its speakers as Gumawana) were provided by Clif Olson of the Summer Institute of Linguistics. Their preliminary analysis indicates that Gumasi belongs to the North Mainland/D'Entrecasteaux linkage (Figure 7), not to the Kilivila chain (Figure 8). Gumasi is apparently as isolate within that linkage, but perhaps related more closely to the Bwaidoga network than to any other group. It has also been considerably influenced by Kilivila.

CHAPTER 7

THE NORTH-WEST SOLOMONIC GROUP


7.1 INTRODUCTION

The North-West Solomonic group consists of all AN languages spoken in the area shown in Map 10, stretching from Nissan (or Nehan or Green) Island in the north-west to the boundary between Maringe and Bugotu on the south-eastern tip of Santa Ysabel. This area also contains the greatest concentration of non-AN languages spoken in island Melanesia (Wurm 1975), and it is likely that bilingualism involving both AN and non-AN languages is the source of the considerable diversity which characterises the area's AN languages. However, I shall present evidence in this chapter to show that, despite their diversity, these languages are descended from a single proto language, Proto North-West Solomonic. In Chapter 8, I shall show that PNS was a language co-ordinate with the ancestors of some of the Oceanic languages of New Ireland, forming with them the Meso-Melanesian cluster.


7.2 PREVIOUS STUDIES

Previous work on the prehistory of the AN languages of the area has been published by Lincoln (1976b, 1976c) and Ross (1982b) for Bougainville, by Tryon and Hackman (1983) for Choiseul, the New Georgia group and Santa Ysabel, and by Ross (1986) for the whole area.

Capell (1971a) had noted that the languages of Buka Island shared innovations in their verbal morphology. Lincoln (1976c) recognised that there was a similarity between these verbal morphemes and possessive pronominal suffixes, and that a parallel similarity existed in Torau, Uruava and Mono. In addition to this morphosyntactic evidence, he provided lexicostatistical support for recognising four small groups and two isolates (1976c:426) among the languages of Bougainville and suggested the likelihood that some of these groups could be consolidated into larger groupings (1976c:431-2). He excluded Nehan from any of these groups. Ross (1982b) examined the verbal morphology of Nehan and all the Bougainville AN languages and showed

a) that Lincoln's Buka group (Solos, Petats and Halia), his north Bougainville group (Hahon, Teop and Tinputz) and both his isolates (Saposa and Papapana) could be combined with Nehan into a Nehan/north Bougainville group;

b) that the resulting three groups on Bougainville and its offshore islands, namely Nehan/north Bougainville, Piva/Banoni, and Mono-Alu/Torau/Uruava were members of a Bougainville group which had a clear boundary separating it from the languages of New Ireland at its

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north-western extreme, and a possible boundary separating it from the languages of Choiseul at its south-eastern extreme.

Apart from the inclusion of Nehan in this grouping, these findings confirmed Lincoln's conclusions and predictions (1976c:431-2).

The work of Tryon and Hackman (1983:56-64 and *passim*) on the western Solomon Islands overlaps with that of Lincoln (1976c) and Ross (1982b) on Bougainville only in the consideration by all three of Mono-Alu in the Shortland Islands (off the south coast of Bougainville, but politically part of the Solomon Islands). Tryon and Hackman established three groups of languages in the western Solomon Islands, namely Choiseul, New Georgia and Ysabel, and tentatively grouped these together into a Western Solomons grouping. Ross (1986) showed that these languages and the Bougainville grouping shared a set of innovations, mostly phonological, which justified their inclusion together as the North-West Solomonic group.

Ross also indicated that it was not necessary to posit a western Solomons grouping of Choiseul, New Georgia and Ysabel within this larger grouping. The putative western Solomons group was based on two apparent exclusively shared innovations, the merger of POC *r, *ʀ, and *dr and the replacement of expected *(n)au D:1S by *(a)rau.[76]
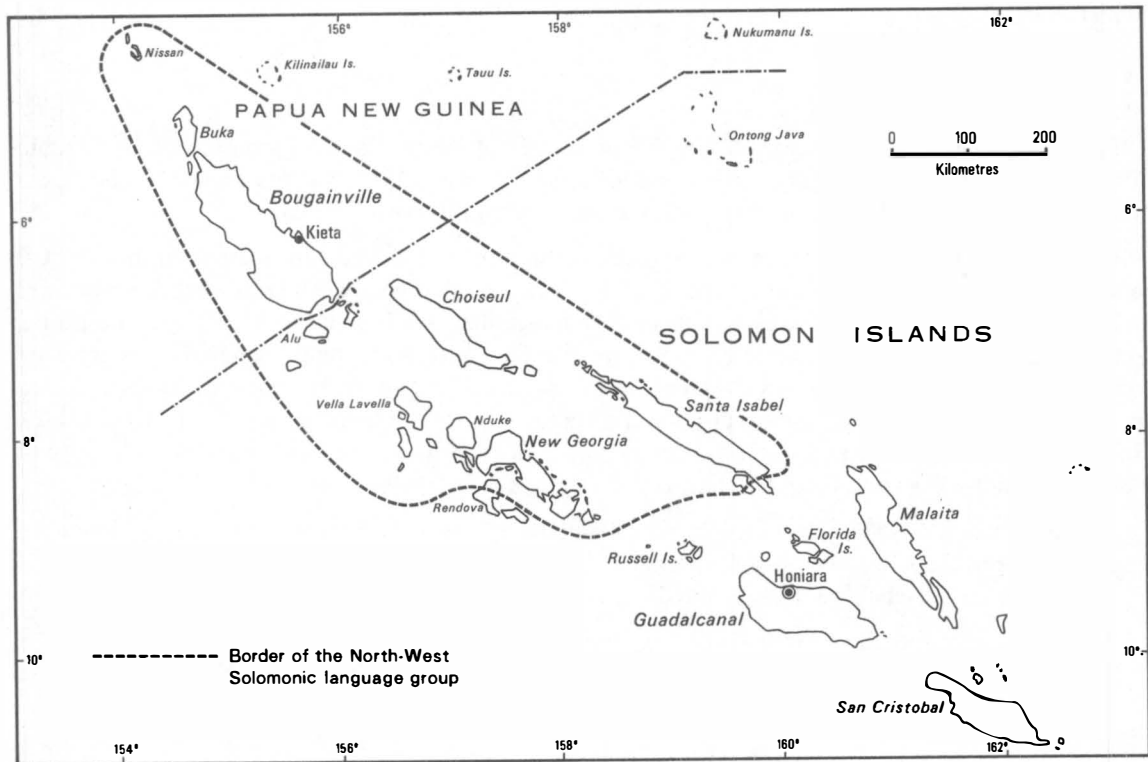


MAP 10:  LOCATION OF THE NORTH-WEST SOLOMONIC GROUP OF OCEANIC LANGUAGES

Ross (1986) showed that POC *dr had not merged with *r and *ʀ but with *d throughout the North-West Solomonic group: Tryon and Hackman had found that items in their data corpus reflecting reconstructed items with POC *dr (conventional *nd) reflected this *dr in the same way as POC *r and *ʀ. They therefore took it that POC *dr had merged with *r and *ʀ in western Solomons languages. Ross' (1986) computer-aided search found in his corpus a small number of items requiring the reconstruction of PNS *d, reflecting both POC *dr and *d (as distinct from PNS *r, reflecting POC *r and *ʀ), and this led to the conclusion that Tryon and Hackman's putative POC *dr items actually reflect POC *r (e.g. POC *raun 'leaf' rather than **draun). A similar attribution of items reflecting POC *r to cognate sets supposedly reflecting POC *dr also resulted in the tabulation in Ross (1982b:30) of separate Bougainville correspondence sets reflecting POC *d and *dr where the later computer-aided analysis showed that they had merged. This reinterpretation was presented in the table of sound correspondences in Ross (1986) and is included in Table 32 here.

Tryon and Hackman's second innovation characterising the languages of the western Solomons, namely the replacement of expected *(n)au D:1S by *(a)rau, was shown by Ross (1986) also to be reflected in most Bougainville languages, and therefore to be one of the pieces of evidence for the North-West Solomonic grouping.

## 7.3 OVERVIEW OF THE NORTH-WEST SOLOMONIC GROUP

The acquisition of more data, especially from Choiseul, New Georgia and Santa Ysabel has led to some reinterpretation of internal relationships within the North-West Solomonic group since the paper published as Ross (1986) was written. This reinterpretation is also in part the result of adopting a more eclectic model than that used in the studies mentioned above. There are two major reinterpretations:[77]

A. PNS diffused into a dialect chain which separated into five smaller chains and/or proto languages. The descendants of three of these, Proto Nehan/North Bougainville, Proto Piva/Banoni and Proto Mono-Alu/Torau/Uruava, are situated on Bougainville and its offshore islands. This means that a distinct Bougainville grouping within the North-West Solomonic group is no longer posited, as the innovations in verbal morphology which Ross (1982b) attributed to it have also been found in languages of New Georgia and Ysabel (section 7.6.1). The languages of Bougainville exclusively share only one known innovation, the merger of PNS *d (< POC *d and *dr) and *j (< PNS *j), but this innovation occurs independently too often in WM Oceanic languages to serve alone as a subgrouping criterion. Four of the five groups also reflect a PNS innovation in clause-level syntax, namely a change from an SV clause order to an VS unmarked order (section 7.5); the fifth group is Mono-Alu/Torau/Uruava, whose subsequent change to SOV clause order has displaced any potential evidence for a VS order).

B. The New Georgia and Ysabel groups are descended from a common ancestor characterised by a further innovation in its clause-level syntax such that when topicalisation occurred, the topic constituent was moved to clause-final position and introduced by the morpheme *si. Although the movement of the topic to clause-final position is a syntactic change and, as such, weak evidence for subgrouping, the occurrence of a clause-*final* topic is sufficiently unusual to imply a shared innovation, the more so as the topic is introduced by the same (innovative) morpheme in both cases.

Thus the five primary groups into which the North-West Solomonic chain split are:

a)  Proto Nehan/North Bougainville

b)  Proto Piva/Banoni

c)  Proto Mono-Alu/Torau/Uruava

d)  Proto Choiseul

e)  Proto New Georgia/Ysabel

The first three of these, as can be inferred from Map 11, represent settlements around the edges of what was probably the already populated island of Bougainville, and their separation is probably attributable to the fact that the intervening area had been occupied by speakers of non-AN languages ever since AN-speakers arrived. Of the other two groups, Proto New Georgia/Ysabel appears on present evidence to have formed a dialect chain which split into two chains, one in the New Georgia group and the other on Ysabel. However, the fact that Tryon and Hackman (1983:64) find only very limited evidence for the former unity of the New Georgia group means that this area requires further research.



MAP 11:  LANGUAGES OF THE NORTH-WEST SOLOMONIC GROUP

Proto North-West Solomonic

*North-West Solomonic chain*

Proto Nehan/North Bougainville

*Nehan/North Bougainville network*

Proto
Choiseul

Proto New Georgia/Ysabel

Proto
Buka

Proto
Saposa-Tinputz

*Choiseul
chain*

*New
Georgia
chain*

*Ysabel
chain*

| Solos | Nehan | Petats<br>Halia<br>*inc.*<br>Haku<br>Hanahan<br>Kilinailau<br>Selau | Taiof<br>Saposa | Hahon<br>Tinputz<br>Teop | Papapana | Piva<br>Banoni | Mono-Alu<br>Torau<br>Uruava<br>*(extinct)* | Vaghua<br>Varisi<br>Ririo<br>East Choiseul<br>*inc.*<br>Katazi<br>Babatana<br>Sengga<br>Avasö<br>Lömaubi | Ghanongga<br>Lungga<br>Simbo<br>Nduke<br>Roviana<br>Ughele<br>Hoava<br>Marovo<br>Vangunu | Kia<br>Kokota<br>Laghu<br>Zazao<br>Blablanga<br>Maringe<br>Gao |

FIGURE 10: THE NORTH-WEST SOLOMONIC GROUP: GENETIC TREE

The remainder of this chapter will be concerned particularly with the evidence for the reinterpretations and groupings listed above and with previously unpublished evidence for the genetic tree in Figure 10. Material from previous publications is repeated only where it is necessary in the presentation of these reinterpretations.

Especially in the area of morphosyntax, innovations which provide evidence for the unity of the whole North-West Solomonic group and those which tell us something about the internal relationships of languages and subgroups within it are closely intertwined. For this reason I deal here separately with phonological and lexical evidence on the one hand and morphosyntactic evidence on the other. Because much of the morphosyntactic evidence has to do with clause-level syntax (and yet this is an apparent source of diversity), two sections are devoted to morphosyntactic innovation: section 7.5 on clause-level syntax and section 7.6 on other morphosyntactic innovations.

## 7.4  PHONOLOGICAL AND LEXICAL INNOVATIONS

### 7.4.1  THE NORTH-WEST SOLOMONIC GROUP

A table of consonant correspondences for the North-West Solomonic group is given in Table 32. Phonological innovations shared by the whole group were listed and discussed with examples in Ross (1986). They are repeated here in accordance with the revised POC consonant paradigm presented in Chapter 3:

A. POC *r and *ʀ merged as PNS *r.

B. POC *dr and *d merged as PNS *d.

C. POC *s and *c merged as PNS *s.

D. For the vast majority of etyma containing POC *k, languages of the North-West Solomonic group agree in reflecting the same grade, fortis or lenis, of POC *k in that etymon, i.e. POC *k split into PNS *k and *γ;

E. POC *p underwent the following innovations:

    1. For the vast majority of etyma containing POC *p-, languages of the North-West Solomonic group agree in reflecting the same grade, fortis or lenis, of POC *p- in that etymon, i.e. POC *p- split into PNS *p- and *v-;

    2. POC medial *-p- underwent lenition to PNS *-v-.

F. POC word-final *-q became the stop PNS *-k (whereas POC initial and medial *q in various daughter-languages merged with PNS *γ (< POC *k) or was lost.

G. POC *w was lost.

H. All North-West Solomonic languages which reflect PNS final vowels (i.e. the vast majority[78]), reflect a PNS echo vowel added after word-final POC consonants.

Of these innovations, A, B, C, D and E have no value here for subgrouping purposes, as they are shared by the whole Meso-Melanesian cluster, to which PNS belongs (Chapter 8). Innovations F, G, and H, however, are peculiar to the languages of the North-West Solomonic group, and are shared neither by other WM Oceanic languages, nor by the South-East Solomonic group which borders on North-West Solomonic (within the South-East Solomonic group, the Guadalcanal-Gelic languages lose POC initial *w-, but as this change does not affect medial *-w- and does not affect the Cristobal-Malaitan branch of the group, it is not to be equated with innovation G).

TABLE 32: NORTH-WEST SOLOMONIC GROUP: CONSONANT CORRESPONDENCES

| | *p- fortis | *p lenis | *b | *w | *m | *mw | *t |
|---|---|---|---|---|---|---|---|
| POC | *p- | *p | *b | *w | *m | *mw | *t |
| PNS | *p- | *v | *b | *∅ | *m | . | *t |
| PNN | *p- | *v | *b | *∅ | *m | . | *t |
| Nehan | p- | w; ∅/_u | b | ∅ | m | . | t |
| Solos | p- | h | b | ∅ | m | . | t |
| Petats | p- | h | b | ∅ | m | . | t; c/_i |
| Halia | p- | h | b | ∅ | m | m | t; c/_i |
| Selau | p- | w; -u | b | ∅ | m | . | t; c/_i |
| Taiof | p- | f | b, v | ∅ | m | . | t; c/_i |
| Hahon | p- | v | b | ∅ | m | . | t; c/_i, u |
| Tinputz | p- | v; -∅, -h | p | ∅ | m | . | t; s/_i, u |
| Teop | p- | v | b | ∅ | m | . | t; s/_i, u |
| Papapana | p- | v | b | . | m | . | t; s/_i |
| Banoni | p- | v; v, ɣ/#_o, u | b | ∅ | m | . | t; c/_i, u |
| Piva | p- | v | b | . | m | . | t; c/_i, u |
| Uruava | p- | v; ∅/_u | b | ∅ | m | . | t; s/_i |
| Torau | p- | ∅ | b | ∅ | m; -ŋ | . | t |
| Mono-Alu | p- | h; -∅ | b | ∅ | m; -ŋ | . | t |
| PCH | *p- | *v | *b | *∅ | *m | . | *t |
| Vaghua | p- | v | b | ∅ | m | . | t; c/_i, u |
| Varisi | p- | v | b | ∅ | m | . | t; s/_i |
| Ririo | p- | v; ∅/#_i, e | b | ∅ | m | . | t; c/_i, u |
| Babatana | p- | v | b | ∅ | m | . | t |
| Sengga | p- | v | b | ∅ | m | . | t |
| PNGe | *p- | *v | *b | *∅ | *m | . | *t |
| Lungga | p- | v | b | ∅ | m | . | t |
| Nduke | p- | v | b | ∅ | m | . | t |
| Roviana | p- | v | b | ∅ | m | . | t |
| Hoava | p- | v | b | ∅ | m | . | t |
| Vangunu | p- | v | b | ∅ | m | . | t |
| PYS | *p- | *f | *b | *∅ | *m | *m | *t |
| Kia | p- | f | b | ∅ | m | m | t |
| Kokota | p-; f-/_C | f | b | ∅ | m | . | t |
| Laghu | p-; f-/_C | f; b/_C | b | . | m | m | t |
| Blablanga | p-; f-/_C | f | b | ∅ | m | . | t |
| Ghove | p-; f-/_C | f | b | . | m | . | t; k/_C |
| Maringe | p-; f-/_C | f | b | ∅ | m | . | t; k/_C |

TABLE 32: *(continued)*

| | *d, *dr | *n | *ñ | *l | *r, *R |
|---|---|---|---|---|---|
| POC | *d, *dr | *n | *ñ | *l | *r, *R |
| PNS | *d | *n | *ñ | *l | *r |
| PNN | *d | *n | *n | *l | *r |
| Nehan | d | n | n | l | r |
| Solos | r; -t | n | n | n | n |
| Petats | r | n | n | l | l |
| Halia | r | n | n | l | l |
| Selau | r | n | n | l, r | r, l |
| Taiof | r | n; ŋ/_*i# | n | n, r | n; ŋ/_#i; -r-, -n- |
| Hahon | . | n | . | n | n; -r-, -n- |
| Tinputz | r | n | . | n, l | n; -∅- |
| Teop | r | n | . | n, r | n; -n-, -r- |
| Papapana | r | n | . | n | n; -n-, -r- |
| Banoni | r | n; -m | .; -m | n, r | n; -n-, -r-; -m |
| Piva | r | n | . | n, r | n |
| Uruava | d | n | . | r | r |
| Torau | d | n | . | n, l | r |
| Mono-Alu | r | n; -ŋ; l/_Vl, lV_ | . | l, n | l, n |
| PCH | *d | *n | *n | *l | *r |
| Vaghua | . | n | n | l | r |
| Varisi | . | n | . | l | r |
| Ririo | d | n | . | l | r |
| Babatana | d | n | . | l | r |
| Sengga | d | n | . | l | r |
| PNGe | *d | *n | *ñ | *l | *r |
| Lungga | d | n | ñ | l | r |
| Nduke | d | n | n | l | r |
| Roviana | d | n | n | l | r |
| Hoava | d | n | n | l | r |
| Vangunu | d | n | n | l | r |
| PYS | *d | *n | *ñ | *l | *r, *l |
| Kia | d | n | n | l | r, l |
| Kokota | d | n | n | l | r, l |
| Laghu | d | n | n | l | r, l |
| Blablanga | d | n | n | l | r, l |
| Ghove | d | n | ñ | l | r |
| Maringe | d | n | ñ | l | r, l |

TABLE 32: *(continued)*

| | *s, *c | | *j | *y |
|---|---|---|---|---|
| POC | *s, *c | | *j | *y |
| PNS | *s | | *j | *Ø; -y- |
| PNN | *s | | *d | *Ø |

| | fortis | lenis | | |
|---|---|---|---|---|
| Nehan | s | h | . | Ø |
| Solos | s | | r | . |
| Petats | s | | r | Ø |
| Halia | s | | r | . |
| Selau | s | | . | Ø |
| Taiof | s | | r | . |
| Hahon | s | | . | . |
| Tinputz | h | | . | . |
| Teop | h | | r | . |
| Papapana | s, t | | r | . |
| | | | | |
| Banoni | s | | . | Ø |
| Piva | s | | . | Ø |
| | | | | |
| Uruava | Ø | | d | Ø |
| Torau | s | | d | Ø |
| Mono-Alu | l, s | | r | Ø |

| | fortis | lenis | *j | -z- |
|---|---|---|---|---|
| PCH | *s | *Ø; *-j-, *-Ø- | *j | -z- |
| Vaghua | s | Ø; -j-, -Ø- | j | . |
| Varisi | s | Ø; -z-, -Ø- | z | . |
| Ririo | s | Ø; -j-, -Ø- | j | . |
| Babatana | s | Ø; -j-, -Ø- | j | -z- |
| Sengga | s | Ø; -j-, -Ø- | j | -z- |

| | fortis | lenis | *j | *Ø; -y- |
|---|---|---|---|---|
| PNGe | *h | *s | *j | *Ø; -y- |
| Lungga | Ø | s | j | . |
| Nduke | Ø, h | s | z | . |
| Roviana | h | s | z | . |
| Hoava | h | s | z | Ø |
| Vangunu | s, h | s-; -z- | j | .; -i |

| | fortis | lenis | *j | *Ø; -j- |
|---|---|---|---|---|
| PYS | *s-; *-h- | *h | *j | *Ø; -j- |
| Kia | s | -h- | z | Ø |
| Kokota | s | -h- | z | .; -z- |
| Laghu | s | -h- | z | . |
| Blablanga | s | -h- | z | .; -z- |
| Ghove | s | -h- | j | .; -j- |
| Maringe | s | -h- | j | .; -j- |

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TABLE 32: *(continued)*

| POC | *k | | *q | *-q | *g | *ŋ |
|---|---|---|---|---|---|---|
| | fortis | lenis | | | | |
| PNS | *k | *γ | *q | *-q- | *g | *ŋ |
| PNN | *k | *∅ | *∅ | *-q | *g | *ŋ |
| Nehan | . | ∅ | ∅ | -∅ | g | ŋ |
| Solos | k | ∅ | ∅ | . | g | ŋ |
| Petats | k | ∅ | ∅ | . | g | ŋ |
| Halia | k | ∅ | ∅ | -∅ | g | ŋ |
| Selau | k | ∅ | ∅ | -k | g | ŋ |
| Taiof | k | ∅ | ∅ | -k | g | ŋ |
| Hahon | k | ∅ | ∅ | . | . | n |
| Tinputz | k | ∅ | ∅ | -∅ | k | n |
| Teop | k | ∅ | ∅ | -∅ | g | n |
| Papapana | . | ∅ | ∅ | -∅ | g | ŋ |
| Banoni | k | γ-; -γ-, -∅- | γ, ∅ | -γ- | . | ŋ |
| Piva | k | γ-; -γ-, -∅- | ∅-; -γ-, -∅- | . | g | ŋ |
| Uruava | k- | ∅ | ∅ | -∅ | ŋ | ŋ-; -∅-, -ŋ- |
| Torau | k-, ∅- | ∅ | ∅ | -∅, -k- | g | n |
| Mono-Alu | k, ʔ-, ∅- | ∅ | ∅ | -ʔ- | g | ∅ |
| PCH | *k | *γ | *q | *-k- | *g | *ŋ |
| Vaghua | k | γ | γ, ∅ | -k- | g | γ-; -ŋ-, -n- |
| Varisi | k | γ, ∅ | γ, ∅ | -k- | g | . |
| Ririo | k, ʔ | γ, ∅ | ∅ | -ʔ- | g | ŋ |
| Babatana | k | γ, ∅ | ∅ | . | g | ŋ |
| Sengga | k | ∅ | ∅ | . | g | ŋ |
| PNGe | *k | *γ | *q | *-k- | *g | *ŋ |
| Lungga | k | γ-, ∅-; -γ- | ∅ | -k- | g | ŋ |
| Nduke | k | γ, ∅ | ∅, γ | . | g | ŋ |
| Roviana | k | γ | ∅ | -k- | g | ŋ |
| Hoava | k | γ | ∅ | -k- | g | ŋ |
| Vangunu | k | ∅, h, γ | ∅ | . | g | ŋ |
| PYS | *k | *γ | *q | *-k- | *g | *ŋ |
| Kia | k | γ | γ-; -∅- | -k- | g | ŋ; ñ/_i |
| Kokota | k | γ, g; g/_C | γ-; -∅- | . | g | ŋ |
| Laghu | k | γ | γ-; -∅-, -γ- | -k- | g | ŋ |
| Blablanga | k | γ, g | γ | . | g | ŋ |
| Ghove | k | γ; g/_C | γ-, ∅-; -∅- | . | g | ŋ |
| Maringe | k | γ; g/_C | γ-, ∅-; -∅- | . | g | ŋ; ñ/_i |

One idiosyncratic lexical innovation has been observed. Two items with POC final *-n are reflected with PNS *-ŋ- (for expected **-n-):[79]

(7.1)    POC *qalipan 'centipede' > PNS *alivaŋa > Nehan hilaŋ (metathesis), Halia (Haku) lihaŋa, Taiof aifaŋ, Lungga li-livaŋa, Nduke livaŋa, Ghove, Maringe (na)lhiŋa

POC *qacan 'name' > PNS *asaŋa > Nehan haŋa, Taiof asaŋ, Banoni, Piva vasaŋa, Vaghua zaŋa, Kokota, Blablanga (n)aŋha

Compare these with PNS *-n- in:

(7.2)    POC *atun 'bonito' > PNS *atunu > Nehan, Halia (Haku), Tinputz (Kurtaci), Banoni atun, Maringe (n)aknu

## 7.4.2 THE NEHAN/NORTH BOUGAINVILLE GROUP

Phonological innovations shared by all members of the Nehan/North Bougainville group are as follows:

A. PNS *γ (< POC non-final *q and lenis grade of POC *k) is lost (see Ross 1986 for examples).

B. POC *u became *i in certain items in Proto Nehan/North Bougainville:

(7.3)    POC *walu 'eight' > PNN *ali > Nehan *(to)ali (cf. Torau anu, Varisi (ka)zalu)

POC *pitu 'seven' > PNN *viti > Nehan (to)witi, Halia (Haku) (to)hiti (cf. Mono hitu, Babatana vitu)

POC *kusupeq 'rat' > PNN *kiso > Nehan kih, Solos, Halia (Selau), Taiof kiso, Halia (Haku) isu (cf. Varisi kuzu, Ririo kuj, Maringe (na)kusi)

POC *suʀuq 'soup, liquid' > PNN *siro > Nehan iru (for exp **siru), Halia (Haku) siru, Tinputz (Kurtaci) siro, Teop hiro (cf. Mono-Alu lulu)

POC *tapuʀi 'Triton shell' > PNN *tuviri > Nehan tuil, Solos tuhin, Petats, Halia (Haku) tuhil, Taiof tifiŋ, Tinputz (Kurtaci) cuwiŋ, Teop suvin

## 7.4.3 PIVA AND BANONI

Piva and Banoni are phonologically quite conservative, and have undergone no phonological innovations which are not shared by other languages on Bougainville.

## 7.4.4 MONO-ALU, TORAU AND URUAVA

PNS *γ (< POC non-final *q and lenis grade of POC *k) is lost (see Ross 1986 for examples).

### 7.4.5 THE LANGUAGES OF CHOISEUL

One phonological innovation is uniquely shared by the languages of Choiseul: whilst the fortis reflex of POC *s* is *s* in all Choiseul languages, the lenis reflex of POC *s/*c splits (apparently without conditioning) into Proto Choiseul *∅ and Proto Choiseul *j (merging with POC *j):

(7.4)   POC *s > PCH *s:

POC *susu 'breast' > PNS *susu > PCH *susu > Vaghua, Varisi, Babatana susu, Ririo sus, Sengga sosu

POC *saqat 'bad' > PNS`*sa[k,q]ata (for exp **saqata) > PCH *sa[k,q]ata > Vaghua sata, Varisi sakata, Ririo sa?at

POC *s, c > PCH *∅:

POC *sapa 'what?' > PNS *sava > PCH *ava > Vaghua ava(na), Varisi, Ririo, Babatana ava

POC *suʀi 'bone' > PNS *suri > PCH **uri > Vaghua (v)ərə (v- by regular accretion), Varisi uri

POC *pican 'how many?' > PNS *visa > PCH *via > Varisi, Ririo, Babatana (ava)via, Sengga (ata)via

POC *s > PCH *j:

POC *siku 'elbow' > PNS *siku > PCH *jiku > Vaghua zə-zəkə, Varisi zi-ziku

POC *kusupeq 'rat' > PNS *kusu (for exp **kusuve) > PCH *kuju > Vaghua köj, Varisi kuzu, Ririo kuj

### 7.4.6 THE LANGUAGES OF NEW GEORGIA AND YSABEL

No phonological innovations have been found which are exclusively shared by the languages of New Georgia and Ysabel. There is, however, one idiosyncratic lexical innovation, namely that POC *rani 'day' is reflected with final -e (for expected **-i):

(7.5)   POC *rani 'day' > PNS *rani > Proto New Georgia/Ysabel *rane > Lungga, Nduke, Roviana, Hoava, Vangunu rane, Kokota (na)re (unexplained syllable loss), Ghove, Maringe (na)rane

Tryon and Hackman (1983:57) also attribute this innovation to Choiseul on the basis of Vaghua *ranə, but the Proto Choiseul form appears to have been *rani (Varisi, Babatana, Sengga rani, Ririo ren).

### 7.4.6.1 THE LANGUAGES OF NEW GEORGIA

The languages of New Georgia are phonologically conservative and have no exclusively shared phonological innovations. They share an idiosyncratic lexical innovation, the replacement of POC *sapa 'what?' by Proto New Georgia *saqa (for expected *sava):

(7.6)   POC *sapa 'what?' > PNS *sava > PNGe *saqa > Lungga sa, Nduke saγa, Roviana, Hoava (na)sa

## 7.4.6.2 THE LANGUAGES OF YSABEL

Phonological innovations exclusively shared by the languages of Ysabel are:

A. PNS *v (= lenis grade of POC *p) became Proto Ysabel *f (cf. Tryon and Hackman 1983:61):

(7.7)   POC *pati 'four' > PNS *vati > Blablanga, Ghove, Maringe fati

POC *qupi 'yam' > PNS *quvi > Kokota, Maringe (n)ufi, Blablanga (n)hufi

POC *paqoʀu 'new' > PNS *vaqoʀu > Kia, Kokota fo-foʀu

B. PNS *s (< POC *s, *c) often underwent lenition medially, resulting in a split into a rarer PYS fortis *-s- and a more frequent lenis *-h-, but remained fortis PYS *s- initially:

(7.8)   PNS *s- > PYS *s-:

POC *sai 'who?' > PNS *[e]sai > PYS *[i]hei > Kia, Kokota, Blablanga hei, Maringe [i]hei

POC *susu 'breast' > PNS *susu > PYS *su (ʔ)u ((-ʔ-, -Ø-) for exp **-h- ) > Kokota, Laghu suu, Blablanga suʔu, Maringe cuʔu (c for exp **s)

POC *suki 'sew' > PYS *su-suki > Kokota, Blablanga, Maringe su-suki

PNS *-s- > PYS *-s-:

PNS *kamisu 'spit' (cf. Banoni kamisu, Mono amisu, Vangunu kamisu) > PYS *kamisu > Kia ka-kamisu, Kokota, Maringe kmisu, Lagh ki-knisu, Blablanga (na)pnisu

POC *karasi 'peel (sweet potato +)' > > PNS *karasi > Ghove ka-krasi

PNS *-s- > PYS *-h-:

POC *tasik 'sea, salt water' > PNS *tasiɣa > PYS *tahi > Kia, Kokota, Blablanga tahi

POC *lisa 'nit' > PNS *lisa > PYS *liha > Kokota liha, Ghove, Maringe (g)liha

POC *kaso 'rafter' > PNS *ɣaso > Kia ɣaho

POC *ŋica 'when?' > PNS *ŋisa > PYS *ñiha > Kia, Laghu, Ghove niha, Kokota, Blablanga niha(o), Maringe (a)ñiha

There are also several idiosyncratic lexical innovations, listed by Tryon and Hackman (1983:62-64).  To these the following may be added:

(7.9)   POC *tolu 'three' > PYS *tilo (for exp **tolu) > Kia lito(ɣu) (metathesis), Kokota tilou, Laghu lito (metathesis), Blablanga thilo, Ghove tilo, Maringe tilo(i)

(7.10)  POC *pican 'how many?' > PNS *visa > PYS *(n)iha (for exp **(na)fiha) > Kia, Kokota, Laghu (n)iha(u), Blablanga (n)iha, Ghove (ŋ)ihe(i), Maringe (n)iha(i)

(7.11)  POC *pai 'where?' > PNS *vai > PYS *hae (for exp **fae) > Kia, Laghu, Blablanga hae, Kokota (sara)hae

## 7.5 MORPHOSYNTACTIC INNOVATIONS: NORTH-WEST SOLOMONIC CLAUSE-LEVEL SYNTAX

An important syntactic innovation reflected in most North-West Solomonic languages consists of a change from the SV clause order of other WM languages and apparently of POC to probable VS order of PNS. Section 7.5.1 therefore describes the possible clause order of POC as it is reflected in WM languages outside the North-West Solomonic area, whilst sections 7.5.2 to 7.5.4 are an attempt to reconstruct the clause order of PNS and the developments which have led to the variety of clause-level systems in today's North-West Solomonic languages. Section 7.5.2 provides an overview of the latter, and sections 7.5.3 and 7.5.4 deal respectively with topic-first and topic-final VS languages in the North-West Solomonic group. In the course of this reconstruction, rather more descriptive material is given than elsewhere in this work, since most of the relevant data are either not otherwise available or have been differently interpreted by other scholars.

### 7.5.1 UNMARKED CLAUSE ORDER AND TOPICALISATION IN POC

Pawley (1973:117) has reconstructed the preferred clause order of POC as SVO, a reconstruction which is confirmed by the clause order of the languages of the Admiralties, New Ireland, the Huon Gulf, and many of the languages of the North New Guinea cluster.

It is possible that this reconstruction is a slight oversimplification, and that POC resembled Tolai, where Mosel (1984:137-150) distinguishes between 'active' clauses (those in which the actor is subject, whether transitive or intransitive) and 'inactive' clauses (intransitive clauses with an undergoer subject).[80] The unmarked order of 'active' clauses is SV[O], but the unmarked order of 'inactive' clauses is VS – or PRED S if clauses with noun phrase predicates are included (157-158); that is, the unmarked clause order is [ACTOR +] PREDICATE [+ UNDERGOER]. However, where an undergoer or peripheral noun phrase refers to a newly (re)introduced discourse participant, it may be topicalised, i.e. shifted to pre-subject position.

It is difficult to determine from published texts whether the Tolai 'active'/'inactive' distinction is true of other WM SVO languages, and therefore reconstructible for POC, because (a) most published texts are narratives which contain few inactive clauses; (b) where inactive clauses occur, they often entail newly introduced participants, where topicalisation, i.e. movement of the subject to pre-verbal position, is to be expected; and (c) where the participant is not newly introduced, it is usually referred to only by a subject pronominal affix/clitic. There is some evidence, however, that the distinction made by Mosel applies to some other WM SVO languages and that unmarked VS (and PRED S) order occurs at least optionally in 'inactive' clauses:

(7.12)   Bola (Bosco 1979:75)

*a      taŋa    nau   e      dire.*
ART   village  my    ART  Dire
TOPIC                      PRED
'My village is (called) Dire.'

*a      taŋa    dagi   a      taŋa    nau*
ART   village  big    ART   village  my
PRED
'My village is a big village.'

In this case, the second instance of subject *a taŋa nau* 'my village' is clearly not a candidate for topicalisation and follows the predicate noun phrase. Similarly, the answer in some languages to the question 'What's that?' (where topicalisation of the subject that in the response is inappropriate because it is not newly introduced) shows PRED S order:

(7.13)  Mangap (North New Guinea cluster)

*so*      *ta*?  *man*   *ta*
what    that   bird    that
          PRED   SUBJ
'What's that?' 'That's a bird.'

What is certain is that topicalisation as described for Tolai also functions in other WM SVO languages and probably occurred in POC:

(7.14)  Tolai (Mosel 1984:140)

*nam*   *bula*   *kador*   *vavaguai*   *kador*   *umana*   *bul-mur*
DEM    also    our.ID    animal       our.ID    P        child-follow
        TOPIC/OBJ    SUBJ

*diat*   *a*   *rapu*   *ia*
they    TA   hit      it
VP
'Our animals will also be hit by our descendants.'

(7.15)  Tolai (Mosel 1984:140)

*kador*   *umana*   *bul*    *a*    *bata*   *na*    *ti*   *ububu*
our.ID    P        child    ART    rain     it.TA   TA    destroy
TOPIC/POSSESSOR    SUBJ            VP

*kadia*   *nirautan*
their    cleared.place
OBJ
'Our children, the rain will destroy their cleared place.'

(7.16)  Mangap (R. Bugenhagen, p.c.)

*pas*     *ku*      *niam*   *am-pekel*
letter    your.S    we.E     S:1EP-answer
TOPIC/OBJ         SUBJ     VP
'Your letter we are answering.'

(7.17)  Kele (Smythe, n.d.b)

*um*      *tori*    *yu*   *u-nnen*     *eri*
house    this      I      S:1S-sleep   OBLP
TOPIC/LOC         SUBJ   VP
'This house I sleep in.'

## 7.5.2 CLAUSE ORDERS OF NORTH-WEST SOLOMONIC LANGUAGES

Quite a sharp break occurs in relation to clause-level syntax between the languages of New Ireland and those of the North-West Solomonic group. Whilst there are very considerable differences in unmarked clause order among North-West Solomonic languages, only one of them, Tinputz, is SVO. The majority are VS, as PNS must also have been. In most of them, topicalisation strategies – or syntactic processes derived from topicalisation – also play an important role, but none (except perhaps Tinputz) allows the TOPIC + SUBJECT (TSV[O]) sequence observed in Tolai.

Setting Tinputz aside, the clause orders of North-West Solomonic languages can be classified along two axes: their unmarked clause order, and their topicalisation strategy (or syntactic structures derived from it). On the first axis, Torau and Mono-Alu are SOV, and all of the others are arguably VS (some VSO, others VOS). On the second axis, North-West Solomonic languages can be divided into those which shift the topic noun phrase to pre-verbal position, giving a sequence of TOPIC + VERB PHRASE + OTHER NOUN PHRASES (TV[X]) or a structure derived from it, and those in which the topic is clause-final. Combining the two axes gives the following classification of languages for which appropriate data are available:

| (7.18) | | VS | SOV |
|---|---|---|---|
| Topic-first | | [T]V[X] | ([T][X]V) |
| | | Banoni (Bougainville) | Torau |
| | | North Bougainville languages | |
| | | Nehan | |
| | | Choiseul languages | |
| Topic-final | | V[X][T] | [X]V[T] |
| | | Roviana (New Georgia) | Mono-Alu |
| | | Maringe (Ysabel) | |

It will be shown in section 7.5.4 that neither Roviana nor Maringe is unambiguously a language with a clause-final topic in synchronic perspective, but they are classified as such here because this categorisation comes nearest to describing their present structure and because both are descended from a topic-final ancestor.

Three sets of reasons lead to the proposal that PNS clause order was VS and topic-first:

A. more North-West Solomonic languages, and more obvious low-order genetic groups among them, fall into this category than into the other three;

B. this structure is the least different of the four from the putative TSVO structure of POC, and even less different from the possible VS structure of 'inactive' clauses;

C. the languages of this category are geographically more widely distributed than those of the other three categories, and they include the north Bougainville languages and Nehan, which

1. are geographically the closest of the North-West Solomonic languages to languages of the TSVO/VS type exemplified by Tolai;

2. include the area where by the principle of shortest moves we would expect PNS to have been spoken.

However, clause order is a feature which is relatively easily changed by diffusion across language boundaries through bilingualism, as the SOV languages within the North-West Solomonic group

show: according to my informant, the people of Mono and Alu see themselves as relatives of the non-AN-speaking Siwai on the mainland coast of south Bougainville, and – since Siwai is an SOV language – this is probably the source of the SOV clause order of Mono-Alu and Torau. This being so, clause-order change alone is not adequate grounds for subgrouping, but has usefulness where it is supported by other innovations, as it is here.

In the remainder of this discussion, only VS languages are considered. The two SOV languages Torau and Mono-Alu are not discussed, because, unlike the VS languages, their clause structure does not illuminate the development and genetic relationships of North-West Solomonic languages. Indeed, although Torau and Mono-Alu are quite closely related, they have undergone different modifications of their SOV structure: topicalised clauses in Torau are topic-first, in Mono topic-final.[81] These modifications appear to be quite recent, as they post-date the separation of the two languages from each other.

### 7.5.3 TOPIC-FIRST LANGUAGES

The TVX clause order of the Piva/Banoni, Choiseul and Nehan/North Bougainville groups almost certainly reflects the clause order of PNS, and Section 7.5.3.1 sets out to describe this and to show how it differs from the corresponding system in other WM Oceanic languages. It also presents data which indicate that the clause-level syntax of the north Bougainville languages is a natural development from the PNS system which is closely reflected in Banoni and the Choiseul languages. This development is significant not only because it provides a diachronic connection between the syntactic conservatism of Banoni and the Choiseul languages and the innovative morphosyntax of the north Bougainville languages, but because it also provides a basis for arguing, in section 7.5.3.2, that Nehan is quite closely related to the north Bougainville languages but has developed a step or two further than they have. The Nehan innovations in their turn allow a better understanding of changes which have occurred (independently from Nehan) in Maringe and Roviana.

### 7.5.3.1 CLAUSE ORDER IN BANONI, CHOISEUL AND NORTHERN BOUGAINVILLE

The most conservative language of the North-West Solomonic group, phonologically and morphosyntactically, is Banoni. In the story from which the following example is taken (from Lincoln 1976a:279), a man has hunted and killed a pig. He and his wife have prepared it for eating. The story continues:

(7.19)  *vi    nacu-ri    ke       vakekariana    me-ria*
then   child-P:3P  TA.she   play           with-P:3P

*na    joko    na    kanisi.*
ART   child   ART   some
'Their child was out playing with some youngsters.'

*vi    ka       teviri    naria      boroyo    ke       kota,*
then   TA.they  eat       PCL-P:3P   pig        TA.it    all

*ke       tai-ma      nacu-ri.*
TA.she   come-DIR    child-P:3P
'But they ate all the pork (before) the child came.'

In the first clause, *nacu-ri* 'their child' is introduced for the first time and is topicalised, but in the third clause, where it is repeated and topicalisation is unnecessary, VS order occurs.[82]

Predictably, subjects are topicalised far more frequently than other constituents. However, the example below contains a non-subject topicalisation (apparently the object). Near the end of the story (Lincoln 1976a:287), the sea is being created and the protagonist pleads with its creator, a serpent, to leave some islands for his grandchildren to live on. The storyteller interrupts the narrative with, 'And these are our islands: the archipelago stretches all the way from Vaghina to Puruvata ...':

(7.20)  | vi | ciganaanu | ba | buka | ke | yata | nna | nana |
|---|---|---|---|---|---|---|---|
| then | later | indeed | Buka | TA.it | stretch | D:3S | thus |

'Indeed, it stretches all the way to Buka.'

Here we find an OVS sequence: *Buka* is topicalised, whilst the subject pronoun *nna* 'he/she/it' remains behind the verb.

In practice, say in a narrative, the difference between Tolai and Banoni clause structure is not very great. The similarities are:

a) because their referent(s) have already been mentioned, many clauses consist only of a verb phrase (including subject and object pronominal clitics);

b) where referents are mentioned,

i) 'inactive' clauses in both languages are VS, or, if topicalised, SV;

ii) 'active' clauses with topicalised subjects in Banoni are SV[O] (and since noun phrase reference to a participant mostly occurs when he is (re)introduced into the discourse, topicalised subjects are common); 'active' clauses in Tolai are SV[O] (i.e. subject topicalisation is the unmarked structure);

This leaves one apparently important difference, namely that untopicalised 'active' clauses in Banoni are V[O]S, whereas their Tolai counterparts are SV[O]. However, the importance of this difference is more apparent than real, as, for example, in the nine-page story from which the Banoni example above was drawn, there are no unequivocally VOS clauses (although there are some with VXS order where X is not an object noun phrase). Hence it is not difficult to see how, given a language with the clause structure of Tolai, the SV[O] order of 'active' clauses could be reinterpreted, by analogy with 'inactive' SV clauses, as the topicalised order, and a relatively rare 'active' V[O]S order be innovated by analogy with the 'inactive' VS order. The result of this innovation is a language like Banoni.

Data are available from four Choiseul communalects: Varisi, Ririo, and two dialects of East Choiseul, namely Babatana and Sengga. All four show the same clause order as Banoni, namely TVX, resulting in an unmarked VS sequence, a frequent marked SV sequence in independent clauses where the subject is topicalised, and occasional topicalisation of other clause constituents. The examples below illustrate unmarked VS clause order:

(7.21)  Varisi (Scheffler n.d.)

| i | zae-yo | barue | rera | boko | aro | ne, | vana-ga-yo | era |
|---|---|---|---|---|---|---|---|---|
| S:3S | go-PF | garden | my | pig | your | DEM | shoot-S:1S-PF | D:1S |
| VP₁ | | LOC | | SUBJ₁ | | | VP₂ | SUBJ₂ |

'If your pig goes into my garden, I shall shoot it.'

(7.22)  Ririo (Laycock n.d.)

| *mem* | *la* | *susuka* | *rem* |
|---|---|---|---|
| S:1EP | go | Susuka | D:1EP |
| VP | | LOC | SUBJ |

'We're going to Susuka.'

(7.23)  Babatana

| *poro* | *sa* | *yöki* | *siku* | *no* | *ko* | *kölö* | *re* |
|---|---|---|---|---|---|---|---|
| Poro | S:3S | eat | banana | and | S:2S | call | D:2S |
| TOP/SUBJ$_1$ | VP$_1$ | | OBJ$_1$ | | VP$_2$ | | SUBJ$_2$ |

'Poro ate a banana, then you called him.'

(7.24)  Sengga

| *sada* | *öe* | *b-e* | *zo* | *mana* | *ne* | *bevö* |
|---|---|---|---|---|---|---|
| if | D:3S | TA-S:3S | go | PF | DEM | then |
| | TOP/SUBJ$_1$ | VP$_1$ | | | | |

| *ko* | *zo* | *ro* | *sö* |
|---|---|---|---|
| S:1S | go | D:1S | too |
| VP$_2$ | | SUBJ$_2$ | |

'If he had gone, I would have gone too.'

Examples (7.23) and (7.24) each also include a clause in which the subject is topicalised, as it is in the following examples:

(7.25)  Varisi (Scheffler n.d.)

| *sika* | *i* | *kabala* | *make-gu* |
|---|---|---|---|
| dog | S:3S | bite | leg-P:1S |
| TOP/SUBJ | VP | | OBJ |

'The dog bit my leg.'

(7.26)  Ririo (Laycock n.d.)

| *ra* | *ko* | *dur-o* | *yer* |
|---|---|---|---|
| D:1S | S:1S | see-O:2S | D:2S |
| TOP/SUBJ | VP | | OBJ |

'I see you.'

In the examples below object topicalisation occurs, resulting in OVS order (note that (7.27) represents a different topicalisation of the clause in 7.25):

(7.27)  Varisi (Scheffler n.d.)

| *make-gu* | *i* | *kabala* | *sika* | *ne* |
|---|---|---|---|---|
| leg-P:1S | S:3S | bite | dog | DEM |
| TOP/OBJ | VP | | SUBJ | |

'My leg was bitten by the dog.'

(7.28)  Ririo (Laycock n.d.)

| zar | kuda | tab | sa | pal | waisis |
|-----|------|-----|-----|-----|--------|
| D:3P | coconut | all | S:3S | take | Waisisi |
| TOPIC/OBJ | | | VP | | SUBJ |

'All the coconuts were taken by the Waisisi.'

(7.29)  Babatana

| pade | ɣati | sa | jöjini | tama-gu | ra |
|------|------|-----|--------|---------|-----|
| house | DEM | S:3S | build | father-P:1S | D:1S |
| TOP/OBJ | | VP | | SUBJ | |

'This house my father built.'

(7.30)  Sengga

| kavia | bosi | sa | lube | ora | boko |
|-------|------|-----|------|-----|------|
| some | man | S:3S | bite | D:3P | pig |
| TOP/OBJ | | VP | | SUBJ | |

'Some men were bitten by pigs.'

The languages of northern Bougainville have undergone considerable innovations in verb phrase morphology (described by Ross 1982b) in which Banoni and the Choiseul languages do not share. However, in their ordering of clause constituents, Nehan, Solos, Petats, Halia and, in lesser measure, Taiof are similar to Banoni and the Choiseul languages. In the story from which the following Halia example is taken (from Allen 1978:90), a small boy has been swinging on a vine which, unbeknown to him, has been lowered by the sky people, who, as they ascend on it into the sky, take him with them:

(7.31)

| ba | nori | e | la | ha-taya-me-r-en | i | yasa. |
|-----|------|-----|-----|------------------|-----|-------|
| and | D:3P | VM | go | CS-lost-with-S:3P-SD:3 | PREP | top |

'And they disappeared with him into the sky.'

| la | tala-me-r | a | tei | kolu... |
|-----|-----------|-----|-----|---------|
| go | now-with-S:3P | ART | people | sky |

'The sky people went with him.'

In the second clause, *a tei kolu* 'the sky people' is an untopicalised subject. It remains untopicalised because it is not a newly (re)introduced referent: it was reintroduced in the previous clause by the topicalised pronoun *nori* 'they'.

Topicalised object noun phrases also occur in Halia:

(7.32)

| a | kiou | e | na | kaho | tal-e-r |
|-----|------|-----|-----|------|---------|
| ART | hole | VM | go | dig | now-O:3-S:3P |

'A hole will be dug now.'
(More literally: 'A hole they will go dig now.')     (Allen 1978:59)

However, Allen (1971:76-77) writes, 'In Halia, the normal ordering of clause units is *subject-predicate-object* (my italics).' It was also noted above that in practice SVO order occurs frequently in Banoni. This appears to contradict the description here of the unmarked clause order in Banoni, the Choiseul languages and Halia as VS. Indeed, it might well be argued that if SV clauses are more common than VS, it is odd to describe the latter as the unmarked clause order. However, the

description of the unmarked clause order in these languages as VS captures the facts that (a) if no noun phrase is topicalised, then the sequence of constituents is VS, and (b) if a non-subject noun phrase is topicalised, then the sequence is TVS. This is in contrast to Tolai 'active' clauses, where, if no noun phrase is topicalised, the sequence is SV, and if a non-subject noun phrase is topicalised, the sequence is TSV. This contrast would be lost if we took the most frequent clause order as the basic order and called Banoni, the Choiseul languages and Halia SVO languages. Also lost would be the fact that there is an essential similarity in Banoni, the Choiseul languages and Halia between a topicalised subject and other topicalised noun phrases, a similarity recognised by Allen (1978:58) who, using Philippinist terminology, describes a Halia pre-verbal subject as *actor focus* and a non-subject topic as *non-actor focus*.

Another difference between SVO Oceanic languages and VS languages lies in the behaviour of relative clauses. In most WM Oceanic SVO languages, a relative clause is structurally identical to a dependent clause and simply follows the noun phrase it modifies. In some languages this head noun phrase is commonly marked with a demonstrative modifier, as in the first example below:

(7.33)  Minigir

| ia | gire | na | ra | papi | na | ra | tutnana | i | ubi-a |
|-----|------|-----|-----|-----|-----|-----|---------|-----|--------|
| D:1S | see | DEM | ART | dog | DEM | ART | man | S:3S | hit-O:3S |

'I saw the dog the man hit.'

(7.34)  Kele (Smythe, n.d.b)

| yu | u-drni | dramat | ou | e-tepenewei | dabo-n |
|-----|--------|--------|-----|-------------|--------|
| D:1S | S:1S-see | man | D:2S | S:2S-steal | bag-P:3S |

'I saw the man whose bag you stole.'

The relative clauses *ra tutnana i ubia* 'the man hit (it)' and *ou e-tepenewei dabo-n* 'you stole his bag' have the same (SV) structure as a dependent clause. The same is true of Tigak (Beaumont 1979:50-52) and Tolai (Mosel 1984:26) and of almost all WM Oceanic SVO languages for which relevant data are available. The only change which occurs in the relative clause is that the noun phrase coreferential with the head noun phrase (here *ra papi* 'the dog' and *dramat* 'man') is deleted, although a proform (here -*a* O:3S and -*n* P:3S) often remains. In Banoni, the Choiseul languages and the VS languages of northern Bougainville, however, relative clauses behave as if the deleted noun phrase coreferential with the head noun phrase were the topic of the relative clause. That is, no noun phrase may precede the verb phrase of the relative clause (as *ra tutnana* 'the man' does in Minigir). The order of relative clause constituents is shown in the third line of each example:

(7.35)  Banoni

| e | moono | ko | reya | na | ke | voita-i | tese |
|-----|-------|-----|------|-----|-----|---------|------|
| ART | woman | TA.S:1S | see | D:1S | TA.S:3S | carry-ART | coconut |
| | | VP | | SUBJ | | | |

'The woman I saw was carrying a coconut.'

(7.36)  Babatana

| ra | ko | ri | vasi | sa | vui | yoi | ne |
|-----|-----|-----|------|-----|-----|-----|-----|
| D:1S | S:1S | see | dog | S:3S | hit | man | DEM |
| | | | | VP | | SUBJ | |

'I saw the dog the man hit.'

(7.37)  Sengga

| *kumala* | *ko* | *kue* | *ro* | *ne* | *yayara* |
|----------|------|-------|------|------|----------|
| village  | S:1S | live  | D:1S | DEM  | Ghaghara |
|          | VP   |       | SUBJ |      |          |

'The village where I live is Ghaghara.'

(7.38)  Solos

| *na* | *pinipo* | *e* | *ka-o-gu-a-na*      | *i* | *Nova* |
|------|----------|-----|---------------------|-----|--------|
| ART  | village  | VM  | live-TA-S:1S-at-SD:1S | PREP | Nova |
|      |          | VP  | SUBJ                |     |        |

'The village I live at is Nova.'

(7.39)  Solos

| *na* | *tahon* | *ki* | *tara-i-e*   | *nasin* |
|------|---------|------|--------------|---------|
| ART  | woman   | REL-VM | see-O:-ART | Nasin   |
|      |         | VP   | SUBJ         |         |

| *e* | *suat* | *no-na* | *in* | *kohen* |
|-----|--------|---------|------|---------|
| VM  | carry  | TA-DIR  | ART  | basket  |

'The woman Nasin saw was carrying a basket.'

The requirement in Banoni, the Choiseul languages and most northern Bougainville languages[83] that the noun phrase coreferential with the head must be topicalised in a relative clause, resulting in VS clause structure, supports the attribution to these languages of a VS unmarked clause order. It also suggests that the topic in these languages is more tightly integrated into the clause than the topic *this house* of an English sentence like *This house my father built* or the structurally similar topics of WM SVO languages illustrated in examples (7.14) to (7.17). This integration suggests that the Banoni, the Choiseul languages and northern Bougainville topic has some of the features of what Foley and Van Valin (1984, 1985)[84] term a *pragmatic pivot*: '... a pragmatic pivot is a *syntacticization* of certain discourse relations, one of which is topicality, in the internal structure of the clause' (1984:134).

Foley and Van Valin (1984:108-115) suggest that the concept of pivot is applicable to the majority of languages. The pivot usually

a)  is a core argument of the verb (i.e. actor or undergoer);

b)  controls coreference, if any, in the verb phrase;

c)  is the central noun phrase of inter-clausal constructions concerned with discourse cohesion, e.g. relativisation, deletion in co-ordinate clauses, raising.

They further distinguish between 'pragmatic' and 'semantic' pivots. A pragmatic pivot is one which is determined mainly by discourse considerations such as coreference and topicality, and is associated with clause-internal syntactic processes like passivisation which allow a choice of pivot. Thus the pivot in English is the subject and is clearly pragmatic.[85] A semantic pivot is one which is determined by role: if the verb is one which requires an actor, then the actor will be the pivot and there are no syntactic processes like passivisation which allow an alternative. If the verb requires no actor, then the undergoer is the pivot. Insofar as they have a pivot at all, most WM Oceanic SVO languages, like Tolai, have a semantic pivot, namely the subject: Mosel (1984:214) writes of Tolai

that "the subject is defined as the only actant of intransitive clauses or the actant denoting the agent of transitive clauses".[86] However, the functional load of the semantic pivot/subject in these languages is low: it is a core argument of the verb (but so is the object) and it controls coreference of a clitic in the verb phrase in many languages (which the object also does in some languages), but it has few inter-clausal functions. It usually plays no special role in relativisation; complete subject-deletion does not occur in many languages, as the subject pronominal prefix/proclitic is obligatory; and there is no switch-reference marking.

The situation in Banoni, the Choiseul languages and the northern Bougainville languages is different from this. Whereas the topic neither in English nor in WM Oceanic SVO languages has any of the features characterising a pivot, the topic in Banoni, the Choiseul languages and northern Bougainville has at least one, namely its function in relative clauses.

In north Bougainville languages, where pronominal clitics in the verb phrase often either do not occur or do not fully specify the person and number of the noun phrase to which they refer, the topic also appears to control deletion in co-ordinate clauses in at least some cases, as these Halia examples (from Allen 1971) indicate:

(7.40)  ...  n-e        kasumona    e      muku    ha-mate     poni-en.
             and-ART    Kasumona    VM     hit     CS-die      also-SD:3
        '... and Kasumona hit and killed him also.'

        mate    poni    a      toa,
        die     also    ART    one
        'One (more) died,'

        na      ha-mous     poni    turu        marara.
        and     CS-hidden   also    PREP-ART    wooden.dish
        'and (Kasumona) hid him also under the wooden dish.'

(7.41)  ...  na    hitatuŋ    e      kapa    tala,
             and   battle     VM     finish  now
        '... and the fight finished,'

        ha-kapa     tale-i      e      rokta.
        CS-finish   now-TR      ART    doctor
        'it was finished by the doctor.'

Example (7.40) is a sequence of three clauses. *Kasumona* is topic of the first clause, and the second has no topic, but does have a subject (*a toa* 'one (more)'). What is interesting is that the subject of the verb phrase *ha-mous poni* 'hid also' in the third clause is deleted, not because it is coferential with the previous subject, but apparently because it is coferential with the previous *topic*. The striking character of this is brought out if we attempt a similar deletion in the English translation: '... and Kasumona hit and killed him also.' 'One more died,' 'and **Øhe hid him also under the wooden dish'. Example (7.41) is somewhat different, because the deleted constituent of the second clause which is coreferential with the topic/subject *hitatuŋ* 'fight' of the first is not its subject but its object. The English translation provided by Allen above, which makes *it* the pragmatic pivot of a passivised verb, brings out the fact that what is deleted in Halia is the potential topic of the second clause. Thus coreferential deletion in co-ordinate clauses appears to entail topics rather than subjects.

A feature which indicates that the topic/non-topic distinction is well integrated into the morphosyntax of north Bougainville languages is that all of them distinguish two sets of disjunctive

pronouns: full disjunctive (D:), which occurs within clauses only as topic, and short disjunctive (SD:), cliticised to the verb phrase, as non-topic. In the Haku dialect of Halia, the first person singular topic pronoun is *aku*, the non-topic *-ku*:

(7.42)  *aku     e     la-gu-ma     tin*
        D:1S    VM   go-S:1S-DIR   there
        TOPIC  VP
        'I have come from there.'

(7.43)  *aha     t-e      kot-e-nu-gu     -ku*
        what    REL-VM  do-O:3S-TA-S:1S   SD:1S
                    VP                    SUBJ
        'What am I doing?'

(7.44)  *e      samu    e     yovu-yo-ku*
        ART    Samu    VM   hit-O:1S-SD:1S
        SUBJ          VP      OBJ
        'Samu hit me.'

(7.45)  *e      samu    ku    t-e      ka-me-nu     -ku*
        ART    Samu   only  REL-VM  live-with-TA   SD:1S
                               VP              OBLQ
        'Only Samu lives with me.'

Note that the pronoun distinguishes only between topic and non-topic, not between subject, object and oblique arguments of the verb phrase.[87] This is in sharp contrast to WM Oceanic languages outside the North-West Solomonic area, where any difference which is made is between subject and object.

Although the evidence with regard to the nature of the topic in Banoni is limited (and very limited with regard to the Choiseul languages), it is clear that the topic in the north Bougainville languages is well integrated into the morphosyntax of these languages and has some of the features typical of a pragmatic pivot. However, it lacks other typical features: it is not always a core argument of the verb and it does not control coreference in the verb phrase. These features remain with the subject, which is selected, as in other WM Oceanic languages, on the criterion of role and must therefore be regarded as the semantic pivot. Although languages with both a pragmatic and a semantic pivot are rare, Foley and Van Valin describe several, in particular in the Philippines. In Tagalog, for example, the actor remains the semantic pivot but the 'topic', cross-referenced by the 'focus' morphemes of the verb, is the pragmatic pivot. They suggest that this situation has arisen through the integration into the clause of a noun phrase which was once a topic like the Tolai topic (1984:123, 134-148). The north Bougainville languages differ from Tagalog in that their pragmatic pivot does not have any coreferential verb phrase morphology: that is, they are not so far along the path of integrating the topic into the clause.[88]

### 7.5.3.2 NEHAN CLAUSE ORDER

In Ross (1982b:49-50) I presented reasons for thinking that Nehan verb phrase structure was once similar to that of the north Bougainville languages. Here I shall suggest that the same is true of Nehan clause-level syntax, implying that Nehan and the north Bougainville languages are quite closely related genetically.

The evidence for this is that Nehan has moved a step or two further along the path of integrating its erstwhile topic into the structure of the clause as a pragmatic pivot. Nehan clause-level syntax follows the patterns described above for the north Bougainville languages: its unmarked clause order is VS, the subject frequently becomes the (pre-verbal) pragmatic pivot, and only the topic of a relative clause may be coreferential with its head noun phrase. However, there are two features which indicate that Nehan has moved further than the north Bougainville languages in integrating the topic into the clause as a pragmatic pivot.[89]

The first of these concerns a phenomenon described by Ross (1982b:13-14), namely that Nehan divides all noun phrases, including personal pronouns, into two categories on syntactic grounds: those which are pragmatic pivot or subject, and those which are neither. Noun phrases which are pragmatic pivot or subject (or both) are not specially marked, although a post-verbal subject (other than a pronoun) is preceded by the ubiquitous Nehan ligature -r- (see section 7.6.1). Noun phrases which are neither pragmatic pivot nor subject are preceded by the marker ta- (or its variant to-; Todd 1978b gives a careful description of its rather complicated morphophonemic alternations), which reflects the POC preposition *ta- (see Ross 1982b for further examples). The following example contains a pragmatic pivot/subject noun phrase (with no special marking) and a ta-introduced object noun phrase:

(7.46)  a        kuah     e      iorotel t  a-r      tolah
        ART      woman    VM     carry      ART-L    basket
        PIV/SUBJ          VP                OBJ
        'The woman was carrying a basket.'

Example (7.47) includes two similar sentences. In the first, the object noun phrase is marked with ta-. In the second (marked) version, the object is also pragmatic pivot, illustrating the fact that the pragmatic pivot receives no special marking, regardless of its semantic relationship to the verb phrase:

(7.47)  a. unmarked:

        k-u      nihiŋ    baŋa    puk    ta-r    kuah
        TA-S:1S  just     see      only   ta-L    woman
        VP                                OBJ
        'I saw a/the woman just now.'

        b. marked:

        a       kuaha    k-u       nihiŋ  baŋa   ku     io
        ART     woman    TA-S:1S   just   see    only   SD:1S
        PIV/OBJ          VP                             SUBJ
        'I saw the woman just now'/'The woman I saw just now.'

In the next two examples the subject is left in post-verbal position because some other noun phrase functions as pragmatic pivot. They show that a post-verbal subject also receives no special marking other than the ligature. In the first, the object becomes pragmatic pivot and the second is a relative clause in which the locative phrase is coreferential with the head and is therefore the (deleted) pragmatic pivot of the clause:

(7.48)  iŋgo     k-e       eti-r hilaŋa  to-r-o      warwaro-g
        D:1S     TA-S:3S   bite-L centipede  ta-L-ART  chest-P:1S
        PIV/OBJ  VP               SUBJ       LOC
        'I was bitten on my chest by a centipede.'          (Todd 1978b:1208)

(7.49) ... *ta-r   uma-r-e      waŋoli-ni-r kuah*
      *ta*-L   house-L-S:3S   live-P:3S-L woman
             VP          SUBJ

'... in the house the girl lives in.'                    (Todd 1978b:1223)

A further case of a post-verbal subject (*lo* 'dog') occurs in example (7.50) below.

Personal pronouns fall into the same two categories as other noun phrases. The example below includes one case of a pragmatic pivot/subject, expressed by a disjunctive pronoun (*iŋgo* 'I'), and two *ta*-marked pronoun non-pragmatic pivot objects (*toguo* 'me' and *tanon* 'him': *ta*- takes a sequence of possessive and short disjunctive pronouns common in north Bougainville languages and described by Ross 1982b:47):

(7.50) *ge-r-e        eti-r   lo      to-gu-o,*
      SUB-L-S:3S   bite-L   dog    *ta*-P:1S-SD:1S
           VP     SUBJ   OBJ

'If the dog bites me,'

      *iŋgo   u      halit   pos   ta-n-on*
      D:1S   S:1S   hit    kill   *ta*-P:3S-SD:3S
      SUBJ VP                   OBJ

'I'll kill him.'

However, whereas full noun phrases functioning as pragmatic pivots and as subjects are similar in form, a distinction is made between personal pronouns in these functions. A personal pronoun functioning as pragmatic pivot assumes the disjunctive form, e.g. *iŋgo* 'I' in examples (7.48) and (7.50), whilst a personal pronoun functioning as post-verbal subject is in the 'short disjunctive' form, e.g. *io* 'I' in (b) of example (7.47). We can present the forms of Nehan noun phrases schematically as follows:

| (7.51) | Pragmatic pivot | Post-verbal subject | Other |
|---|---|---|---|
| Full NP | ART + NP | -L + NP | *ta*-L-ART + NP |
| Pronoun e.g. | D: *iŋgo* 'I' | SD: *io* 'I' | *ta*-P:-SD: *to-gu-o* 'me' |

Note that while Nehan shares with the north Bougainville languages the disinction between full and short disjunctive pronouns, it uses *ta*-forms where north Bougainville languages would also use short disjunctives (see examples 7.44 and 7.45). This raises the question of why Nehan makes its more important formal distinction between a class including pragmatic pivot and/or subject noun phrases and a class containing all other noun phrases, whereas the north Bougainville languages distinguish between pragmatic pivots and all other noun phrases, and do so only when the noun phrase is a personal pronoun. The answer appears to lie in the fact that the pragmatic pivot is more tightly integrated into the morphosyntax of Nehan. Whereas the classification of pronouns in north Bougainville languages is based exclusively on syntactic position (pre- or post-verbal), the classification of noun phrases in Nehan depends on their status as pivots. Recall that the subject remains a semantic pivot in north Bougainville languages, since it controls coreference in the verb phrase. The same is true of the subject in Nehan. The basic distinction between the two classes of

Nehan noun phrases is therefore between those which are pivots (whether pragmatic or semantic) and those which are not (and are marked with *ta-*).

The second reason for asserting that Nehan has integrated the pragmatic pivot more firmly into its grammar is that it possesses a special means of cross-referencing a pragmatic pivot object on the verb. This consists of a possessive pronominal enclitic on the verb (recall that non-pivot objects are expressed by *ta*-marked noun phrases and pronouns). Its distribution is not entirely clear to me, as it does not occur in example (7.47), where the pragmatic pivot is the object. However, it does occur in relative clauses in which the deleted pragmatic pivot (coreferential with the head) is the object, in the form of *-s* and *-n* below:

(7.52)  *o*    *tamat*    *ge-r-u*         *kalekinale-s*    *io*      *k-a*      *la*
        ART   man       SUB-L-S:1S   work-P:3P       SD:1S   TA-S:3P   go
        'The men for whom I am working have gone.'

(7.53)  *gine*   *a*     *yana*   *eguo*   *r-u*     *turuŋ*   *eni-n*
        DEM    ART    fish     mine    L-S:1S    FUT     eat-P:1S
        'This is my fish that I shall eat.'

Example (7.49) includes another case of such cross-reference.

Associated with this cross-reference process is a form of passive (Todd 1978b:1206-1208) which allows the choice of undergoer as the pragmatic pivot and suppresses the actor. As in the examples above, the pragmatic pivot is cross-referenced on the verb by the pronominal possessive enclitic, but the subject pronominal proclitic is in third person plural form, referring to an anonymous 'they':

(7.54)  *a*     *tamata*   *k-a*       *halohi-n*
        ART    man       TA-S:3P     hit-P:3S
        'The man was hit.'

(7.55)  *o*     *tamata*   *k-a*       *halohi-s*
        ART    man       TA-S:3P     hit-P:3P
        'The men were hit.'

Whilst we can argue by analogy with examples (7.52) and (7.53) above that the pragmatic pivot which is cross-referenced by the possessive enclitic is the object of its clause, and take *a tamata* 'the man' and *o tamata* 'the men' as the objects of the examples above, example (7.56) raises a difficulty:

(7.56)  *a*     *traktor*   *k-a*       *bulawa-n*   *ma-r-a*    *tuha-ni-r*    *lel*
        ART    tractor    TA-S:3P     bring-P:3S   and-L-S:3P  build-P:3S-L   road
        PIV/OBJ          VP                                               VP
        'A tractor was brought so that a road could be built.'  (Todd 1978b:1207)

The difficulty lies in the fact that whilst *a traktor* can be interpreted as the pragmatic pivot object of its clause, the structurally equivalent noun phrase in the second clause, *lel* 'road',

   a)  occurs after the verb phrase (because the clause is dependent and cannot have a pragmatic pivot);

   b)  has the ligature-initial form of a post-verbal *subject* (not the *ta*-marked form of an object).

This results in a synchronic paradox: to interpret *lel* as subject of its clause would entail interpreting not only the pragmatic pivots of other passives (e.g. *a traktor*) but also the deleted pragmatic pivots

of the relative clauses in examples (7.52) and (7.53) as subjects – but these clauses already have subjects, and their pragmatic pivots are clearly their objects. Without attempting to resolve the synchronic paradox, however, we can say that the case of *lel* in example (7.56) indicates that the pragmatic pivot is far enough integrated into the clause structure of Nehan for its reinterpretation as subject to occur in some cases.

I have shown here and in Ross (1982b) that there are strong similarities between the morphosyntax of Nehan and the north Bougainville languages to the south of it, and that Nehan probably represents a later stage in the development of processes which can be seen in operation in the north Bougainville languages.

### 7.5.4 TOPIC-FINAL LANGUAGES: CLAUSE ORDER IN ROVIANA AND MARINGE

Neither Roviana nor Maringe is strictly a topic-final language in terms of its synchronic grammar, and the title of this section reflects a certain diachronic bias, as the discussion below will show.

The unmarked clause order of Maringe is VSO:

(7.57) ... *hamu     nu     yehati     nomi     hore     ra*
        bail     and   D:1EP   our     canoe   ART
        VP             SUBJ   OBJ
      '... and we bailed out our canoes.'

However, as in Banoni, clauses in narrative discourse are frequently topicalised. Maringe has *two* forms of topicalisation. In the first, the topic is pre-verbal:

(7.58) *joj        na     yamu     cau     nu     iara     na     yamu     mha?u.*
       George  ART  eat     banana  and  D:1S   ART   eat     taro
       TOPIC/SUBJ$_1$  VP$_1$                TOPIC/SUBJ$_2$  VP$_2$
      'George ate banana and I ate  taro.

(7.59) *kegra     maku     no-ña     kolho*
       stand     still     PCL-P:3s  only
       VP$_1$

       *me     mogo     na        mei     kati-ni*
       and  snake   ART     come   bite-O:3S
                            TOPIC/SUBJ$_2$VP$_2$
      'He just stood still and the snake came and bit him.'

In the second type of topicalisation, the topic is clause-final, preceded by the topic marker (TM) *si*:

(7.60) ... *kotu     la     si     gromno     bi?o     ia*
        form   too   TM   storm.cloud  big    ART
        VP          TOPIC/SUBJ
      '... big storm clouds were forming there.'

(7.61) ... *me     mei     ke     ulu-ña     na?a     si     kaisei     mogo     ia*
        and  come  PREP  front-P:3S  D:3S   TM  one     snake   ART
            VP    LOC                 TOPIC/SUBJ
      '... and there was a snake coming towards him.'

(7.62) ɣegu  cau    iara  si   iñe
       my    banana D:1S  TM   DEM
       PRED              TOPIC/SUBJ
       'This is my banana.'

Almost all cases of both kinds of topic are the subjects of their clauses. However, the occurrence of a few cases of non-subject topic indicates that there is a distinction between subject and topic.[90] Example (7.63) has a pre-verbal object topic, whilst (7.64) and (7.65) have clause-final topics with *si-* an object and a temporal phrase respectively (example (7.65) also has a preverbal subject topic):

(7.63) u     suga  ine   neke   hohoro  kma-gu      iara
       ART   house DEM   PAST   build   father-P:1S D:1S
       TOPIC/OBJ         VP             SUBJ
       'This house my father built.'

(7.64) neke  katu-di    khuma  si   keha  ka    re²e  ra
       PAST  bite-O:3P  dog    TM   some  PREP  them  ART
       VP               SUBJ   TOPIC/OBJ
       'Some of them were bitten by a dog.'

(7.65) ara   neke  filo-ni    joj     si   ñora       na
       D:1S  PAST  see-O:3S   George  TM   yesterday  ART
       SUBJ  VP               OBJ     TOPIC/TEMP
       'Yesterday I saw George.'

The question of a difference in function between the two kinds of topic is one to which I return below, when a justification is offered for using the term 'topic-final' to describe Maringe and Roviana. However, it is clear that they both serve to (re)introduce referents into discourse. Like examples (7.59) and (7.61) above, the following two-clause sequence comes from a brief narrative about a small boy who went walking in the bush and was bitten by a snake:

(7.66) kaisei  narane  na²a   neke  tei  ka    namhata
       one     day     D:3S   PAST  go   PREP  bush
       TEMP            TOPIC/SUBJ    VP   LOC
       'One day he went for a walk in the bush.'

       filo-ni    [na²a]   kaisei  mogo    **[si na²aia]
       see-O:3S   [D:3S]   one     snake   **[TM D:3S ART]
       VP         [SUBJ]   OBJ             **[TOPIC/SUBJ]
       'He saw a snake.'

In its original form, the narrative contained the bracketed post-verbal subject *na²a* 'he' (i.e. in the unmarked VSO sequence). When we discussed the text, the informant commented that it could be omitted (as the subject is understood from the context of the previous clause). However, she rejected the alternative with the (starred and bracketed) topic, evidently because the subject is here prevented by context from being treated as a newly introduced or reintroduced referent.

The Roviana equative clause in example (7.67) is apparently identical in structure to that in (7.62):

(7.67)  *e      yorebule   si    hie*
      ART    Ghorebule  PM    DEM
      PRED                 PIVOT
      'This is Ghorebule.'

However, as the glosses in (7.67) indicate, Roviana *si* is not a topic marker but a *pivot* marker (PM), and the phrase *si hie* 'this (one)' is not a topic but a pivot. I shall attempt to show below (a) that the Roviana constituent introduced by *si* is a pragmatic pivot; and (b) that this pivot arose from an earlier topic, i.e. it represents the completion (or near-completion) of the kind of process of topic-to-pivot reinterpretation which was described for the north Bougainville languages and Nehan above.

There are three sets of reasons for asserting that the *si*-introduced noun phrase is a pragmatic pivot, all of which also entail evidence for its origin as a topic.

The first reason is that the *si*-introduced noun phrase in Roviana satisfies those of the criteria for a pivot listed in section 7.5.3 which the topic in Banoni, the north Bougainville languages, Nehan, the Choiseul languages, and Maringe does not satisfy: it is always a core argument (actor or undergoer), and it controls co-reference on the verb. However, it satisfies these criteria in a way which, in comparison with other WM Oceanic languages, is very unusual. Roviana clause structure is ergative (cf. Todd 1978a:1036) and the *si*-introduced noun phrase is always the absolutive noun phrase (AbsNP), i.e. the only core argument, whether actor or undergoer, with an intransitive verb (the subject in other WM Oceanic languages), but the undergoer with a transitive verb (the object elsewhere in WM Oceanic). This ergativity is clear in the examples below. I label the pivot 'AbsNP' rather than pivot, both in order to contrast it with the ergative noun phrase (ErgNP) of a transitive verb and because it is suggested below that whilst all pivots are AbsNP's, not all AbsNP's are pivots.

(7.68)  Intransitive:

    *luli     pa     nana    hore    s-e       yorebule    kamahire*
    go.up    PREP   his     canoe   PM-ART    Ghorebule   now
    VP       LOC                      AbsNP                   TEMP
    'Ghorebule is boarding his canoe now.'

(7.69)  a. Intransitive:

    *seke    si     rau*
    hit      PM     D:1S
    VP       AbsNP
    'I was slashing [grass].'

    b. Transitive:

    *seke-au   e      yorebule   si    rau*
    hit-O:1S   ART    Ghorebule  PM    D:1S
    VP         ErgNP                 AbsNP
    'Ghorebule hit me.'

    *seke-a    e      tigu     s-e       yorebule*
    hit-O:3S   ART    Tinggu   PM-ART    Ghorebule
    VP         ErgNP            AbsNP
    'Tinggu hit Ghorebule.'

The constituent order of the core of the Roviana clause (as exemplified above) is quite rigid, and is:

(7.70)    PRED/VP [+ ErgNP] + *si* + PIVOT

This formulation is somewhat different from Todd's (1978a) interpretation, and I return to it below.

As is evident from the two transitive clauses above, the pronominal enclitics of the verb phrase are coreferential with the AbsNP/pivot. These enclitics are reflexes of the object pronominal enclitics in other Oceanic languages (and I have labelled them thus in Roviana), and show that the AbsNP of a transitive clause was once its object. It is equally clear, however, that the *si*-introduced noun phrase of present-day Roviana is the absolutive noun phrase of an ergative system, and that it is the pragmatic pivot: as is shown below, it is always the constituent coreferential with the head of a relative clause.

The Maringe data presented above provides the basis of a hypothesis as to how the *si*-introduced noun phrase underwent this change of status. It is reasonable to infer that the language ancestral to Roviana, which I will call Pre-Roviana, had an unmarked VSO clause order like that of Maringe, with a clause-final topic introduced by *si*. However, Pre-Roviana passed through a stage at which far more clause-final topics were objects than is the case in Maringe (where most are subjects). As was observed in connection with the north Bougainville languages and Nehan, there is a tendency for VSO languages, which naturally employ topicalisation strategies more often than SVO languages, to attribute to their topics some of the features of a pragmatic pivot. This process also occurred in Pre-Roviana, but has been carried to its conclusion in modern Roviana. Pre-Roviana, like modern Maringe, had object pronominal enclitics but no subject pronominal proclitics, so that there was morphological marking only of the object, allowing *si*-marked subjects and objects to be reinterpreted as members of the same syntactic category.

Whilst this interpretation entails a little speculation, it is difficult, in view of the Maringe evidence, to perceive how else the ergativisation of Roviana could have occurred. Crucial to this interpretation is the fact that Maringe and Roviana both have the morpheme *si*, which typically occurs before the last noun phrase of its clause. It also follows from this that we infer that Maringe and Roviana are genetically quite closely related.

The second reason for stating that the *si*-introduced noun phrase is a pragmatic pivot is that the constituent coreferential with the head of a relative clause must be its pragmatic pivot/AbsNP. In Banoni, the north Bougainville languages, Nehan and the Choiseul languages (section 7.5.3) it must be its topic, and this condition also applies to Maringe:

(7.71)    iara   neke   filo-ni   khuma   teke   aknu   nalha?u   ana
          D:1S   PAST   see-O:3S   dog      REL    hit    man        DEM
          'I saw the dog the man hit

(7.72)    iara   neke   filo-ni   nalha?u   teke   aknu-ni   khuma
          D:1S   PAST   see-O:3S   man       REL    hit-O:3S   dog
          'I saw the man who hit the dog.'

(7.73)    iara   neke   filo-ni   gaju   teke   aknu-ni   khuma   nahla?u   ana
          D:1S   PAST   see-O:3S   wood   REL    hit-O:3S   dog      man        DEM
          'I saw the stick the man hit the dog with.'

As in the languages named above, so in Maringe we infer that it is the topic which is relativised because the first constituent of the relative clause is always the verb phrase, i.e. there is no pre-verbal topic. There is also no clause-final topic with *si*.

When the pragmatic pivot/AbsNP of the relative clause is coreferential with its head, the Roviana relative clause is not significantly different in structure from its equivalent in Maringe or the other languages named above. Compare example (7.71) with example (7.74):

(7.74)  doyori-a    rau      sa ·   siki   sapu   seke-a     e      yorebule
        see-O:3S    D:1S     ART   dog    REL    hit-O:3S   ART    Ghorebule
        VP₁         ErgNP₁   AbsNP₁               VP₂        ErgNP₂
        'I saw the dog Ghorebule hit'/ 'I saw the dog that was hit by Ghorebule.'

Note that *sa* is glossed ART rather than PM-ART, although it introduces an AbsNP. Although *sa* is probably derived from a sequence of *si* PM + *\*a* ART (just as *s-e* is derived from *si* + *e* personal article), *sa* occurs in several environments (not fully understood) where it does not introduce an AbsNP.

The verb form in the relative clause in example (7.74) is identical to that in the dependent clause from which it is derived, and it is clear that it is the AbsNP of the transitive verb (i.e. the undergoer) that is relativised:

(7.75)  seke-a      e      yorebule    sa     siki
        hit-O:3S    ART    Ghorebule   ART    dog
        VP          ErgNP               AbsNP
        'Ghorebule hit the dog'/'The dog was hit by Ghorebule.'

However, when the noun phrase to be relativised is not the AbsNP in the unmarked form of the dependent clause, then it must be shifted to that position. Observe the changes in verb phrase morphology in the examples below:

(7.76)  doyori-a    rau      sa     tie    sapu   seke-na   sa     siki
        see-O:3S    D:1S     ART    man    REL    hit-P:3S  ART    dog
        VP₁         ErgNP₁   AbsNP₁                VP₂       (?)
        'I saw the man who hit the dog.'/'I saw the man the dog was hit by.'

(7.77)  doyori-a    rau      sa     huda   sapu   seke-ni-a    e      yorebule
        see-O:3S    D:1S     ART    wood   REL    hit-VA-O:3S  ART    Ghorebule
        VP₁         ErgNP₁   AbsNP₁                VP₂          ErgNP₂

        ko-a          sa     siki
        PREPV-O:3S    ART    dog
        LOC₂
        'I saw the stick the man hit (at) the dog with.'

Independent clause:

        seke-ni-a      e      yorebule    sa     huda   ko-a          sa     siki
        hit-VA-O:3S    ART    Ghorebule   ART    wood   PREPV-O:3S    ART    dog
        VP             ErgNP               AbsNP         LOC
        'Ghorebule hit the dog with the stick.'
        (More literally: 'The stick was hit against the dog by Ghorebule.')

(7.78)  *doyori-a*   *rau*      *sa*     *siki*   *sapu*   *ta-seke*
       see-O:3S   D:1S       ART     dog      REL      PASS-hit
       VP$_1$        ErgNP$_1$       AbsNP$_1$                    VP$_2$
       'I saw the dog that got hit.'

Independent clause:

*ta-seke*     *sa*    *siki*
PASS-hit   ART   dog
VP              AbsNP
'The dog got hit.'

The changes in verbal morphology above are similar in function to the passive in English or the verbal 'focus' affixes of Philippine languages, confirming that the relativised constituent is the pragmatic pivot. The noun phrases which are 'promoted' to AbsNP are the actor in (7.76) and the instrument in (7.77), whilst in (7.78) the undergoer remains as AbsNP but the actor is eliminated. The verb phrase in (7.76) is thus an antipassive, in (7.77) a valency-augmented verb, and in (7.78), a backgrounding passive. The verb forms in (7.77) and (7.78) both occur in independent clauses, but the antipassive in example (7.76) apparently does not.

The forms of each of these verb phrases have cognates in other Oceanic languages, but their functions are changed or extended in Roviana. The antipassive form *seke-na* 'hit'-P:3S with its possessive pronominal suffix has a cognate in the form of the Nehan passive.[91] The valency-augmenting morpheme *-ni-* has cognates with a similar function in several WM Oceanic languages (section 10.3.1.4), whilst the Roviana passiviser *ta-* is a reflex of the POC detransitivising morpheme *ta-*, most of whose reflexes form an intransitive (e.g. 'the pot broke'/'was broken') from a transitive ('someone broke the pot').

The fact that, by being the only relativisable constituent, the pragmatic pivot/AbsNP correponds functionally with the topic in Banoni, the north Bougainville languages, Nehan, the Choiseul languages and Maringe, supports the hypothesis outlined above that the Roviana pivot is derived from an earlier topic. The fact that morphemes with related functions in other languages serve to create the various 'focus' forms of the verb is also in accord with a hypothesis of gradual reinterpretation.

The third reason for asserting that the Roviana *si*-introduced constituent pivot is a pragmatic pivot is that Roviana clause order is quite rigid:

(7.79)  = (7.70)        PRED/VP   [+ ErgNP] + *si* + PIVOT

If the *si*-introduced noun phrase were in fact a topic, then we would expect to find a non-topicalised clause order (like Maringe VSO order), but this is absent from Roviana: the order in (7.79) *is* the unmarked order. It would be odd, however, if a language had no means of (re)introducing referents into discourse, and we do find such a device in Roviana, illustrated by the examples below:

(7.80)  *sa*    *veitu*   *hie*    *si*    *sa*     *tama-gu*    *taveti-a*
       ART   house   DEM   PM   ART    father-my    build-O:3S
       'This house my father built.'

(7.81)  *kaegu*   *koburu*   *si*    *la*    *enene*
       some      child        PM    go     walk
       'Some children went for a walk.'

The pivot marker *si* seems to function quite differently in these clauses from those we have examined so far. In (7.80) it precedes a noun phrase introduced by *sa* (whereas *sa* itself is normally sufficient to introduce a common noun as AbsNP), and in (7.81) it precedes a verb. However, its function is still – or was in the recent past – that of a pivot marker in these examples, since Roviana seems to have adopted clefting as its strategy for (re)introducing discourse referents. If we re-translate example (7.80) as 'The one my father built is this house', and (7.81) as 'The ones who went for a walk were some children', we come a little closer to the sense of the Roviana clauses and can recognise them as cases of the equative clause structure of (7.67) with a dependent clause as the pivot.[92] This interpretation is supported by the fact that in sentences of the corresponding type in Maringe the topic clause is marked with the relativiser *te[ke]*:

(7.82)  | *suga* | *ine* | *si* | *teke* | *hohoro* | *kma-gu* | *iara* | *ia* |
|---|---|---|---|---|---|---|---|
| house | DEM | TM | REL | build | father-my | D:1S | ART |

'It's this house that my father built.'

The historical process which has apparently occurred in Roviana is that the reinterpretion of the Pre-Roviana topic as the pragmatic pivot brought about a need for a new topicalisation strategy (a strategy for (re)introducing discourse referents), and this has been met in turn by a reinterpretation of the Pre-Roviana clefting structure as a topicalisation strategy.[93]

In this section I have offered the hypothesis that Pre-Roviana had an unmarked VSO clause structure and a marked structure in which the clause-final topic is introduced by *si*; that is, that Pre-Roviana was somewhat like Maringe. There is one problem with this hypothesis, however, and that is that Maringe also has a pre-verbal topic structure. Since Banoni, the north Bougainville languages, Nehan and the Choiseul languages all have a pre-verbal topic, it seems simpler to infer that the original Maringe topic was pre-verbal and that the *si*-introduced topic was a later introduction. Although I have proposed that PNS indeed had a pre-verbal topic which is reflected in these languages, there is reason to infer that the present pre-verbal topic in Maringe is not a direct descendant of the PNS pre-verbal topic, but a more recent introduction. It was suggested above that because its old topic was being reinterpreted as a pragmatic pivot, Roviana adopted a new topicalisation strategy. It appears that the pre-verbal topic in Maringe represents a similarly new topicalisation strategy. The Maringe *si*-introduced topic is almost always a subject, and is perhaps also in the process of being reinterpreted as a pivot (although not an ergative one). The *si*-introduced topic occurs more frequently than the pre-verbal topic, suggesting that the latter is perhaps more marked, and therefore more recent (since languages tend to de-mark marked structures, not the reverse). Crucially, however, as White et al (1988) point out, there is synchronic evidence that the pre-verbal topic is derived from the clause-final topic. The clause final topic often consists of the sequence *si* + NP + ART, and the sequence *si* + ART is quite often left behind clause-finally when the topic is shifted to pre-verbal position:

(7.83)  | *keha* | *sua* | *re* | *neke* | *teitei* | *no-di* | *si* | *ia* |
|---|---|---|---|---|---|---|---|
| some | child | ART | PAST | walk | PCL-P:3P | TM | ART |
| TOPIC/SUBJ | | | VP | | | TOPIC | COPY |

'Some children went for a walk.'

These facts indicate that the clause-final topic is more ancient that the pre-verbal topic.

This section is entitled 'Topic-final languages'. Whilst this is synchronically not completely true of Maringe, and not true at all of Roviana, I have set out to show that the best interpretation of the evidence is that both languages are descended from a topic-final ancestor in which the topic was

preceded by *si, and that (if Roviana and Maringe are indeed representative of the groups of languages to which they belong) the New Georgia and Ysabel groups are therefore more closely related to each other than to any other group of languages.

## 7.6 OTHER MORPHOSYNTACTIC INNOVATIONS

Other morphosyntactic innovations in the North-West Solomonic grouping and its five constituent groups are described here group by group.

### 7.6.1 THE NORTH-WEST SOLOMONIC GROUP

In section 7.5.2 I argued that Proto North-West Solomonic was characterised by a major change in clause-level syntax. Apparently associated with this were two other innovations, both of which I have described elsewhere. The first is the reanalysis of the ligature *-r- as a part of non-third person disjunctive pronouns in many North-West Solomonic languages (Ross 1986). The second is the adoption as a finite verb of a structure which was originally a verbal nominalisation (Ross 1982b).

The data for the first of these two innovations were presented in Ross (1986) and are repeated here as Table 33. Tryon and Hackman (1983:57) observed that the languages of Choiseul, New Georgia and Santa Ysabel all reflect a form *a-rau 'I' instead of expected *(n)au, and that in the Choiseul reflexes of POC *koe 'thou', *kami 'we (exc.)' and *kamu 'you' initial *k- has been replaced by *r- in disjunctive forms. However, pronouns from a number of Bougainville languages (outside their survey area) reflect the same innovation, as Table 33 shows, and the forms with *r- are therefore reconstructible for PNS.

Forms which do *not* reflect *r- are, in the case of New Georgia and Ysabel, boxed in, and in other cases marked with a '+'. The origins of most of these were examined in Ross (1986).

In section 7.5.3 the clause structure of the AN languages of Bougainville and Choiseul was examined, and it was noted that the unmarked structure of the PNS clause was VSO. This is significant to an understanding of the innovation in personal pronouns with which we are concerned here. Many of the pronouns in Table 33 consist of three elements:

a) a vowel, which in the north Bougainville languages is missing from the shortened form of the disjunctive pronoun which occurs as a post-verbal constituent (subject or non-subject) (section 7.5.3.1);

b) a reflex of *-r-, which is most economically explained as the morpheme from which the Nehan ligature is derived (sections 7.5.3.2 and 8.7.2);

c) a reflex of one of the POC/PNS disjunctive pronouns, reconstructible as follows:

| (7.84) | POC | PNS |
|---|---|---|
| I | *[i]au | *[i]au |
| thou | *ko[e] | *γo[e] |
| we (exc) | *kami | *γami |
| you | *kam[i]u | *γam[i]u |

TABLE 33: NON-THIRD PERSON DISJUNCTIVE PRONOUN FORMS IN NORTH-WEST SOLOMONIC LANGUAGES†

|  | I | thou | we (exc) | you |
|---|---|---|---|---|
| Nehan | + *i-o* | + *i-a* | + *i-em* †† | + *om* †† |
| Solos | *e-na* | *e-no* | + *e-mem* | + *e-mu* |
| Petats | *e-lia* | *e-lou* | *e-lam* | *e-lomi* |
| Haku | . | *a-lo* | *a-lam* | *a-limiu* |
| Hanahan | *a-lia* | *a-lo* | *a-lam* | *a-limiu* |
| Selau | *a-la* | *a-li* | + *a-mam* | + *a-mu* |
| Taiof | *a-iña* | *a-noh* | + *a-mam* | *a-ñim* |
| Hahon | *e-ne* | . | + *e-mam* | + *e-am* |
| Tinputz | *e-iö* | . | + *e-möm* | + *e-öm* |
| Teop | *e-na* | . | *e-nam* | + *e-am* |
| Papapana | *a-niau* | *a-nioi* | . | + *a-mu* |
| Banoni | *na* | *no* | + *ɣamam* | + *ɣam* |
| Piva | *a-na* | + *a-ɣoi* | + *a-ɣamam* | + *a-ɣami* |
| Uruava | *a-ria* | *a-ro* | *a-ramani* | *a-ramu* |
| Torau | + *i-nau* | + *i-ne* | + *ni-mani-di* | + *ni-mu-di* |
| Vaghua | *a-ra* | + *a-ɣo* | *o-re* | *o-ram* |
| Varisi | *e-ra* | *a-ro* | *remu* | *ramu* |
| Ririo | *ra* | *ye-r* | *rem* | *ram* |
| Bambatana | *ra* | *re* | *rami* | *ramu* |
| Sengga | *a-ro* | *re* | *rami* | *ramu* |
| Lungga | *a-ra* | *a-o* | *a-ɣei* | *a-ɣou* |
| Nduke | *rai* | *ɣoi* | *ɣami* | *ɣamu* |
| Roviana | *a-rau* | *a-ɣoi* | *ɣami* | *ɣamu* |
| Hoava | *rao* | *ɣoe* | *ɣami* | *ɣamu* |
| Vangunu | *e-ra* | *i-o* | *ami* | *amu-kia* |
| Kia | *a-ra* | *a-ɣo* | *ɣai* | *ɣau* |
| Kokota | *a-ra* | *a-ɣo* | *ɣai* | *ɣau* |
| Laghu | *a-ra* | *a-ɣo* | *ɣai-har* | *ɣau-haro* |
| Blablanga | *a-ra* | *a-ɣo* | *ɣai* | *ɣo-tilo* |
| Ghove | *ia-ra* | *ia-ɣo* | *ɣa-hati* | *ɣo-tilo* |
| Maringe | *ia-ra* | *ia-ɣo* | *ɣe-hatihui* | *ɣo-tilo* |

† Forms in box and forms marked '+' do not reflect PNS *-r-
†† Todd (1978:1184) gives *i-am* for both 'we (exc)' and 'you'. The forms used here are from my fieldnotes (my informant is from Yatchibol village, Nissan Island).

Note that the first element is missing from the post-verbal form of the disjunctive pronoun in north Bougainville languages. The same is true of Sengga *a-ro* 'I' (the only pronoun in that language to have an initial vowel) and Roviana *a-rau* 'I', whilst the initial vowel is missing altogether in Banoni and Babatana. This suggests that there were PNS forms without the initial vowel but *with *r-* (and loss of initial *ɣ-*[94]), i.e. PNS *r[i]au* 'I', *ro(e)* 'thou, *rami* 'we' (exc.) and *ramu* 'you', and that these were post-verbal subject forms, introduced by the ligature *-r-* as post-verbal subject noun phrases still are in Nehan (examples 7.48, 7.49, and 7.50). There is one piece of counter-evidence to this proposal: that Nehan, ironically the one language which retains a live reflex of *-r-*, uses it before post-verbal subjects which have a head noun, but not when they are pronouns. However, although its absence in this environment is a little surprising, it is not inexplicable, as the very fact that Nehan -*r-* is still live enables it (i) to be recognised as a separate morpheme, and (b) to be deleted and/or replaced before personal nouns and personal pronouns (see below).

The *r-initial pronouns appear to have been *subject* forms, rather than general post-verbal forms as in the north Bougainville languages, because Nehan, Varisi, Roviana and Maringe all have reflexes of the PNS forms in Table 33 without an added *r-*, and these occur in Varisi, Roviana and Maringe as object pronominal enclitics (and, other than 'I', as disjunctives in all New Georgia and Ysabel languages – see Table 33):

|  | I | thou | we (exc) | you |
|---|---|---|---|---|
| PNS O: (?) | *[i]u* | *ɣo[e]* | *ɣami* | *ɣam[i]u* |
| Nehan SD: | o | a | em | om |
| Varisi O: | -ava | -go | -gemu | -gamu |
| Roviana O: | -au | -ɣo | -ɣami | -ɣamu |
| Maringe O: | -ɣau | -ni-ɣo[a] | -ɣami | -ɣami |

[a]Maringe -*ni-* reflects the valency-augmenting morpheme discussed in section 7.5.4.

On this proposal, the retention of *-r-* in disjunctive forms in general (as opposed to just post-verbally) results from an early reanalysis of *-r-* as part of the disjunctive pronoun, a reanalysis which affected all of the nascent North-West Solomonic dialect chain except for communalect(s) ancestral to Nehan, where the ligature did not become a fossil. The addition of the initial vowel to non-post-verbal forms in many languages post-dates this reanalysis and perhaps occurred when the ancestral dialect chain had diffused somewhat further, as (a) the addition did not occur everwhere and (b) different languages have cliticised different vowels. The vowels are reflexes of the PNS articles *a* common singular, *o* common mass/plural and *e* personal (see Chapter 8).

An additional piece of evidence for the process reconstructed above is found in Nehan, where *r-*accretion has not occurred. The Nehan pronouns *iŋgo* D:1S, *iŋga* D:2S, *iŋgem* D:1EP and *iŋgom* D:2P, also consist of three parts: initial *i-*, the personal noun ligature -*ŋ-*, and a pronoun reflecting the PNS form in (7.84). The ligature -*r-* occurs before common noun phrases, -*ŋ-* before personal nouns (Todd 1978b:1193).[95] Thus Nehan pronouns also reflect a sequence of ARTICLE-LIGATURE-PRONOUN, reinforcing the proposal that such a sequence is reconstructible for PNS.

In Ross (1982b) I examined the verb phrases structures of most of the languages of Bougainville, and particularly the adoption as a finite verb of a structure which was originally a verbal nominalisation. The essential elements of this structure were:

(7.85)    [TENSE/ASPECT +] SUBJ PRON + VERB + POSS CLASS-POSS PRON

This is readily illustrated from continuative verb phrases in Torau and Mono-Alu:

(7.86)  Alu

  talaiva   nihe    hu-hulau   sa-ria
  women    snake   RD-fear    PCL-P:3P
  'Women fear snakes.'

  soipa    ma-mate   e-na      ata
  Soipa    RD-die    PCL-P:3S  TA
  'Soipa is dying.'

  Torau

  inau     tioloni-ai      ma-gu-waka    e-gu
  D:1S     Tioloni-POSTP   TA-S:1S-work  PCL-P:1S
  'I was working for Tioloni.'

  pita    ge-getu    sa-la      ba
  Peter   RD-dance   PCL-P:3S   too
  'Peter is dancing too.'

That the morphemes *sa-* and *e-* are indeed possessive classifiers is seen in the following:

(7.87)  Alu

  sa-gu        numa
  PCL-P:1S     house
  'my house'

  soipa    e-na       toitoi
  Soipa    PCL-P:3S   banana
  'Soipa's banana'

  Torau[96]

  ena    tioni   e-na       wakasi   gesi
  DEM    man     PCL-P:3S   canoe    big
  'This man's big canoe '

The structure in (7.85) was reconstructed for putative Proto Bougainville, but data from Roviana and Maringe show that it is also reflected in New Georgia and Ysabel, implying that it is of PNS ancestry:

(7.88)  Roviana

  ...meke   vura-mae        ye-na      si   keke   noki    pa     kenu-na
     and    appear-come     PCL-P:3S   PM   one    snake   PREP   front-P:3S
  '... and suddenly a snake appeared in front of him.'

  tu-turu   nana     pa     siraŋa
  RD-stand  PP:3S    PREP   road
  'He was standing on the road.'

Maringe

iara    tei-tei    no-gu       ka      nabrou
D:1S    RD-walk    PCL-P:1S    PREP    road
'I was walking along the road.'

jufu  gye-da  sisi?e      ŋala   eyu      si   yehati    are
dive          PCL-P:1IP   shell  during   now  TM D:1EP  ART
'We just kept on diving for shells.'[97]

Again the morphemes marked PCL- are – or are descended from – possessive classifiers. Roviana *ye-* is not found in possessive noun phrases as such, but occurs without a head noun in, e.g. *ye-gu* PCL-P:1S 'my food'. Roviana *nana*, although derived from *\*na-na* PCL-3S, is here glossed as a portmanteau possessive because it belongs to a paradigm of possessive pronouns which are not synchronically segmentable: *gua* 'my', *mua* 'thy', *nana* 'his/her', *mami* 'our (exc)', *nada* 'our (inc)', *mia* 'your', *dia* 'their'. Nonetheless, all these forms can occur both in verb phrases like the one above and in noun phrases like *nana hakua* (PP:3S banana) 'his banana'. The Maringe possessive classifiers are regularly found in noun phrases, as well as in verb phrases like those above:

(7.89)  no-ña       hore    bi?o  mhana
        PCL-P:3S    canoe   big   man
        'the man's big canoe'

        no-gu       suga    iara
        PCL-P:1S    house   D:1S
        'my house'

        ye-gu       cau     iara
        PCL-P:1S    banana  D:1S
        'my banana'

The original functions of the verb phrase structure derived from nominalisation remain unclear. White et al (f/c.) say that the use of these forms in Maringe 'intensifies the involvement of the subject'. In Mono-Alu and Torau they appear to be continuatives (i.e. progressive and habitual forms) and they certainly have this function in the north Bougainville languages. However, it is clear that the structure in (7.85) is reconstructible in PNS and represents an innovation reflected in four out of the five groups of North-West Solomonic languages (no reflexes have been found in the Choiseul languages).

## 7.6.2 THE NORTH BOUGAINVILLE LANGUAGES AND NEHAN

The most striking morphosyntactic innovation of the north Bougainville languages is their verb phrase structure, which I described in some detail in Ross (1982b). Not only has the structure derived from verbal nominalisation become a major part of the verb systems of these languages, but the forms of these verb phrases have diverged from those of possessive noun phrases sufficiently far for their historical relationship to have become opaque. At the same time, subject pronominal proclitics have been reduced to a single verb marker (usually *e*, derived from PNS *\*ia* 'he') in all persons (since the proclitics are rendered redundant by the addition of the possessive pronominal suffixes to the verb phrase), and case markers and object pronominal enclitics (with some loss of

distinction between persons) have been captured inside the verb phrase by the cliticisation of the former possessive-classifier + pronoun sequence to the rest of the verb phrase. These features are illustrated in the following examples, the first two from Ross (1982b):

(7.90) Petats

elia    e     la    gon-me-g-u              e       haroman    i     latu
D:1S    VM    go    together-with-S:1S-FUT  ART     Haroman    PREP  bush
'I shall go with Haroman through the bush.'

Taiof

anoh    to    atuŋ-ra-ro      reh
D:2S    VM    hit-O:3P-CONT   SD:3P
'You are hitting them.'

Teop

e       viksi    to    ki-kiu     ke-no-n-iö
ART     Viksi    VM    RD-work    for-CONT-S:3S-SD:1S
'Viksi is working for me.'

The verb marker *e* appears in the Petats example; the latter examples share the verb marker *to*, derived from an earlier relativiser (Ross 1982b:50-51). The case-markers Petats *-me-* comitative and Teop *ke-* benefactive are derived from the PNS prepositions *\*ma-* and *\*ka-* but have been captured by the verb and enclosed within the verb phrase, separated by other elements from the noun phrases whose cases they mark, respectively Petats *e haroman Haroman* and Teop *iö me* (Ross 1982b:42-45). Although the Teop continuative morpheme *-no-* is still recognisable as a reflex of PNS *\*no-* possessive classifier, general, the Taiof reflex *-ro* has assimilated its consonant to the preceding *-r-* and lost its pronominal enclitic (< *\*-mu* P:2S), whilst the Petats example retains its pronominal enclitic *-g* (< *\*-gu* P:1S) but has lost its reflex of *\*ye-* possessive classifier, alimentary.

This reinterpretation of verb phrase structure is a morphosyntactic innovation peculiar to the north Bougainville languages. I argued in Ross (1982b) that Nehan once had a structure more similar to that of the north Bougainville languages than it has today, and that the anomalous Nehan verb *kae-* 'be, exist' (Todd 1978b:1208), the only verb in the language to mark its subject with reflexes of the possessive pronominal suffixes, is a relic of that earlier stage. The considerable structural similarities in clause-level structure between Nehan and the north Bougainville languages were described in section 7.5.3.2.

One other feature which Nehan and the north Bougainville languages have in common (and which receives more detailed study in Chapter 8) is their division of nouns into two categories, individual and mass, and their use of the articles *a* and *o* (or *u*) to mark them. To anticipate example (8.86) and subsequent examples, we find in Nehan *a um* 'a/the house' but *o dok* 'a tree', 'a stick', and an apparent reversal of the functions of the articles in non-singular *o um* 'some/the houses' and *a dok* 'a collection of trees'. A pattern similar to this exists throughout northern Bougainville.

Two other morphosyntactic features represent innovations among the north Bougainville languages but not in Nehan. The first was discussed in section 7.5.3.1 and section 7.6.1, namely that the post-verbal subject form of the disjunctive personal pronouns (the *\*r-*initial form in the case of pronouns which reflect *\*r-*) is used for any post-verbal pronoun argument, not just for the object. Thus in examples (7.44) and (7.45), Halia (Haku) *-ku* SD:1S *me* is used as subject, as object, and as the

oblique argument marked by the comitative case-marker *-me-*. In (7.90), Taiof *-reh* SD:3P 'them' is used as the object, and Teop *iö* SD:1S *me* is used as the oblique argument marked by the benefactive case-marker *ke-*.

The second innovation is that, unlike many New Ireland and most other North-West Solomonic languages, which have a noun phrase sequence of ARTICLE + NOUN + ADJECTIVE, north Bougainville languages repeat the article between the noun and the adjective:

(7.91)  Solos

      
| *in* | *numa* | *in* | *binit* |
|------|--------|------|---------|
| ART  | house  | ART  | new     |

      'a new house'

      Halia (Haku)

| *u* | *luma* | *u* | *cimus* |
|-----|--------|-----|---------|
| ART | house  | ART | new     |

      'new houses'

      Teop

| *o* | *sinivi* | *o* | *bera* |
|-----|----------|-----|--------|
| ART | canoe    | ART | big    |

      'a big canoe'

| *ta* | *ma* | *sinivi* | *ta* | *ma* | *bera* |
|------|------|----------|------|------|--------|
| ART  | P    | canoe    | ART  | P    | big    |

      'some big canoes'

### 7.6.3 PIVA AND BANONI

Whilst the similarity of Piva to Banoni is evident from Lincoln's (1976b) comparison, I have been unable to identify any clear morphosyntactic innovations shared by the two languages. This is partly due, perhaps, to their conservatism, but also caused by the fact that there are many areas of morphosyntax for which secure PNS reconstruction – and therefore the identification of innovations in daughter-languages – is not possible.

### 7.6.4 MONO-ALU, TORAU AND URUAVA

Data on the syntax of the now extinct Uruava language is negligible, but, as was noted in section 7.5.2, Torau and Mono-Alu share the innovation of having moved from a VSO unmarked clause order to an SOV order. In the case of Mono-Alu, this order is 'leaky', as a postposed topic can follow the verb. When this does not occur, however, modern Alu clearly manifests SOV clause order:

(7.92)
| *soipa* | *kokoŋ* | *i-aŋ*  | *ai* | *maha* | *alapa* | *ha-i-aŋ*   |
|---------|---------|---------|------|--------|---------|-------------|
| Soipa   | taro    | PF-eat  | and  | D:1S   | yam     | S:1S-PF-eat |

      'Soipa ate taro and I ate yam.'

Torau appears to have quite strict SOV syntax, as the following example with its embedded relative clause shows:

(7.93)  *inau*    *ena*    *tioni*   *kaukau*    *ta-di*   *ameala*
      D:1S    DEM    man    dog      DEM-P  COPY
      SUBJ$_1$     OBJ$_1$        OBJ$_2$

    *atun-dia*    *ma-gu-kada-ia*
    hit-O:3P    TA-S:1S-see-O:3S
    VP$_2$         VP$_1$
    'I saw the man who hit the dogs.'

Predictably, not all Torau text is as strictly SOV as this example, but it leaves one in no doubt as to the unmarked clause order of the language.

Mono-Alu and Torau are 'well-behaved' SOV languages, in that both prepose possessor noun phrases and use postpositions rather than prepositions. A phrase in Rausch's (1912) Uruava fragments

(7.94)  *ruma*    *tava-na-na*
     house    inside-P:3S-POSTP
     POSSR  POSSM-POSTP
     'inside the house'

shows both features, indicating that it belongs genetically with Mono-Alu and Torau. Possession is illustrated in (7.87) above and in:

(7.95)  Torau

    *kaukau*    *kune-la*
    dog      tail-P:3S
    'a dog's tail'

    Alu

    *soipa*    *ime-na*
    Soipa    arm-P:3S
    'Soipa's arm'

The preposed possessor is in contrast to all other North-West Solomonic languages, which either have a postposed possessor, as in the Maringe examples in (7.89), or mark the possessor with a preposition.

The use of postpositions is illustrated in the third item of (7.86) above and in:

(7.96)  Torau

    *tioloni*    *ena*    *wakasi-ai*    *mosimosi*    *boni-ai*    *pa-e-siri*
    Tioloni    his    canoe-POSTP  tomorrow    night-POST  FUT-S:3S-go.up
    'Tioloni will board his canoe tomorrow night.'

    Alu

    *soipa*    *maha-iai*    *nnta*    *uaka*    *sa-na*
    Soipa    D:1S-POSTP    TA    work    PCL-P:3S
    'Soipa is working for me.'

> tioŋ    numa    esu-na-ʔaŋ
> man     house   back-P:3S-POSTP
> 'The man is at the back of the house.'

Together, this change in typology (and their self-evident similarity to each other) places Torau and Mono-Alu in a group by themselves, a finding which accords with non-linguistic evidence to the effect that the Torau people shifted from Alu to the Buin area of mainland south Bougainville at some unknown date in the past, and took their present village of Rorovana on the east coast of Bougainville by force sometime in the nineteenth century (Terrell and Irwin 1972).

The small amount of evidence available for Uruava suggests that, as Lincoln (1976c) found, this language also belonged to the Torau/Mono-Alu group. However, parallel typological change is also possible.

### 7.6.5 THE LANGUAGES OF CHOISEUL

Although there are self-evident similarities among the languages of Choiseul, I have been unable to isolate any morphosyntactic innovations exclusively shared by those for which data are available. The reasons for this are identical to those given in section in connection with Piva and Banoni.

### 7.6.6 NEW GEORGIA AND YSABEL

As was noted in section 7.5.4, morphosyntactic data are available only for Roviana in the New Georgia group and Maringe on Santa Ysabel. The similarities and differences between these two languages with regard to their reflexes of a topic-final clause structure in which the topic noun phrase was introduced by *si* were investigated in that section, and the conclusion reached that this represents a shared innovation.

As Table 33 and the accompanying discussion indicates, the languages of New Georgia and Ysabel also appear to have lost the *r-initial pronouns of PNS, except for the first person singular pronoun. I have no explanation for this odd distribution of loss and retention, but its very oddness suggests that it is a jointly inherited innovation rather than an independent parallel development.

Roviana and Maringe also share an idiosyncratic vowel change in the alimentary possessive classifier: PNS *ya- (< POC *ka-) became Roviana and Maringe ɣe-.

### 7.7 NORTH-WEST SOLOMONIC: CONCLUSION

I have shown in this chapter that, diverse though the North-West Solomonic languages are, there are sufficient shared innovations, both phonological and morphsyntactic, to indicate that they are a genetic unity and that all members of the group are descended from a single proto language, Proto North-West Solomonic, which differentiated into a dialect chain and then split, in Bougainville because of the presence of other inhabitants, in the western Solomon Islands because of geography, into five major groups. Among these, Banoni and Piva and the Choiseul languages appear to be the most conservative. The Nehan/North Bougainville group is internally quite complex, and the relationships of Solos and of Nehan (because of their peculiarities) and of Papapana (because data are lacking) especially require further investigation. At the other end of the region, Proto New

Georgia/Ysabel appears to have split into the New Georgia and Santa Ysabel groups, but the unusual syntactic innovations, especially of Roviana, make the area a potentially interesting field of research.

The next chapter deals, among other matters, with the relationship of Proto North-West Solomonic to the languages of New Ireland. The border between the North-West Solomonic and the South-East Solomonic language groups receives attention in Chapter 10.3.

THE MESO-MELANESIAN CLUSTER

## 8.1 INTRODUCTION

The Meso-Melanesian[98] cluster comprises the Oceanic languages of the groups shown on Map 12 and listed in the diagram in Figure 11, including the North-West Solomonic group discussed in the previous chapter. The locations of those Meso-Melanesian languages which do not belong to the North-West Solomonic group are shown on Map 13. These include certain languages on New Britain and all the Oceanic languages of New Ireland, but *not* the languages of the St Matthias group (Mussau and Tench), which have previously been treated (largely on geographical grounds) as part of a New Ireland group (Beaumont 1972). The St Matthias group is examined in Chapter 9.

In order to simplify my terminology, I will use the term 'New Ireland languages' to refer not only to the languages of New Ireland and its outliers but also to those languages on New Britain which are intruders from New Ireland (i.e. Minigir, Tolai, Bilur and Tomoip) as 'New Ireland languages'. The first three still have close linguistic relatives on New Ireland (see Figure 11).

Map 13 includes three languages not shown on Wurm and Hattori's (1981) maps of New Britain and New Ireland. These are Label, Minigir and Bilur.

In the case of Label, the omission goes back to an error in Lithgow and Claassen's (1968) survey. They list Kandas (shown on Wurm and Hattori's New Ireland map and on Map 13) as spoken in the following villages on the west coast of south New Ireland (from north to south): Semalu, Watpi, King, Kait and Nasko. Their Kandas vocabulary, however, is drawn from Peekel's (1929-30) vocabulary of Label, and I assumed Kandas and Label to be alternant names for the same language until I visited southern New Ireland. Peekel's Label is indeed spoken at Nasko, the southernmost of the villages listed, and by a few old people at Kait. It is also spoken at Tampakar, a village north of Semalu. In the intervening villages of Watpi, King and Kait, however, Kandas is spoken, and it is certainly not identical with Label. The distribution of the two languages suggests that Kandas, which is closely related to Duke of York, is the intruder and has occupied the middle of what was once a Label-speaking strip of coast.

Capell (1971a) commented on the fact that the Tolai language has no /s/ phoneme, and referred to a single dialect which retains it. This 'dialect' is known to its speakers as Minigir: it is clearly related to Tolai, but as well as retaining *s*, it preserves final vowels lost in Tolai, and also plural forms of the

(Proto Oceanic)

Proto Meso-Melanesian

*Meso-Melanesian network*

Bali/
Vitu

Proto
Willaumez

Proto New Ireland

*New Ireland network*

Proto
L/N

Proto
Tabar

Proto
Madak

*Willaumez
chain*

*Lavongai
/Nalik
network*

*Tabar
chain*

*Madak
chain*

*South New Ireland /N.W. Solomonic network*

Bali
Vitu

Nakanai
Meramera
(=Melamela)

Lavongai
(=Tungak)
Tigak
Tiang
Kara
Nalik

Notsi
Tabar
Lihir

Lamasong
Madak
Barok

Tangga

Konomala

Label
Bilur

Siar

Tomoip
(=Tumuip)

Bulu
Bola
(=Bakovi)

Sursurunga

Patpatar
Minigir
Tolai

Kandas
Duke of
York

Proto
North-West
Solomonic
(see Figure 10)

FIGURE 11: THE MESO-MELANESIAN CLUSTER: GENETIC TREE

pronouns which have been replaced in Tolai and most other south New Ireland languages by paucal forms containing (as Capell noted) reflexes of POC *pati 'four'. As there are a number of morphosyntactic differences between Minigir and Tolai, they are treated here as separate languages. The Minigir today live at Lungalunga village on the east coast of what Wurm and Hattori's New Britain map labels 'Ataliklikun Bay', but they have gardens on the coast beyond the eastern headland of the bay, and it was apparently there that they lived (according to my informants) – in relative isolation from the Tolai – until European contact.

Bilur is spoken in nine villages (Bilur, Marmar, Birar, Kamar, Kamakamar, Kulon, Makuapau, Karu and Korai) situated on or near the east coast of the Gazelle Peninsula, south of Cape Gazelle. As far as I can ascertain, the language was not recorded in the literature before Ross (1982b),[99] a fact which is puzzling in view of its proximity to the township of Kokopo, once the German colonial headquarters.



MAP 12: LOCATION OF THE MESO-MELANESIAN CLUSTER AND ITS SUBGROUPS
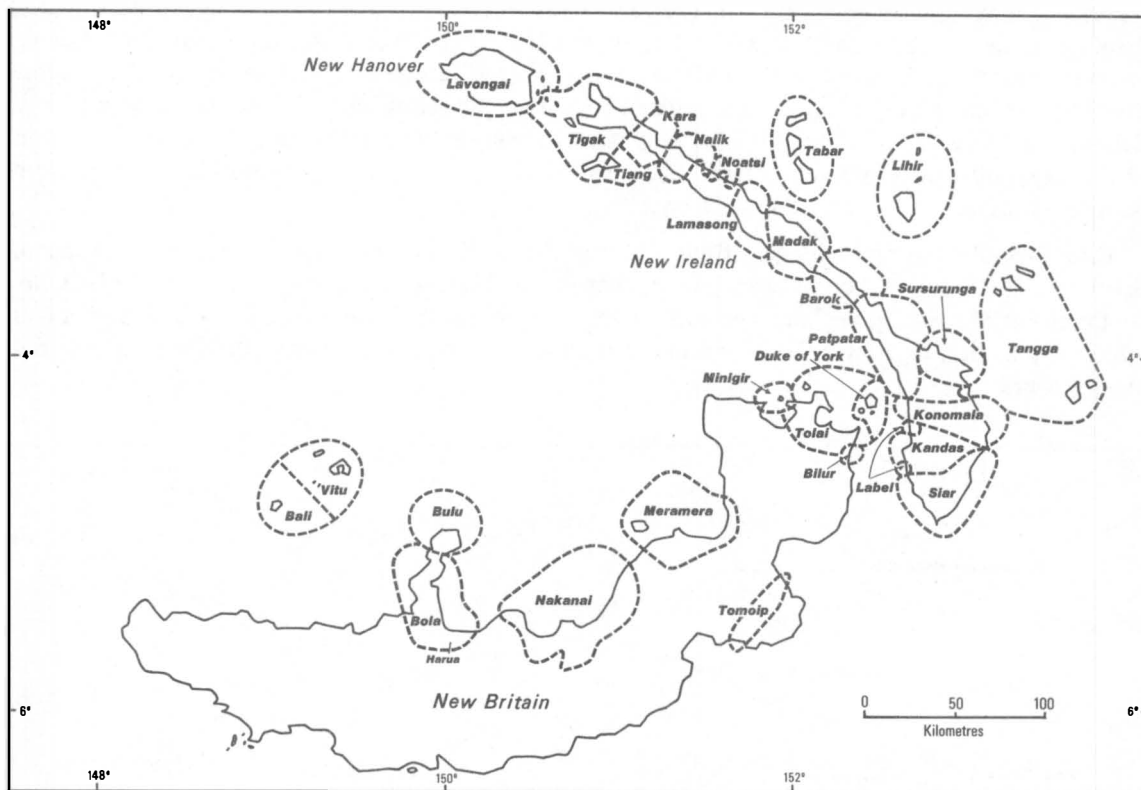
MAP 13: MESO-MELANESIAN LANGUAGES OF NEW BRITAIN AND NEW IRELAND

## 8.2 PREVIOUS STUDIES

Surveys taking in Meso-Melanesian languages outside the North-West Solomonic linkage are (for New Britain) Chowning (1969) and Johnston, ed. (1980) and (for New Ireland) Lithgow and Claassen (1968) and Beaumont (1972). Beaumont used Lithgow and Claassen's incomplete cognate counts to arrive at lexicostatistically based subgroups. As indicated in section 1.6.1, these are at variance with results provided by the comparative method. The only applications of the comparative method to the Meso-Melanesian languages of New Britain or New Ireland are Goodenough's (1961a, 1961b) study of the Willaumez chain and Johnston's (1982) study of what Chowning had called the Kimbe family, i.e. Bali-Vitu and the Willaumez chain.

In terms of grammatical descriptions, the Meso-Melanesian languages of New Britain and New Ireland are among the best described in PNG. Detailed studies have been made of Nakanai (Willaumez family) (Johnston 1980), Tigak (Lavongai/Nalik chain) (Beaumont 1979), and Tolai (Mosel 1984). Until the second World War, German Catholic missionaries on New Ireland produced a number of studies, which, although based on their training in classical European languages, show considerable insight into the languages they describe. These include Stamm (f/c., for Lavongai), Peekel (1909 for Patpatar, and 1929-30 for Label), Neuhaus (1954 for Lihir), and Maurer (1966 for

Tangga). There is also a Tangga dictionary by Bell (1977) and a Tolai language-learning course by Franklin et al (1974).


## 8.3 OVERVIEW OF THE MESO-MELANESIAN CLUSTER

In Chapter 2 I divided the Meso-Melanesian cluster for convenience of reference into five groupings: Bali-Vitu, the Willaumez chain, the Lavongai/Nalik chain, the New Ireland languages and North-West Solomonic. A number of comments need to be made about this categorisation and its relationship to linguistic prehistory.


### 8.3.1 THE NEW IRELAND LANGUAGES AND THE ORIGINS OF THE MESO-MELANESIAN NETWORK

Among these five groupings, I referred to 'the New Ireland languages', rather than to a chain, network or family. In order to understand the reasons for this, it is necessary to go back to the origins of the Meso-Melanesian network.

In Chapter 5, I described the North New Guinea cluster as the outcome of a network of dialects which became more or less separated from other communalects of a larger Oceanic linkage. The early Meso-Melanesian network appears to be another (perhaps the other) part of this linkage, largely separated from the North New Guinea cluster by the Willaumez Peninsula, a substantial barrier to people who customarily travel by sea. One may surmise that the events causing the historical separation, as well as the break-up of the Meso-Melanesian network itself, were volcanic, and I return to this possibility in section 10.3.3. However, whereas there were no innovations common to all the major groups of the North New Guinea cluster, only chaining features, there are certain innovations common to all Meso-Melanesian groups (section 8.4), as well as links between the groups. The hypothesis proposed here entails the following steps:

A. The Meso-Melanesian linkage split off from an Oceanic linkage in the north New Britain/Willaumez Peninsula area. Bali-Vitu and the Willaumez chain are descended from that part of the linkage which remained *in situ* (section 8.3.2).

B. The scattering of non-AN languages of the East Papuan phylum on New Britain today (and their probable influence on the South-West New Britain network, manifested, for example, in the development of gender systems in some languages – see section 5.4.3.2) suggests that when this split occurred, New Britain was largely occupied by non-AN speaking peoples, and Meso-Melanesian speakers accordingly expanded westwards along the coast of New Britain and across the St George's Channel into New Ireland. There is no linguistic evidence on New Britain of this Meso-Melanesian movement, as its settlements were wiped out by the eruption of the volcano which is now Rabaul harbour (see section 10.3.3), and the Minigir, Tolai and Bilur are all descended from peoples who migrated back from New Ireland.

C. Speakers of Meso-Melanesian communalects occupied almost all of New Ireland and its offshore islands (the only surviving non-AN language is Kuot). Given the ease of communication across the St George's Channel, it is more than likely that there were multiple migrations across it. However, at some stage linguistic continuity between the Willaumez Peninsula area and New Ireland was severed, and the settlements on New Ireland formed (or were re-synthesised into) a dialect network.

D. The Meso-Melanesian settlement of New Ireland occurred from south to north, with the result that subgrouping is clearest in the north (the Lavongai/Nalik network) and least clear, apart from tiny groups (e.g. the pair Label and Bilur), in the south, where a network of eleven (not very closely related) languages is found. There is strong evidence (section 8.7) that Proto North-West Solomonic, reconstructed in Chapter 7, was a member of this network whose speakers moved south-east via Nissan Island to Buka, Bougainville and the western Solomon Islands. Hence the network is labelled 'South New Ireland/N.W. Solomonic network' in Figure 11.

E. At some stage after the settlement of New Ireland by Meso-Melanesian speakers, there was a (probably) small movement of population around the east coast of the Gazelle Peninsula of New Britain to Wide Bay, represented today by the Tomoip language (= Tumuip) (identified by Chowning 1969 as an isolate, which it is in relation to the Oceanic languages of New Britain; see section 8.6.4).

In the context of this reconstruction of events, it is easy to see that the languages of southern New Ireland occupy a similar position in relation to the New Ireland network to that position which the residual Vitiaz languages occupy in relation to the Ngero/Vitiaz linkage (Chapter 5). There is, however, an important difference. Within the Ngero/Vitiaz linkage, certain groups (the Ngero, Bel and Mengen families, the South-West New Britain network) appear to have developed in isolation from the residual languages and from each other, and the residual languages also developed in some measure of isolation one from another. Within the New Ireland network, however, geographic continuity existed until the separation of Proto North-West Solomonic from the network, and after that separation, continuity remained for the rest of the network. As a result, there are features which clearly indicate the relationship of certain North-West Solomonic languages to the languages of south New Ireland (section 8.7), and there are also features exclusively shared by all New Ireland languages (section 8.5), but *not* by languages of the North-West Solomonic group.

The northernmost group of New Ireland languages, the Lavongai/Nalik network, is quite clear in its separateness, and Proto Lavongai/Nalik is readily reconstructible. The Tabar chain is almost as clearly defined, but there are occasional features which its southernmost member Lihir shares with Tangga. Similarly, the Madak chain is defined by phonological innovations, but the southernmost dialects of Barok (of the Madak chain) also have features in common with neighbouring Patpatar (of southern New Ireland). Whilst the genetic tree in figure 11 is as accurate as tree-drawing conventions allow, it cannot cope with this kind of gradation of separateness. Because of this gradation, the New Ireland languages other than the Lavongai/Nalik group were lumped together in Chapters 2 and 3 as 'other New Ireland languages'.

### 8.3.2 THE POSITION OF BALI-VITU AND THE WILLAUMEZ CHAIN

In the categorisation in Chapter 2, and in Figure 11, Bali-Vitu is treated as a first-order subgroup of the Meso-Melanesian linkage, co-ordinate with the Willaumez chain. Chowning (1969) and Johnston (1982) both treat them as a single 'Kimbe' group. However, I have found no exclusively shared innovations to suggest that Bali-Vitu and the Willaumez chain belong historically to the same subgroup. It is true that they share a large proportion of their lexicons, but this is attributable to retention and to contact. They also look superficially similar because of their phonological conservatism, but for related languages in contact they have remarkably diverse morphosyntactic systems. As noted in section 3.5.2.2, the Willaumez chain reflects lenition of POC *p*, but not of *k*;

this may be due to the re-strengthening of an earlier lenition, but, either way, it underlines the historical separateness of the Willaumez languages from Bali-Vitu. There are a few cases of *k-lenition in Bulu, but this is probably due to contact with Bali-Vitu speakers, attested by Rhoads and Specht (1980).[100] The Bali dialect of Bali-Vitu is very conservative in its phonology, which reflects only those innovations that are common to all Meso-Melanesian languages. Hence Bali-Vitu and the Kimbe languages leave one with the impression of fragments of an ancient dialect chain whose similarities are due to retention and whose differences are due to the time-depth since separation rather than to contact with speakers of other languages. This is implied by Johnston's (1982) conclusion that 'there is little indication that [Proto Kimbe] is anything other than a conservative post-POC development ...'. My one difference from him is methodological: there are no grounds for reconstructing a 'Proto Kimbe' as an interstage proto language.

Goodenough (1961a), in an oft-cited paper,[101] argues that the Willaumez languages are members of Grace's Central Pacific grouping (consisting of Fijian, Rotuman and the Polynesian languages) and are the outcome of a back migration similar to those which gave rise to the outlier Polynesian languages. However, what Goodenough recognised as shared features are in part shared retentions. Goodenough's grounds for his subgrouping are:

a)  counts of cognates shared by Bulu and Bileki (a Nakanai dialect) with Fijian are higher than those shared with Mangseng and Bebeli (Goodenough's Kapore) and higher than those shared by Mangseng and Bebeli with Fijian;

b)  the Willaumez languages and Fijian both have a personal noun marker (Proto Willaumez *e, Fijian ko);

c)  Nakanai ta-u-me PP:2S and Rotuman, Polynesian -u also reflect idiosyncratic *-u P:2S (instead of POC *-mu);

d)  Meramera ne- and Fijian ne-, no- reflect the same alienable possessive classifier;

e)  PAN initial *-a- has acquired an accreted h- in Nakanai, y- in Fijian;

f)  Nakanai and Fijian both appear to divide PAN *s/*c/*j/*z/*Z into two consonants, although they do not always agree on the items which reflect each consonant.

g)  Nakanai and Fijian both reflect the trial pronoun marker *-tou (as opposed to *-tolu 'three');

Point (a) results from the rapid rate of lexical change in the South-West New Britain network of the North New Guinea cluster, to which Bebeli and Mangseng belong (section 5.4.3.2), relative to the lexical conservatism of the Willaumez languages and Fijian. Point (b) represents a shared morphosyntactic category, as opposed to a shared form, which is a questionable ground for subgrouping: in fact, this is the shared *retention* of a category, and therefore not a ground for subgrouping (the Willaumez personal article e has cognates in most languages of the Meso-Melanesian cluster and fossil cognates in the Mengen family of the North New Guinea cluster (section 4.1), and so is reconstructible for an early stage of Oceanic).

Points (c) and (d) both entail incorrect interpretations of Willaumez morphosyntax. The POC morpheme *-mu P:2S occurs with its expected Nakanai reflex -mu P:2S. The portmanteau possessive form taume alternates with taime (Johnston 1982:181), and, as Johnston's paradigms show, is the result of merging the morphemes te possessive preposition (< POC *ta-) with the disjunctive pronoun e-me[i] D:2S (where e- is the personal article). Meramera ne is not a

possessive classifier but a reflex of the POC prepositional verb *ni- (section ) combined with the personal article e (e.g. Meramera a luma n-e lobao 'Lobao's house'). In my Meramera data it does not occur with pronouns, but it can be seen from its Bola cognate in a ruma n-au 'my house that the pronominal form is -au O:2S, not Bola -mu P:2S, indicating that n- is indeed derived from a prepositional verb, not from a possessive classifier.

Goodenough's phonological points, (e) and (f), are the accretion of an onglide before initial *-a, a phenomenon which is in fact widespread among Oceanic languages (see, for example, Proto Central Papuan *Y in Table 30), and a split of POC *s independently into fortis and lenis reflexes in Nakanai and Fijian (see section 3.6.2.1).

Only point (g) is less readily accounted for. The Willaumez languages share with Fijian the trial marker *-tou. It is impossible to tell whether this form, which also occurs in Admiralties languages (cf. example 9.21), is a joint retention or an independent parallel innovation. Alone, however, it is insufficient evidence for subgrouping, and in any case cannot stand as subgrouping evidence in the face of the fact that the Willaumez languages share in the phonological innovations of the Meso-Melanesian cluster (see below), not those of Proto Central Pacific (cf. Pawley 1972).

### 8.4 SHARED INNOVATIONS OF THE MESO-MELANESIAN CLUSTER

I observed in Chapter 4 that the languages of the Meso-Melanesian cluster are in general morphosyntactically of Type B, i.e. they have common and personal articles, the possessor is postposed, the pronominal system distinguishes three or more numbers, there is a morphologically marked transitivity system (which among other things distinguishes specific objects from non-specific 'incorporated objects'), a morphologically complex system of tense/aspect marking, and two or three classes of preposition-like morphemes. This fact does not need to be laboured here, as I have illustrated various aspects of it in Chapter 4, for New Ireland and Willaumez languages in Ross (1982a), and for North-West Solomonic languages in Chapter 7 and Ross (1982b). The point which is of note is that the ancestral Meso-Melanesian linkage did not undergo the innovations which resulted in the Type A morphosyntax of languages of the North New Guinea cluster. Indeed, there are no morphosyntactic innovations reflected throughout the length of the Meso-Melanesian cluster. What we do find are four phonological innovations common to the whole cluster, and three morphosyntactic innovations shared by Bali-Vitu, some languages of the Willaumez chain, and some languages of New Ireland.

Morphosyntactic innovations with this distribution obviously indicate links in the chain which connect the Willaumez Peninsula area with New Ireland. Two of the three morphosyntactic innovations are probably innovations of the ancestral Meso-Melanesian linkage, as I shall try to show below. For this reason they are dealt with in this part of the chapter.

There are also morphosyntactic innovations which link New Ireland languages to North-West Solomonic languages. These are dealt with in section 8.7, as they apparently occurred later.

### 8.4.1 PHONOLOGICAL INNOVATIONS

A summary of Meso-Melanesian sound correspondences is found in Table 34.

The phonological innovations of the Meso-Melanesian cluster are four of the eight listed in section 7.4.1 for the North-West Solomonic group, and are repeated here for convenience:

A. POC *r and *ʀ merged as PMM *r.

B. POC *dr and *d merged as PMM *d.

C. POC *s and *c merged as PMM *s.

D. POC *p underwent the following innovations:

    1. For the vast majority of etyma containing POC *p-, languages of the Meso-Melanesian cluster agree in reflecting the same grade, fortis or lenis, of POC *p- in that etymon, i.e. POC *p- split into PMM *p- and *v-;

    2. POC medial *-p- underwent lenition to PMM *-v-.

Innovation C will again not be illustrated as it is only the separate retention of the two phonemes which is of interest. Innovation D was illustrated in section 3.5.1.2, where the examples include most of the cases of Meso-Melanesian fortis *p- for which a POC etymon is reconstructible.

A fifth innovation is reflected throughout the Meso-Melanesian cluster except in the languages of the Willaumez chain, and this is that for the majority of etyma containing POC *k, languages of the Meso-Melanesian cluster agree in reflecting the same grade, fortis or lenis, of POC *k in that etymon, i.e. POC *k apparently split into PMM *k and *γ. Although it is quite likely that the Willaumez exception is due to the restrengthening of *γ to k (section 3.5.2.2), this innovation will be ignored here for a another reason: in New Ireland, the split of POC *k into fortis and lenis reflexes also applies to POC *q, and it appears that in the New Ireland network POC *k and *q merged, then split. Since this sequence of events is not reconstructible elsewhere in the Meso-Melanesian cluster, the split in POC *k must have occurred after the dispersion of PMM. I return to the New Ireland evidence in section 8.

Innovation A, the merger of POC *r and *ʀ, is illustrated in:

(8.1)    POC *rua 'two' > PMM *rua >

    Bali, Vitu rua

    PWZ *rua > Bulu, Bola (Harua), Nakanai, Meramera lua, Bola rua

    <u>South New Ireland</u>: Sursurunga, Kandas, Duke of York ru, Tangga u, Patpatar ruo, Minigir (u)ra, Tolai (u)rua, Label (u)r, Bilur (u)ru, Siar (i)ru

    PTAB *lua > Notsi lua, Tabar rua, Lihir lo

    PLN *rua > Lavongai (po)ŋua, Kara (East) (kara)gu, Tiang iua(i), Nalik (u)rua

    PNS *rua > Solos nu, Petats (hu)lu, Halia (Haku) (to)l, Taiof (fua)n, Papapana nuʔa(ta), Banoni (too)m, Piva (to)nua, Uruava rua, Torau (a)rua, Mono-Alu (e)lua, Vaghua, Varisi (ka)rua, Ririo (ke)r, Babatana (ke)re, Sengga (ke)ri, Lungga (ka)ru, Nduke (ko)ri, Roviana, Hoava, Vangunu (ka)rua, Kia (pa)lu(gu), Kokota, Laghu (pa)lu

TABLE 34:  MESO-MELANESIAN CLUSTER: CONSONANT CORRESPONDENCES

| POC | *p fortis | *p lenis | *b | *w | *m | *mw |
|---|---|---|---|---|---|---|
| Bali | p | v | b | v, w | m | m |
| Vitu | p | v; ɣ/_o, u | b | v | m | m, m° |
| PWZ | *p | *v | *b | *w | *m | *mw |
| Bulu | p | v | b | ∅-; -v-, -u- | m | m, m° |
| Bola | p | v | b | ∅-; -v- | m | m |
| Bola (Harua) | p | v | b | ∅-; -v- | m | m |
| Nakanai | p | v | b | u-; -v- | m | m |
| Meramera | p | v | b | w | m | m |
| PLN | *p | *f | *b | *u | *m | *mw |
| Lavongai | p | ∅; -p | v | u | m | . |
| Tigak | p | ∅; -p | v | u | m | mw |
| Tiang | p | ∅ | b | u | m | . |
| Kara (E) | p | f | v | u | m | . |
| Kara (W) | p, f | f | b | u | m | . |
| Nalik | f | f | b | u | m | . |
| PTAB | *p | *v | *b | *u, ∅ | *m | *m |
| Notsi | p | ∅ | b | u, ∅ | m | m |
| Tabar | p | v | b | ∅, u, o | m | m |
| Lihir | p | ∅-; h | b | ∅, u, o | m | m |
| PMAD | *p | *p; ∅/_i, u; -∅ | *b | *u | *m | m |
| Lamasong | p | p; ∅/_i, u; -∅ | b | u | m | m |
| Madak | p | p; ∅/_i, u; -∅ | b | . | m | m |
| Barok | p | p; ∅-_i, u; -∅ | b | . | m | m |
| Sursurunga | p | ∅-, h-; h | b; -m | u | m | m |
| Tangga | f | f | b; -m | u | m | m |
| Konomala | p, f | f | b; -m | u | m | m |
| Patpatar | p | h | b | u | m | . |
| Minigir | p | v | b | o | m | m |
| Tolai | p | v; -p | b | o | m | m |
| Label | p | h; ∅/_u | b; -m | u | m | . |
| Bilur | p | v; ∅/_u; -p | b; -m | v | m | m |
| Kandas | p | v; ∅/_u; -p | b; -m | u | m | . |
| Duke of York | p | v; ∅/_u; -p | b; -m | v | m | m |
| Siar | p | f, ∅ | b; -m | u, f | m | . |
| Tomoip | . | v, h; p/m_; -v-, -∅- | b | u | m | m |
| PNS | *p- | *v | *b | *∅ | *m | *mw |

TABLE 34: *(continued)*

| | *t* | *d, *dr* | *n, *ñ* | *l* | *r, *R* | *s, *c* | *j* |
|---|---|---|---|---|---|---|---|
| POC | *t | *d, *dr | *n, *ñ | *l | *r, *R | *s, *c | *j |
| Bali | t | d | n | l | r | z | d, t |
| Vitu | t | d | n; ŋ/_*# | l | r | ð | d, . |
| PWZ | t | *d | *n | *l | *r | *s | *j |
| Bulu | t; s/_i | d | n | l | l, r | r | d, t |
| Bola | t; s/_i | d | n | l | r | r | d, t |
| Bola (Harua) | t; s/_i | d | n | l | l | r | d, t |
| Nakanai | t | g, d | l | l | l | s, r | g, s |
| Meramera | t | d | n | l | l | s | s |
| PLN | *t | *d | *n | *l | *r | *s | *s |
| Lavongai | t | r | n | l | ŋ | s | s |
| Tigak | t | r | n | l | g; -k | s | s |
| Tiang | t | r; d- | n | l | i; Ø/i | s | s |
| Kara (E) | t | r; -t | n | l; Ø, l/_i | i; Ø/i | s | s |
| Kara (W) | t | d; -t | n | l | i; Ø/i | s | s |
| Nalik | t; t-, d-, r- | d | n | l | r | s | s |

| | | | | | | fortis | lenis | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | *s | *c | *c |
| PTAB | *t | *d | *n | *l | *l | | | |
| Notsi | t | d | n | l | l | s | c | c |
| Tabar | t | d | n; -Ø | r | r | s | c | c |
| Lihir | t; t, s/_i | d; -n | n | l | l | s | c | c |

| | *t* | *d; -n* | *n* | *l; -n* | *Ø* | *s* | *s* |
|---|---|---|---|---|---|---|---|
| PMAD | *t | *d; -n | *n | *l; -n | *Ø | *s | *s |
| Lamasong | t | d | n | l; -n | Ø | s | s |
| Madak | t | d; -n | n | l; -n | Ø | s | s |
| Barok | t | d; -n | n | l; -n | Ø | s | s |
| Sursurunga | t; t, s/_i | d; -n | n | l | r | s | s |
| Tangga | t; t, s/_i | d-; r | n | l | Ø | s | s |
| Konomala | t; t, s/_i | d | n | l | Ø; -i | s | s |
| Patpatar | t | d | n | l | r | s | s |
| Minigir | t | d | n | l | r | s | s |
| Tolai | t | d | n | l | r | Ø | Ø |
| Label | t | d; -n | n | l | r | s | s |
| Bilur | t | d; -n | n | l | r | Ø | Ø |
| Kandas | t | d; -n | n | l | r | s | s |
| Duke of York | t | d; -n | n | l | r | Ø | Ø |
| Siar | t; t, s/_i | d | n | l | r | s | s |

| | | | | | | fortis | lenis | |
|---|---|---|---|---|---|---|---|---|
| Tomoip | t; -r; d/n_ | l; d/n_ | n | l | r | t, s; -r | d | . |
| PNS | *t | *d | *n, *ñ | *l | *r | *s | *j |

TABLE 34: *(continued)*

| POC | *y | *k fortis | *k lenis | *q | *g | *ŋ |
|---|---|---|---|---|---|---|
| Bali | ɣ | k | ɣ | ɣ; k/_*# | g | ŋ |
| Vitu | ɣ | k | ɣ | ɣ | g | ŋ |
| PWZ | *ɣ | *k | ... | *ɣ | *g | *ŋ |
| Bulu | Ø | k | ɣ, k | ɣ | g | ŋ |
| Bola | i | k | ... | ɣ | g | ŋ |
| Bola (Harua) | i | k | ... | ɣ | g | ŋ |
| Nakanai | i | k, Ø | ... | h, Ø | g | l, g |
| Meramera | i | ? | ... | w, Ø | g | ŋ |

| POC | *y | *k, *q fortis initial/medial | *k, *q lenis | *k, *q initial | | |
|---|---|---|---|---|---|---|
| PLN | *y | *k | *Ø | *ɣ | *g | *ŋ |
| Lavongai | i | k | Ø | i-, ŋ- | g | ŋ |
| Tigak | i | k | Ø | i- | g; -k | ŋ |
| Tiang | i | k | Ø | u-, ŋ- | .; -k | ŋ |
| Kara (E) | i | k | Ø | ŋ-, i-, u- | .; -k | ŋ |
| Kara (W) | i | k | Ø | ŋ-, i-, u- | .; -k | ŋ |
| Nalik | i | k | Ø | i- | g | ŋ |
| PTAB | i | *k | *Ø | *ɣ- | *g | *ŋ |
| Notsi | i | k | Ø | Ø-, i-, ŋ- | g | ŋ |
| Tabar | i | k | Ø | Ø-, i- | g | ŋ; -Ø |
| Lihir | i | k | Ø | Ø-, i- | g; -ŋ | n; -n, -ŋ |
| PMAD | i | *k | *Ø | *ɣ- | *g | *ŋ |
| Lamasong | i | k | Ø | Ø-, ŋ- | g; -ŋ | ŋ |
| Madak | . | k | Ø | Ø- | g; -k | ŋ |
| Barok | i | k | Ø | Ø- | k | ŋ |
| Sursurunga | i | k | Ø | Ø-, i-, u-, ŋ | g; -k | ŋ |
| Tangga | i | k | Ø | Ø- | .; -k | ŋ |
| Konomala | i | k | Ø | u-, ŋ- | g; -ŋ, -k | ŋ |
| Patpatar | i | k | Ø | w-, Ø- | g | ŋ |
| Minigir | i | k | Ø | v-, Ø | g | ŋ |
| Tolai | i | k | Ø | v-, Ø- | g | ŋ |
| Label | i | k | Ø | u- | g; -k | ŋ |
| Bilur | i | k | Ø | v-, Ø- | g; -ŋ | ŋ |
| Kandas | i | k | Ø | u-, ŋ- | g; -ŋ | ŋ |
| Duke of York | i | k | Ø | v-, Ø- | g; -ŋ | ŋ |
| Siar | i | k | Ø | i-, u-, Ø- | .; -ŋ, -k | ŋ |
| Tomoip | i | k, h | Ø, k | u- | .; -ŋ | ŋ |

| POC | | *k fortis | *k lenis | *q | | |
|---|---|---|---|---|---|---|
| PNS | *Ø; -y- | *k | *ɣ | *q | *g | *ŋ |

(8.2) POC *rani 'daytime' > PMM *rani >

PTAB *lani > Lihir lan

<u>South New Ireland</u>: Konomala laŋ

PLN *ran > Tigak gan(ias), Nalik ran

PNS *rani > Nehan (ma)rin, Solos nan, Petats len, Kalia (Haku) lan, Taiof naiŋ, Banoni nam, Uruava rani, Torau rare, Mono-Alu lale, Vaghua ranə, Varisi, Babatana, Sengga rani, Ririo ren, Lungga, Nduke, Roviana, Hoava, Vangunu rane, Ghove, Maringe (na)rane

(8.3) POC *raun 'leaf' > PMM *raun >

Bali rauŋ(u), Vitu rau-rau

PWZ *rau > Bulu la-lau, Meramera lau-lau

PNS *rau- > Taiof nou, Uruava (e)ro, Torau ro(e), Mono-Alu lo(ʔe)

(8.4) POC *ʀopok 'fly' > PMM *rovok

Bali rovok(o)

PWZ *rovo > Nakanai, Meramera lovo, Bola (kadi)rovo 'bird'

<u>South New Ireland:</u> Sursurunga roh, Tangga of, Label rohoi, Kandas ro, Duke of York rovo, Siar rofoi

PTAB *lovo > Notsi lo, Tabar rovo, Lihir lah

PLN *ro > Lavongai ŋo(i), Tiang io-io

PNS *rovo(yo) > Nehan lu-luh, Solos noh, Petats loh, Taiof ruaf, Hahon navo, Tinputz no, Teop naovo, Torau ro, Mono-Alu loho

(8.5) POC *boʀok 'pig' > PMM *borok >

Bali borok(o), Vitu boro

<u>South New Ireland:</u> Susurunga bor, Tangga boh, Konomala bui, Patpatar bore, Minigir barai, Tolai, Label, Bilur, Siar boroi, Kandas, Duke of York boro

PMAD *bo > Lamasong, Madak, Barok bo

PTAB *boro > Notsi, Lihir bol, Tabar boro

PLN *boro > Lavongai voŋo, Tigak vogo, Kara (East) vio, Tiang biə, Nalik bari

PNS *boroyo > Papapana boro, Banoni, Lungga boroyo, Nduke boyoro (metathesis)

(8.6) POC *ʀumaq 'house' > PMM *rumaq >

Bali rumak(a), Vitu ruma

PWZ *ruma > Bulu, Nakanai, Meramera luma, Bola ruma

<u>South New Ireland:</u> Sursurunga rum, Konomala umai, Label, Siar rumai, Kandas rumu, Duke of York ruma

PTAB *luma > Tabar ruma, Lihir liom

PNS *ruma(ka) > Solos, Taiof, Banoni, Mono-Alu numa, Petats, Halia (Haku) luma, Uruava, Torau, Lungga ruma, Nduke ru-ruma 'chest', Maringe ruma 'inside'

Examples (8.11) to (8.13) below also contain reflexes of POC *ʀ.

Innovation B, the merger of POC *d and *dr as PMM *d, is illustrated in the following:

(8.7)   POC *pudi 'banana' > PMM *vudi >

PWZ *vudi > Bulu, Bola, Meramera vudi, Nakanai vugi

South New Ireland: > Susurunga, Label hun, Patpatar hudu, Minigur, Tolai vudu, Bilur, Kandas, Duke of York un, Siar fun

PMAD *udu > Lamasong udu, Madak, Barok un

PTAB *vudi > Notsi udi, Tabar vudi, Lihir uin

PLN *fudi > Lavongai, Tigak ur, Kara (East) fit, Tiang bər, Nalik fudu

PNS *vudi > Solos hut '(banana) ripe', Petats hur '(banana) ripe', Halia (Selau) wir '(banana) ripe', Taiof fur '(banana) ripe', Teop vuri '(banana) ripe', Uruava '(banana) ripe' vudi, Torau udi '(banana) ripe', Lungga vudi

(8.8)   POC *-da P:1IP > PMM *-da >

Bali -da, Vitu -do(lu)

South New Ireland: Tangga -r(er)[a], Konomala, Tolai, Kandas, Duke of York -d(at)[a], Patpatar -da(hat)[a], Minigir -da, Siar (n) -da(t)[a], Label, Bilur -da(la)

PLN *-da > Lavongai, Tigak -ra, Tiang -rə, Kara (East) (-ta)ra, Nalik -dia

PMAD *-da > Lamasong -da, Barok -de

PNS *-da > Petats -ri-ri, Halia (Hanahan) -ra-ra, Halia (Selau) -r-ra, Taiof -r, Teop, Mono-Alu, Banoni, Piva -ra, Torau, Roviana, Maringe -da, Babatana, Sengga -dia

[a]The suffixed morpheme reflects POC *pati 'four'.

(8.9)   POC *-dria P:3P > PMM *-dia >

Vitu -dia

South New Ireland: Sursurunga, Minigir -di, Tangga -ri, Konomala di(t)[a], Patpatar, Duke of York -di(et)[a], Siar (n)-di(t)[a], Kandas -d(et)[a], Tolai -di(at)[a]

PTAB *-dia > Notsi, Tabar -di, Lihir -die

PMAD *-di > Lamasong, Madak, Barok -di

PLN *-dia > Lavongai -ria, Tigak, Kara (East) -ri, Tiang (na)r, Nalik (na)di

PNS *-dia > Petats -ri-ru, Halia (Haku) -r(en), Taiof, Hahon -r, Teop, Banoni -ri, Torau, Roviana -dia, Uruava, Maringe -di, Piva, Mono-Alu -ria, Babatana -di(ra), Sengga -dö(ra)

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aThe suffixed morpheme reflects POC *pati 'four'.

(8.10) POC *madridriŋ 'cold' > PMM *madidiŋ >

South New Ireland: Tolai, Duke of York madiriŋ (-r- for exp second **-d- by dissimilation)

PNS *madidiŋ > Halia (Haku) maririŋ

(8.11) POC *madriʀi 'stand' > PMM *madiri >

Bali madi, Vitu madiri

WZ *madiri > Nakanai magiri (-r- for exp **-l-)

(8.12) POC *kadroʀa 'phalanger, cuscus' > PMM *kadora >

PTAB *adora > Tabar adora

PNS *ɣadora > Lungga ɣadora, Maringe khadara

(8.13) POC *draʀaq 'blood' > PMM *dara- >

PWZ *dara- > Bulu dara- (-r- for exp **-l-), Bola dara-, Meramera dal-dala-

South New Ireland: Sursurunga dərə-, Tangga de-dea(ku), Konomala də-dai-, Patpatar dar-dara-

PMAD *da- > Lamasong da-, Madak da-da-, Barok da-da(n) 'red'

PTAB *dala- > Notsi del, Tabar dara-, Lihir dala-

PLN *dara- > Lavongai raŋa(i-), Kara (East) ria-, Nalik dar(i-)

PNS *dara- > Kokota, Blablanga, Ghove, Maringe da-dara-


### 8.4.2 MORPHOSYNTACTIC INNOVATIONS

The morphosyntactic innovations presented here are common to some Willaumez area languages and some New Ireland languages. They are:

A. Two changes in possessive noun phrases in which the possessum is an alienable noun and the possessor a noun phrase (rather than a pronoun):

1. The possessive classifier with its possessive pronominal suffix shifted from before the possessum to between the possessum and the possessor.

2. A new general possessive classifer *ka- appeared.

B. The verbs *ua 'go to' and *mai 'come' 'from' lost their verbal identity before certain locative nouns and were cliticised to them to form locative adverbs.

C. Non-singular disjunctive pronouns were replaced by forms from the possessive pronominal paradigm.

### 8.4.2.1 INNOVATION IN THE POSSESSIVE NOUN PHRASE

In his study of possessive constructions in Oceanic languages, Lichtenberk (1985:102) writes, 'If in a language the order of the elements shared by two possessive construction types is the same in both, the two constructions may be said to be *harmonic* with each other . . . If the order of the elements shared by two possessive construction types is not the same, the two constructions may be said to be *disharmonic* with each other.' He reconstructs the POC alienable possessive noun phrase (in the terminology of this work) with a pronoun possessor as (1985:124):

(8.14)   PCL-P: + POSSESSUM

and with a noun phrase possessor as:

(8.15)   PCL-P: + POSSESSUM + POSSESSOR

and the additional evidence available to me from WM Oceanic languages indicates that these reconstructions are well justified. Innovation A, however, has to do with the disharmonisation of the two constructions above in some languages, whereby the sequence PCL-P: moves to the position between possessum and possessor, resulting in:

(8.16)   POSSESSUM + PCL-P: + POSSESSOR

Languages which have constructions (8.14) and (8.16) side by side are:

a)  Bali-Vitu;

b)  Willaumez chain: Bulu;

c)  New Ireland: Lihir, Tangga, Minigir, Tolai, Label, Bilur, Kandas, Duke of York, and Siar.

This looks a rather unimpressive scattering until one recognises two facts. Firstly, of the remaining fourteen languages of the New Ireland grouping, two, Konomala and Tomoip, have the structure in (8.16), but instead of the structure in (8.14), they have the structure below:

(8.17)   POSSESSUM + PCL-P:

i.e. they apparently shared with the languages enumerated the change which brought about a disharmonic relationship, but have restored harmony by extending the structural change to phrases with a pronoun possessor. The second fact is that in the three other Willaumez languages and nine of the remaining twelve languages of New Ireland, neither (8.15) nor (8.16) occurs. Instead we find:

(8.18)   POSSESSUM + PREP + POSSESSOR

We are left then with only Tabar and Notsi (closely related to each other) and Sursurunga which have the harmonic relation of the original POC structures in (8.14) and (8.15). In the context of the changes which have occurred in so many of their neighbours, it is impossible to know with certainty whether this is a retention from POC or a reharmonisation by changing (8.16) back to (8.15). But I shall suggest below that the latter is the case.

The disharmonic relationship displayed in each of the languages enumerated above is exemplified as follows:

(8.19)   Vitu

    *ka-gu*      *ruma*
    PCL-P:1S   house
    'my house'

*ya-gu*     *bezi*
PCL-P:1S  banana
'my banana'

*vaga*  *ka-na*     *paraya*
canoe  PCL-P:3S  chief
'the chief's canoe'

*bezi*   *ya-na*     *tomoyane*   *kuari*
banana  PCL-P:3S  man        DEM
'that man's banana'

(8.20)   Duke of York

*anu-ŋ*     *ruma*
PCL-P:1S  house
'my house'

*a-ŋ*       *a*    *damin*
PCL-P:1S  ART  water
'my water'

*a*    *ruma*  *nu-n*     *lakeke*
ART  house  PCL-P:3S  Lakeke
'Lakeke's house'

*na*  *un*     *a-n*     *lakeke*
QM  banana  PCL-P:3S  Lakeke
'Lakeke's banana'

The other part of this innovation is the rise of the dominant possessive marker *ka-*, illustrated in example (8.19). Reflexes of *ka-* are found in Bali, Vitu, Minigir, Tolai, Tangga, Sursurunga, Lihir, Tabar, Notsi, Kara, Tiang, Tigak and Lavongai. Its distribution shows that it was present at an early stage in the history of the Meso-Melanesian linkage. However, it raises a puzzle, because this general possessive classifier *ka-* is *not* cognate with the POC alimentary possessive classifier *ka-*. On the contrary, as example (8.19) shows, the alimentary possessive classifier underwent lenition and became Proto Meso-Melanesian *ya-*, so that in some languages the general possessive classifer *ka-* and alimentary possessive classifier *ya-* coexist with each other. These languages are Bali-Vitu, Minigir, Tolai, Tangga and Sursurunga. In the latter four, the reflexes are *ka-* 'general' and *a-* 'alimentary'.

What this distribution means is that the alimentary POC possessive classifier *ka-* had undergone lenition of *k-* and become *ya-* before *ka-* 'general' entered Proto Meso-Melanesian as a possessive classifier. The inference to be made from this is that at the time that lenition of *ka-* 'alimentary' took place, *ka-* 'general' must have had some other function. What this function was we know from section 4.5.2, where the benefactive preposition *ka-* was reconstructed for a stage ancestral to both the North New Guinea and Meso-Melanesian clusters. This provides us with a neat solution not only to the question of how the general classifier *ka-* came to exist alongside alimentary *ya-*, but also to the question of why disharmonic relations arose.

The sequence of events was probably as follows:

a) *ka- 'benefactive preposition' (belonging to the same morpheme category as POC *ta- and therefore suffixed with a possessive pronominal form) occurs in examples like Tiang *sik əmən tə buə kə-məm* 'Bring us some areca nut!' (= example 4.28);

b) *ta- 'locative preposition' is widely used in possessive noun phrases with a noun phrase possessor as in Nakanai:

(8.21) la      luma   te     la      tahalo
      ART   house  PREP  ART   man
      'the man's house'

a structure also attested in the North New Guinea cluster, New Ireland, North-West Solomonic, and the Admiralties;

c) *ka- 'benefactive preposition', still functioning as a preposition, expands from its usage in (a) to become an alternant to *ta- in phrases like (8.21), giving a structure formally identical to Vitu *vaga ka-na paraya* 'the chief's canoe' (= example 8.19);

d) in this structure *ka- is reinterpreted as a possessive classifier belonging paradigmatically with *ya- 'alimentary' (i.e. the structure of 8.18 is reinterpreted as 8.16), with two structural consequences:

   i) other possessive classifiers (*anu- 'general' and *ya- 'alimentary') come into line with *ka- and move to the position between possessum and possessor (i.e. 8.16 replaces 8.15);

   ii) but where the possessor is a pronoun, *ka- comes into line with other classifiers and moves to phrase-initial position, as in (8.14);

This sequence of events is quite complicated and it is difficult to believe that it occurred independently in a number of different languages; it is far more likely that it occurred once, in Proto Meso-Melanesian, and was inherited by daughter-languages.

The question was raised above of whether the three New Ireland languages Tabar, Notsi and Sursurunga, whose possessive structures follow the POC pattern of (8.14) and (8.15), inherited these structures from POC or 'reharmonised' (8.16) back to (8.15). Since all three languages are among those which have reflexes of *ka- 'general' and *ya- 'alimentary' side by side, it is probable that their forebears went through the steps listed above, then added the step of 'reharmonisation'.

Two pieces of circumstantial evidence concur with the sequence of events reconstructed above. The first is that, as I observed above, many languages of the Willaumez chain and New Ireland use prepositions (other than reflexes of *ka-) in possessive constructions, and so it is not difficult to believe that a preposition could have been reinterpreted as a possessive classifier.

The other is that *ka- apparently coexisted with the earlier general possessive classifier in Proto Meso-Melanesian, rather than replacing it. Interestingly, this classifier (not reflected elsewhere in WM Oceanic) is *anu- (Siar, Duke of York, Kandas, Bilur, Label *anu-*, Patpatar, Konomala *nu-*, Lihir, Notsi *nV-*, Tomoip *anV-*), the form reconstructed by Reid (1983) for Proto Malayo-Polynesian 'thing' and proposed by him as a candidate for reconstruction as a POC possessive classifier. This coexistence is in keeping with the proposal that *ka- was not originally a classifier.

A possible objection to the interpretation presented above is that the North-West Solomonic languages do not reflect this innovation and that it is therefore not reconstructible for the ancestral

Meso-Melanesian linkage. The fact is, however, that we simply cannot tell whether the reconstructed sequence of steps occurred in a language ancestral to Proto North-West Solomonic, because the vast majority of North-West Solomonic languages have undergone considerable morphosyntactic change, a part of which is the replacement of the possessive classifier by a preposition at least with noun phrase possessors and often also with pronoun possessors.

### 8.4.2.2 INNOVATION IN DIRECTION-MARKING MORPHEMES

The second morphosyntactic innovation was that the verbs *ua* 'go to' and *mai* 'come from'[102] lost their verbal identity before certain locative nouns and were cliticised to them to form locative adverbs. This innovation had occurred in part of the Meso-Melanesian linkage when it first expanded eastwards, as it is reflected in Meramera and in New Ireland. It has not occurred in Bali, however, where we still find *ua* 'go to' and *mai* 'come to' functioning as full verbs:

(8.22)     *ɣau*    *karto*    *ua*    *na*    *rumaka*    *beini*
           D:1S    S:1S.TA    go.to    ART    house    DEM
           'I am going to that house.'

           *ia*    *kirto*    *mai*    *iari*
           D:3S    S:3S.TA    come.to    here
           'He is coming here.'

In many WM Oceanic languages, the verbs for *go* and *come* occur in a serial construction to indicate direction following a verb of motion. My Bali data do not include examples of this,[103] but the corresponding Vitu verbs *vano* 'go to' and *mai* 'come to' are used serially. For example:

(8.23)     *pelea*    *bua*    *taða*    *vano*    *vo-na*
           carry    areca    some    go.to    PREP-P:3S
           'Bring him some areca nut.'

Meramera *u-/us-* 'motion to and * maʔ-* 'motion from' in the following examples must be derived from serial use of the verbs *\*ua* and *\*mai*, despite the phonological oddity of *-s-* in *us-* and *-ʔ-* in *maʔ-*. Since these are bound morphemes, I gloss them simply as UA and MA below:

(8.24)     *oʔo*    *ʔasu-ʔasu*    *us-iva*
           D:2S    RD-walk    UA-where
           'Where are you going?'

           *ia*    *ʔasu-ʔasu*    *us-ino-do*
           D:1S    RD-walk    UA-there-yonder
           'I am going over there.'

           *ia*    *ʔasu-ʔasu*    *us-ino*    *n-a*    *luma*    *de*
           D:1S    RD-walk    UA-there    PREP-ART    house    DEM
           'I am going to that house.'

           *oʔo*    *ʔasu-ʔasu*    *maʔ-iva*
           D:2S    RD-walk    MA-where
           'Where have you come from?'

    *ia*    *ʔasu-ʔasu*    *maʔ-ino-do*
    D: 1S  RD-walk     MA-there-yonder
    'I have come from over there.'

The Meramera morphemes *u-/us-* 'motion to' and *maʔ-* 'motion from' are clearly no longer verbs, and occur bound to a closed set of morphemes which were originally nouns of location. Those in my data are:

(8.25)

| | | | |
|---|---|---|---|
| *us-iva* | 'where to?' | *maʔ-iva* | 'where from?' |
| *us-inan* | 'to here' | *maʔ-inani* | 'from here' |
| *us-ino* | 'to there' | *maʔ-ino* | 'from there' |
| *us-ino-do* | 'to yonder' | *maʔ-ino-do* | 'from yonder' |
| *u-tano-de* | 'to down there' | *maʔ-tano-de* | 'from down there' |
| *u-uata-de* | 'to up there' | *maʔ-uata-de* | 'from up there' |
| *u-lau* | 'seawards' | | |
| *us-ivo* | 'inland' | | |
| *u-luma* | 'homewards' | | |

Meramera *-va*, *-tano-*, *-uata-*, *-lau* and *-luma* reflect POC *\*pai* 'where?', *\*tanoq* 'earth', *\*qatas* 'summit, top', *\*laur* 'sea' and *\*ʀumaq* 'house' respectively.

Structures of the same kind are found in all languages of the (residual) south New Ireland and Madak groups and in Tomoip, although the verbs which participate in this change are not always *\*ua* and *\*mai*. The New Ireland languages differ from Meramera in having a third member of the paradigm meaning 'location at', usually of the form *a-*. The three morphemes which occur in an environment similar to Meramera *u-/us-* 'motion' *to* and *maʔ-* 'motion from' and which are reconstructible for a southern part of the early New Ireland linkage are:

(8.26)  *\*ua-* 'motion to' > Duke of York, Kandas, Label, Bilur, Minigir, Tolai, Patpatar, Barok, Lamasong, Madak *u-*, Tangga *u-/ua-*, Konomala *uə*, Sursurunga *u(r)*

(8.27)  *\*mai-* 'motion from' > Bilur, Label *mi-*, Tolai, Patpatar, Lamasong *ma-*, Konomala *mə-*, Barok *mu-*, Madak *me-*

(8.28)  *\*a-* 'location at' > Duke of York, Kandas, Bilur, Minigir, Tolai, Sursurunga *a-*, Patpatar *ia-*

In Label, Konomala, Tangga, Barok, Madak and Lamasong the location at position in the paradigm is occupied by zero; in Label, at least, which is very closely related to Bilur, this represents loss of *\*a-*.

In a few languages, *\*mai-* is replaced by the reflex of another probable verb, whose form appears to have been *\*taŋ(a,i)-*:[104] Kandas *tagi-*, Duke of York *taŋa-*, Tangga *tiŋ*, Sursurunga *til*, Tomoip *ton-*.

The use of these morphemes is illustrated below, and it is clear that the morphosyntax of these examples is similar to those in (8.24):

(8.29)  Patpatar (south New Ireland)

    *iau*   *hana-han*   *u-ra-s*       *kait*
    D:1S  RD-go      UA-there-down  Kait
    'I am going down to Kait village.'

> iau    hana-han   u-ra-u              kait
> D:1S   RD-go      UA-there-yonder  Kait
> 'I am going to Kait village.'

> iau   han   ma-ra-u            na      taman
> D:1S  go    MA-there-yonder  PREP   village
> 'I have come from that village.'

> diet   kis   a-ra-s            na     pu
> D:3P   be    A-there-down   PREP   ground
> 'They are down there on the ground.'

(8.30)    Lamasong (Madak chain)

> siuta   i     go    naɲisa   u-toŋ      karuriŋ
> Siuta   S:1S  flee  when     UA-there   bush
> 'When did Siuta run away into the bush?'

> e     ma-ro-noŋ          leŋkamen
> S:1S  MA-there-yonder  Lengkamen
> 'I have come from Lengkamen village.'

> e     ma-ro-yun       leŋkamen
> S:1S  MA-there-up    Lengkamen
> 'I have come from up at Lengkamen village.'

The syntactic status of Lamasong *ma-* above is unclear: it is a bound morpheme in all examples, but the combination of *ma-* plus location apparently functions as a verb here.

Whilst I have elicited examples which show A-, UA-, and MA- bound to New Ireland paradigms of morphemes at least as complex as that listed for Meramera above, it is clear from Mosel's (1984:190-191 and *passim*) examples and comment on Tolai deixis that I have only scratched the surface. What is important here, however, is that Meramera, south New Ireland and the Madak languages reflect similar systems with reflexes of the same proto morphemes. It is possible that similar systems might develop independently, but seems unlikely, the more so in the light of the reflexes of *\*ua* 'motion to' reported for the Halia communalects and possibly Solos, Teop and Tinputz (North Bougainville languages of the North-West Solomonic group) by Ross (1982b:44-45), an example from which is repeated here:

(8.31)    Halia (Hanahan)

> alia   e     la-wa-g         i       han
> D:1S   VM   go-UA-S:1S    PREP   home
> 'I am going home.'

In this example, changes specific to North Bougainville have caused the reflex of *\*ua* to be cliticised to the verb and 'boxed in' by the subject referencing suffix *-g* (< POC *\*-gu* P:1S).

### 8.4.2.3  INNOVATION IN DISJUNCTIVE PRONOUNS

The third morphosyntactic innovation occurring in both the Willaumez and New Ireland areas is that non-singular disjunctive pronouns were replaced by forms from the possessive pronominal paradigm. This change is reflected in Bali-Vitu, three of the four Willaumez languages, and much but

not all of New Ireland. Languages *not* affected – or incompletely affected – by it are Bali-Vitu, Meramera, the Tabar chain, Tomoip and, in southern New Ireland, Sursurunga and Tangga. Since WM third person plural disjunctive forms usually reflect *idria* D:3P (section 10.3.1.1) rather than POC *(k)ira*, and *idria* is in any case formally related to *-dria* P:3P, it is an almost fruitless exercise to try and determine whether the disjunctive form in a given language reflects *idria* or *-dria*. Third person plural forms are therefore not treated here.

It is instructive to look at those cases where the POC plural disjunctives are preserved, as it prevents us losing sight of the fact that parts, if not all, of the early Meso-Melanesian linkage retained reflexes of the POC forms. North-West Solomonic reflexes were presented in Table 33. Other Meso-Melanesian reflexes are:

(8.32)

| POC | *ka[m]i* D:1EP | *kita* D:1IP | *ka[m]u* D:2P |
|---|---|---|---|
| Bali | ɣami | ɣita | ɣamu |
| Meramera | am-teu | ei-tou | am-tou |
| Tabar | gai | gita | go |
| Notsi | gem | gitə | gim |
| Lihir | ge | giet | go |
| Sursurunga | gim | git | gam |
| Tangga | kemem | kerer | gam |
| Tomoip | i-kem | kusir | i-kom |

As well as the forms listed above, Vitu and Bola each have *ɣita* (< POC *kita*), the Vitu form serving as the exclusive, not inclusive, pronoun. The Meramera forms all contain the Willaumez plural marker *-tou/*-teu*, and the origin of *ei-tou* is unclear. Tangga *kemem* and *kerer*, and Tomoip *kusir* must be regarded as very doubtful reflexes of the POC forms, and as probably formed by analogy with the possessive forms Vitu *-dolu* P:1IP (< POC *-da-tolu* P:1IT), *-miu* P:2P (< POC *-miu*), Tangga *-mem* P:1EP (< POC *-mami*), *-r[er]* P:1IP (< POC *-da*) and Tomoip *-sir* P:1IP (of which final *-r* apparently reflects POC *-da*). Hence it seems that these languages are also affected by the innovation outlined above. Lihir *giet* D:1IP has a dialectal alternant *da*, also borrowed from the possessive paradigm (Lihir *-da* P:1IP). It is worthy of note that the New Ireland forms which are clearly descended from the POC disjunctives reflect POC *k-* as *g-* instead of expected zero (assuming lenition), but I have no explanation for this.

The forms which are derived from possessives are listed in Table 35. The possessive forms are shown (beneath the disjunctives for that language) only if they differ from the disjunctives. Table 35 displays several local developments, for example, the addition of various paucal suffixes to Nakanai and southern New Ireland forms and the (unexplained) replacement of *-m-* by *-b-* or *-v-* in a few cases, but if we set these aside, it is clear that the POC disjunctive forms have in these languages been replaced by forms identical to or derived three morphosyntactic innovations shared by Bali-Vitu, some languages of the from the POC possessive paradigm. In Madak, Lamasong, Nalik, Kara, Tigak and Lavongai, the possessive form is preceded by *nV-*, usually *na-*, which is formally identical with the personal article *na* of Tigak, Tiang and Kara. In Nakanai, the initial morpheme is *e* personal article. In Tiang, it is *i-*, in Minigir *ia-* and in Tolai *a-*.

TABLE 35: MESO-MELANESIAN POSSESSIVE-DERIVED DISJUNCTIVE PRONOUNS

| POC | *-mami<br>D:1EP | *-da<br>D:1IP | *-m[i]u<br>D:2P |
|---|---|---|---|
| Vitu | ... | ... | miu |
| Bulu | mami | ... | mo-tou |
| Bola | mia | ... | mu-a |
| Nakanai | ...<br>-mi-teu | e-ta-tou<br>-ga-tou | e-gi-teu<br>-gi-teu |
| Siar | me-t<br>n-me-t | d-at<br>n-d-at | a-m-at<br>m-m-at |
| Duke of York | me-t | d-at | mu-at |
| Kandas | me-t | d-at | mo-t |
| Bilur | mi-la | da-la | mu-la |
| Label | mi-la | da-la | mu-la |
| Minigir | ia-ma-mami<br>-ma-mami | ia-da<br>-da | ia-mui<br>-mui |
| Tolai | a-ve-t<br>-ve-ve-t | d-at<br>-d-at | a-v-at<br>-va-v-at |
| Patpatar | me-het | da-hat | mu-at |
| Konomala | bia<br>bia | ta-t<br>da-t | ba<br>ba |
| Barok | mem<br>-mem | i-de<br>-de | mu<br>-mu |
| Madak | na-ma<br>(no possessive suffixes) | ne-di-k | ne-mi |
| Lamasong | ni-ma<br>-ma | di-da<br>-da | na-bi<br>-bi |
| Nalik | mam | dia | n-im |
| Kara | na-mam<br>-mam | na-ta-ra<br>-ta-ra | na-mi<br>-mi |
| Tiang | i-mam<br>-məm | i-ta<br>-rə | i-me<br>-mi |
| Tigak | na-mem<br>-mem | na-ka-ra<br>-ra | na-mi<br>-mi |
| Lavongai | na-mem<br>-mem | ta-ra<br>-ra | na-mi<br>-mi |

Whilst I have no demonstrable explanation for these forms, the languages whose disjunctive forms reflect a mixture of the POC disjunctive and possessive paradigms imply that at least two sets of forms existed side by side in the ancestral Meso-Melanesian linkage. It can be inferred *a priori* that the forms based on the possessives were originally emphatic pronouns consisting of a monosyllabic inalienable noun with a pronominal possessive suffix, and that these forms became demarked, replacing the POC disjunctives. The noun morpheme was then lost in many or all communalects of the linkage, leaving the bare possessive suffixes as disjunctives. Lest this explanation sound far-fetched, it may be pointed out that there are numerous such forms in the Papuan Tip cluster, the majority of which are based on a reflex of the noun POC *tau* 'body, person' (hence, for example, Kakabai *ta-ma* D:1EP, *tau-da* D:1IP, *tau-mi* D:2P). However, the notable point about their Meso-Melanesian equivalents is that they have lost their noun and are preceded, if at all, only by an

article or article-like morpheme. There are a few similar forms in Bougainville: Solos *e-mem* D:1EP, *e-mu* D:2P, Halia (Selau) *a-mam* D:1EP, *a-mu* D:2P, Taiof *a-mam* D:1EP, Tinputz *e-möm* D:1EP, Torau *ni-mani* D:1EP, *ni-da* D:1IP, *ni-mu* D:2P.

Again, this innovation could have occurred independently in different places – but again it seems more probable that it occurred in the ancestral Meso-Melanesian linkage.

## 8.5 Shared Innovations of the New Ireland Languages

Under the scenario proposed in section 8.3.1, there was a stage in the development of the Meso-Melanesian cluster when a New Ireland network could be recognised. Whether this was a network resulting from the diffusion of a discrete proto language or the result of several migrations of people whose communalects became resynthesised into a dialect network it is impossible to tell. There are, however, a number of innovations which are shared, seemingly exclusively, by the New Ireland languages (including those which have back-migrated to New Britain), and it is therefore convenient to label this network 'Proto New Ireland'. One of these innovations is phonological, the others morphosyntactic.

### 8.5.1 The Merger of POC *k and *q

POC *q has merged with *k or its reflexes in various areas of WM. In the South-West New Britain network and in the Mengen family, *q and *k merged, evidently as *k, and the latter then underwent lenition word-medially, but not -initially. In the Ngero and Markham families, the South Huon Gulf chain, throughout the Papuan Tip cluster, and in Bali-Vitu *q merged with the lenis reflex of *k, i.e. the merger took place after lenition. In the Willaumez family, POC *q became PWZ *γ, but POC *k has not undergone lenition.

The New Ireland network displays a pattern different from any of these. Here, POC *k and *q merged before lenition as early PNI *k, then lenition occurred. However, whereas the lenis reflex of *k is medially always zero, initially the lenis reflex split into *Y- and zero. *Y- occurs only but not always before *a, and I originally labelled it *Y- because it looked like an accretion akin to Proto Central Papuan *Y- (see Table 30). However, I have found no evidence that it is an accretion.

Lenition has progressed much further medially than initially, with the result that most, but not all, cases where POC *k/*q remains PNI *k are word-initial. Examples are:

(8.33)   POC *kori 'scrape' > PNI *kori >

PTAB *koli > Notsi *kul*, Tabar *kori-kori*, Lihir *kul-*

PMAD *kui > Madak, Lamasong *kui*, Barok *ku*

PLN *kur > Nalik *kur*, Kara (West) *ku*

(8.34)   POC *konom 'swallow' > PNI *konom >

South New Ireland: Patpatar *kanam*, Minigir *konom(i)*, Tolai (Nodup) *konom(e)*, Kandas *konom(a)*, Tolai, Siar *kodom* (-d- for exp **-n-), Sursurunga *konm(i)*, Konomala *konem(i)*,

PTAB *konom > Notsi *konm(en)*, Tabar *konom*, Lihir *konm-*, Sursurunga *konmi*

PLN *konom > Nalik kənom, Tiang kənəm, Kara (West) kanam, Tigak kanam, Lavongai konem

(8.35)   POC *qaqe 'leg' > PNI *kake- >

Tomoip ki(a)

<u>South New Ireland:</u> Minigir kake-, Tolai, Sursurunga, Tangga keke-, Patpatar, Duke of York kaki-, Bilur, Kandas kiki-, Siar keke(u)

PMAD *kake- > Barok keke-

PTAB *kake- > Tabar, Lihir kake-

PLN *kake- > Nalik kak-, Tiang kake-, Kara (East) ka-, (unexpected syllable-loss), Tigak kak

(8.36)   POC *qatoluʀ 'egg' > PNI *katolu-/*katolur >

Tomoip hotel

<u>South New Ireland:</u> Label kotol, Siar kutli,

Patpatar tulur (loss of first syllable unexpected), Tangga katlu, Konomala kulur (metathesis < *kurul)

PMAD *katolu > Barok katalu, Madak katli

PTAB *katolu > Notsi katul, Tabar kuturu, Lihir katol

PLN *katolur > Nalik katur (unexpected syllable- loss), Tiang kəltəl (< *kətləl), Kara (East) kitiluk, Tigak katiluk, Lavongai katui

Cases where the lenis reflex of POC *k-/*q- remains as *Y- before *-a- are:

(8.37)   POC *kayu 'tree' > PNI *Yai >

Tomoip ue

<u>South New Ireland:</u> Label, Konomala uai, Bilur vai, Siar iai (Minigir, Tolai da-vai, Duke of York di-vai, Kandas d-uai are apparently cognate, but the origin of the first syllable is not known)

PTAB *(Y)ai > Notsi, Lihir ie[a], Tabar ai

PLN *Yai > Nalik, Tigak, Lavongai iai, Tiang uəi, Kara uai

[a]Both Notsi and Lihir ie are regular developments from *ai and do not require us to posit *Y-.

(8.38)   POC *kani 'eat' > PNI *Yani >

Tomoip han (probably the fortis reflex)

<u>South New Ireland:</u> Minigir eani, Tolai, Patpatar ian, Label en (< *ian), Tangga ien

PMAD *Yan > Barok yan, Lamasong, Madak an

PTAB *(Y)ani > Notsi n-in-in, Lihir ien

(8.39)   POC *qaco 'sun' > PNI *Yaso >

South New Ireland: Bilur *(mata-n)a*, Sursurunga *(n)as*, Konomala *uasu*

PTAB *\*[mata-n]Yaso* > Notsi *(mate-n)ios*, *ias* 'white', Tabar *(mata-n)iaso*

PLN *\*Yas* > Nalik, Tigak *ias*, Tiang *uəs*, Kara (East) *ŋas*

(8.40)   POC *\*qase* 'jaw' > PNI *\*Yase-* >

South New Ireland: Patpatar *iase-*, Konomala *ŋes*, Tangga *ese-*

PLN *\*Yas* > Nalik *ias*

In the following examples, the lenis reflex of POC *\*k/\*q* has become zero:

(8.41)   POC *\*kuʀita* 'octopus' > PNI *\*urita* >

South New Ireland: Minigir *urta*, Tolai, Label, Duke of York, Konomala *urita*, Patpatar *uruto*, Bilur *orita*, Siar *urit*, Sursurunga *kurit* (*k-* unexpected), Tangga *kuit* (*k-* unexpected)

PMAD *\*uita* > Barok, Lamasong *uto* (final *-o* for exp *\*\*-a*)

PLN *\*urita* > Kara (West) *uta*

(8.42)   POC *\*ikan* 'fish' > PNI *\*ian* >

South New Ireland: Minigir *en(i)*, Tolai *en*, Bilur *i*, Duke of York *ian*

PMAD *\*ian* > Barok *en*

PTAB *\*ian* > Tabar *ia*, Lihir *(mac)ien*

PLN *\*ian* > Nalik *ian*, Tiang *(d)ian*[a], Kara (East) *din*[a], Kara (West), Tigak, Lavongai *ien*

[a]Initial *d-* of these items is unexpected.

(8.43) POC *\*quma* 'garden' > PNI *\*uma* >

South New Ireland: Tolai *uma*, Sursurunga *(n)uma*

PMAD *\*uma* > Lamasong *uma*

PTAB *\*uma* > Notsi *uma*

PLN *\*uma* > Nalik, Kara (East) *uma*

(8.44)   POC *\*puqaya* 'crocodile' > PNI *\*vuaya* >

South New Ireland: Patpatar *huaia*, Siar *uai*, Konomala *fuai*, Sursurunga *uəi*

PLN *\*fuaya* > Nalik *fuia*, Tiang *ue*, Kara (East) *uia*, Tigak, Lavongai *uaia*

### 8.5.2 Morphosyntactic innovations

Morphosyntactic innovations reconstructible for Proto New Ireland are:

A.  POC *\*sai* 'who?' became PNI *\*si* (instead of expected *\*\*sai*).

B.  POC *\*paʀi-* reciprocal prefix became PNI *\*var-* (instead of expected *\*\*vari-*).

C.  A locative preposition PNI *\*la* came into being.

D. The preposition PNI *i (< POC *(q)i) expanded its role in possessive noun phrases, being used (among other environments) in phrases with an adjective as possessum.

### 8.5.2.1 NEW IRELAND REFLEXES OF POC *sai

The data which support the first of these innovations, the replacement of POC *sai 'who?, by PNI *si, are as follows:

(8.45)

| | | | |
|---|---|---|---|
| Minigir | si-a | Sursurunga | si-nə |
| Tolai | i-a | Lamasong | si |
| Patpatar | si-ge | Tabar | e-si |
| Label | si | Lihir | e-si |
| Bilur | i | Nalik | ni-s |
| Duke of York | o-i | Kara | na-se |
| Kandas | o-si | Tiang | nə-s |
| Siar | a-s | Tigak | na-si |
| Konomala | si-e | Lavongai | si |
| Tangga | se | | |

In the south New Ireland area a phonological innovation, loss of *s, has diffused across the boundaries of lowest-order genetic groups, so that whilst Minigir and Tolai, Label and Bilur, and Kandas and Duke of York are pairs whose members are so closely related to each other as to have near-identical grammars and very similar lexicon, the second member of each pair lacks a reflex of *s whereas the first member retains it. Hence Tolai ia (cf. Minigir sia), Bilur i (cf. Label si), and Duke of York oi (cf. Kandas o-si) are not irregular in their lack of s-. The prefixed syllables Kandas o-, Tabar, Lihir e-, Kara, Tigak na, Tiang nə are the personal articles of the languages concerned, expected to co-occur with 'who?', whilst Nalik nis is the outcome of earlier na-si in a language which now reflects Proto Lavongai/Nalik *na personal article only in this fossil form. Unfortunately I do not know the origin of the second element of Minigir si-a, Tolai i-a, Patpatar si-ge, Konomala si-e, Sursurunga si-nə, although it is probable that -a/-e reflect POC/PNI *ia D:3S, and that -nə reflects POC *-ña/PNI *-na P:3S. The first of these elements is important, as it may play a role in the interpretation of Tangga se and Kara na-se, which are apparent counter-examples to the claim that PNI reflected POC *sai as *si, i.e. it may well be, for example, that the vowel of Tangga se has its origins not in POC *sai but in the same post-PNI form *si-a as gave rise to the Minigir, Tolai and Konomala forms.

Lynch (pers. comm.) points out that Kwamera si, Anejom di (both of south Vanuatu) also reflect a replacement of POC *sai by a proto form *si. However, it is unlikely that this is a shared retention from POC, as it is not reflected elsewhere in Oceania. Under the principles outlined in section 1.6.3, it would constitute evidence for subgrouping New Ireland and south Vanuatu languages together only as part of a larger body of evidence to support such a grouping, and such evidence has not been found. It is therefore probable that PNI *si and the south Vanuatu forms result from independent parallel innovation: POC *sai 'who' is a high-frequency item in which glide reduction is quite probable.

8.5.2.2 NEW IRELAND REFLEXES OF POC *paʀi- RECIPROCAL PREFIX

According to innovation B, POC *paʀi- 'reciprocal prefix' became PNI *var- (instead of expected **vari-). Pawley (1973:150-153) reconstructed the POC reciprocal prefix *paʀi-, and the grounds for this reconstruction are solid. In New Ireland, however, we find two sets of reflexes of reciprocal forms, neither of which reflects the expected PNI form **vari- (an expectation which is supported within the Meso-Melanesian cluster by Vitu, Uruava, Roviana *vari-*, Torau *ari-* and Maringe *fari-*). The two sets instead reflect PNI forms *var- and *vai-. The first of these two sets is:

(8.46)

| Minigir | var- | Sursurunga | ar- |
|---------|------|------------|-----|
| Tolai | var- | Tangga | fa- |
| Patpatar | har- | Konomala | fə- |
| Label | har- | Lihir | her- |
| Bilur | var- | Nalik | var- |
| Siar | ar- | Lavongai | aŋ- |

Forms reflecting PNI *vai- are:

(8.47)

| Kandas | ai- | Lamasong | e- |
|--------|-----|----------|-----|
| Duke of York | vai- | Madak | ve- |
| Barok | e- | Tabar | ve- |
| Mandak | ve- | Tigak | e- |

Interpretation of reflexes is complicated somewhat by the fate of POC *R in some New Ireland languages. Tangga, Konomala, Barok, Madak and Lamasong reflect POC *R/PNI *r as zero. Hence Tangga *fa-*, Konomala *fə-* are regarded as reflexes of PNI *var-, rather than *vai-, as they do not reflect *-i-, whilst Barok *e-*, Tabar *ve-*, and Madak *ve-* reflect the vowel sequence of *vai-. Two reflexes, Kara *fe-*, Tiang *ai-* are not diagnostic of the difference between PNI *var- and *vai-, since PNI *r becomes *i in both languages.

The reader may wonder why only PNI *var-, but not *vai-, is noted as an innovative form of POC *paʀi-, since PNI *vai- appears to reflect POC *paʀi- with loss of *-ʀ-. The reason for this is that there are sufficient reflexes scattered throughout WM Oceanic languages to justify the reconstruction in POC of two co-existing forms, ancestral to PNI *var- and *vai- respectively. The POC forms are Pawley's *paʀi- and the form *pa(k)i. The latter is reflected not only in the forms in (8.47), but also in:

(8.48)  North New Guinea cluster: Manam *e-*, Kairiru *i-*

Papuan Tip cluster: Dobu, Sewa Bay *e-*, Duau, Suau (Sariba) *he-*, Sinagoro, Keapara *ve-*, Motu *he-*, Lala *vi-*, Kuni *bai-*

Meso-Melanesian cluster: Nakanai *vai-*, Solos *he-*, Petats, Halia (Haku, Hanahan) *hi,* Banoni, Piva *vai-* (and the New Ireland reflexes in 8.47)

The forms are sufficiently scattered to suggest an early Oceanic form *pai-, which is possibly not innovatory, since a number of western AN languages reflect Proto Malayo-Polynesian *paki-, roughly glossed 'do (s.t.) together':

(8.49)  Cebuano              *paki-g-qáway*     'fight with (s.o.)'
        (Zorc 1977)

| Hiligaynon (Wolfenden 1971:132) | *paki-g-lutu-an* | 'will be cooked with' |
| Tagalog (Schachter and Otanes 1972:333-334) | *maki-kain* | 'eat with (s.o.)' |
| Ilokano (Vanoverbergh 1955:139-140) | *maki-sarita* | 'talk with (s.o.)' |
| Western Bukidnon Manobo (Elkins 1967:111) | *peki-tavaŋ* | 'participate in helping' |
| Toba Batak (van der Tuuk 1971:133) | *mahi-solat* | 'conceal oneself with (s.o.)' |

The existence of these forms, taken together with the forms in (8.47) and (8.48), suggests the reconstruction of POC *pa(k)i*. The one minor objection to this reconstruction is that the Sinagoro reflex is *ve-*, rather than expected *vayi-*. Nonetheless, the distribution of the forms in (8.48) is such that PNI *vai-* cannot be claimed as an innovation.

Although the New Ireland forms listed in (8.47) apparently do not reflect POC *paʀi-*, the forms in (8.46) reflecting POC *var-* evidently do reflect *paʀi-*, but with innovatory loss of *-i-*. Examples are:

(8.50)  Tolai

| *var-ŋaŋar* | 'quarrel' (cf. *ŋaŋal* 'be very angry') |
| *var-mari* | 'be in love' (cf. *mari* 'love (s.o.)') |
| *var-va-kukur* | 'be jealous of each other' (cf. *va-kukur* 'make (s.o.) jealous') |

Patpatar

| *har-kata* | 'spear each other' (cf. *kata* 'spear (s.t.)') |
| *har-gor* | 'quarrel' |
| *har-ubu* | 'fight each other' (cf. *ubu* 'hit') |
| *har-ahut* | 'help each other' |

Tangga

| *fa-paket* | 'fight each other' (cf. *paket* 'hit (s.o.)') |
| *fa-ulis* | 'help each other' (cf. *ulis* 'help (s.o.)') |
| *fa-sok* | 'spear each other' (cf. *sok* 'spear (s.o.)') |
| *fa-fen* | 'give to each other' (cf. *fen* 'give to (s.o.)') |

Lihir

| *her-cumel* | 'quarrel' (cf. *cumer-* 'be cross with (s.o.)') |
| *her-siel* | 'play with each other' |
| *her-sas* | 'fight each other' |

Lavongai

| | |
|---|---|
| *aŋ-vis* | 'fight each other' (cf. *vis* 'hit (s.o.)') |
| *aŋ-kiki* | 'quarrel' (cf. *kiki* 'be angry') |
| *aŋ-papa* | 'help each other' |
| *aŋ-alis-ai* | 'give to each other' (cf. *alis* 'give to (s.o.)') |

### 8.5.2.3 THE PROTO NEW IRELAND PREPOSITION *la/*lo

The third New Ireland morphosyntactic innovation concerns the creation of the locative preposition PNI *la (with possible alternant *lo). Its reflexes are:

| (8.51) | Tomoip | *lo* | locative |
|---|---|---|---|
| | Label | *la* | locative |
| | Bilur | *la* | locative |
| | Tangga | *lo* | locative |
| | Konomala | *lə* | locative, temporal |
| | Lihir | *la* | locative, temporal |
| | Nalik | *la* | locative, temporal |
| | Kara | *la* | locative |
| | Tiang | *lə* | locative, temporal |
| | Tigak | *lo* | locative, temporal |

The situation before the creation of this morpheme appears to have been as follows. In the ancestral Meso-Melanesian chain, the locative prepositional forms were the reflexes of the POC preposition *(q)i and the prepositional verb *ni-. POC *(q)i is retained in New Ireland only in Tabar and Lihir, but is also reflected in north Bougainville languages (section 4.5.1). The POC prepositional verb *ni- instrumental, confective, refective appears to have widened its meaning to include location and time. I showed in section 4.5.3 that in Vitu there is a paradigmatic relationship between *ni-*, which occurs with cliticised object pronouns and personal nouns, and *na*, which occurs with common nouns. The latter is apparently derived from the coalescence of *ni-a PREPV-O:3S and *a 'common article', and is hence never followed by the common article. In Bali, Bola and Meramera and in south New Ireland, the verbal nature of this morpheme is lost: in the first three its forms alternate between *ne* (containing the personal article *e*) with object pronouns and personal nouns and *na* with common nouns. In south New Ireland (in Minigir, Tolai, Patpatar, Bilur, Duke of York and Tangga) we find only *na*, followed directly by a common noun. Examples of locative/temporal *na* are:

| (8.52) | Vitu | *na ruma* | 'in the house' |
|---|---|---|---|
| | | *na garavi* | 'in the evening' |
| | Meramera | *na luma* | 'in the house' |
| | | *na lodo* | 'in the night' |
| | Minigir | *na tamani* | 'at home' |
| | | *na muru* | 'later' |
| | Tangga | *na waŋ* | 'in the canoe' |
| | | *na puke* | 'in the morning' |

In Proto New Ireland, this *na appears to have been in the same morpheme category as PNI *i (< POC *(q)i), i.e. prepositions which were directly followed by the noun, without an intervening article (as opposed to preposition-like morphemes followed by a possessive pronominal suffix (section 4.5.2) or an object pronominal clitic (section 4.5.3). (I suggest below that PNI *i acquired an additional function, but that is a separate matter.)

The new preposition PNI *la/*lo, which has no cognates in Meso-Melanesian languages outside New Ireland, entered the same category:

| (8.53) | Tomoip | lo bale | 'in the house' |
|--------|--------|---------|----------------|
| | | lo mbeŋ | 'in the night' |
| | Bilur | la magit | 'on top' |
| | | la puko | 'tomorrow' |
| | Konomala | lə porfe | 'on the beach' |
| | | lə udu | 'in the night' |
| | Lihir | la takop | 'in the canoe' |
| | | la ulies | 'the day after tomorrow' |
| | Kara | la lifu | 'in the house' |
| | | la nef | 'yesterday' |

The new preposition was probably derived from a reduction of the POC inalienable noun *lalo- 'inside', and there is a small piece of evidence to this effect from Lihir, which preserves a reflex of the POC preposition *(q)i, in phrases where the two prepositions occur in sequence, e.g. i la liom 'at the house'. The fact that la follows i implies its former nominal origin, but neither here nor elsewhere in New Ireland does a reflex of PNI *la/*lo behave like an inalienable noun. Compare the la of the Lihir phrase i la liom with the inalienable noun lilie- 'inside' of the Lihir example below:

(8.54)  a        tomat    me      lilie-n        a       liom
        ART      man      dwell   inside-P:3S    ART     house
        'The man is inside the house.'

## 8.5.2.4 PROTO NEW IRELAND *i AS A POSSESSIVE PREPOSITION

Hooper (1986:159) writes: 'The evidence indicates that an early stage of Oceanic had a genitive particle *qi, which indicated non-specific or generic possession of inalienable nouns.' She cites numerous reflexes, and the following Kwara'ae (South-East Solomonic) example is true to the function she reconstructs:

(8.55)  ʔae    ʔi     wae
        leg    PREP   man
        'human leg'              (Hooper 1985:151)

The few reflexes of this kind of structure in WM (section 10.4) support her reconstruction, and she rightly observes that in Tigak and Tolai, the possessive function of *qi[105] expanded to include specific as well as generic possessors. Whilst it occurs in Lavongai just as Hooper reconstructs it:

(8.56)  vikvik    i        kauvek
        tail      PREP     dog
        'a dog's tail'

it occurs in Tigak, Tolai and some other New Ireland languages with specific possessors:

(8.57)  Minigir

*tama-i        to-bata*
father-PREP    MALE-Bata
'Bata's father'

(8.58)  Tigak

*na    tama-na    i      lapan*
ART   father-P:3S   PREP   Lapan
'Lapan's father'

(8.59)  Lavongai

*rina-na    i      makan*
mother-P:3S   PREP   Makan
'Makan's mother'

The expansion of function to include specific possessors was accompanied by a change in morphological usage such that New Ireland reflexes of POC *qi* expanded into the category of prepositions which take a possessive pronominal suffix (section 4.5.2):

(8.60)  Bilur

*na    nuknuk    i-la*
QM    think        PREP-P:3P
'their thinking'

(8.61)  Kandas

*a      nuknuk    i-det*
ART    think        PREP-P:3P
'their thinking'

(8.62)  Duke of York

*a      minat    i-n        lakeke*
ART    death      PREP-P:3S    Lakeke
'Lakeke's death'

(8.63)  Kara

*la      kasiŋ    i-na        rarum*
PREP    side      PREP-P:3S    water
'beside the river'

(8.64)  Tiang

*ə      səm    i-nə        piu*
ART    tail      PREP-P:3S    dog
'the dog's tail'

Hooper (1986:158) suggests that possessive *i* in Tigak and Tolai arose from a reinterpretation of the personal article, but, apart from the fact that the form of the personal article in Proto Meso-Melanesian and PNI was *e*, these examples appear to preclude this possibility.

It is difficult from the semantics of examples in my data to infer what the exact PNI function of possessive *i* was. It coexisted with the usual inalienable and alienable possessive structures, and included the function reconstructed by Hooper for POC, non-specific or generic possession of inalienable nouns. The possessum noun of each of the examples above is semantically inalienable, although nominalisations of verbs like *nuknuk* 'think' are not morphologically inalienable. This suggests that PNI *i* was perhaps used with semantically inalienable nouns which did not normally accept possessive pronominal suffixes. What is clear, however, is that its expanded function entailed two innovations. As a possessive preposition, PNI *i*

a) occurs with specific as well as non-specific possessors;

b) may take a pronominal possessive suffix.[106]

This innovation has an interesting by-product. In sections 5.3.3 and 5.5.1.1, it was noted that many POC morphemes with adjective-like meanings belonged to the morpheme category of stative verbs. One device which allowed a stative verb to occur as an attribute was to nominalise the stative verb and to treat the noun to which the attribute applied as the possessor of the nominalisation, i.e. to say 'the house's newness' for 'the new house'. In the ancestral North New Guinea linkage, this nominalisation was performed using the POC nominalising suffix *-a(ŋa)*. In PNI, the equivalent structure left the stative verb unsuffixed, but marked the possessor with the preposition *i* in a structure formally identical to that exemplified above, a fact recognised for Tigak by Beaumont (1979:65):[107]

(8.65)　*taŋ*　*takteak*　*i-na*　*anu*
　　　　ART　strong　PREP-P:3S　man
　　　　'the strong man' (more literally 'the man's strength')

In Tigak this is apparently a marked structure used alongside the unmarked sequence of noun + adjective:

(8.66)　*taŋ*　*piu*　*koi*　*lavu*
　　　　ART　dog　black　big
　　　　'the big black dog'

but at the opposite end of New Ireland, in Siar, the structure with *i-na* has become the unmarked structure for most adjectives:

(8.67)　*a*　*wakak*　*in*　*a*　*un*
　　　　ART　good　L　ART　banana
　　　　'a good banana'

Only a few adjectives, probably descendants of 'true' POC adjectives, occur postnominally in Siar:

(8.68)　*ida*　*ep*　*rumai*　*metek*
　　　　DEM　ART　house　new
　　　　'that new house'

The Siar morpheme *in* in (8.67) has lost its prepositional function and today serves only as a ligature between adjective and noun.

The noun phrase in some other south New Ireland languages – Patpatar, Minigir, Tolai, Label, Bilur, Kandas and Duke of York – is similar to that of Siar both syntactically and in its categorisation of adjectives, but in these languages, the ligature is *na*. In view of the evidence above I suggest that

both this *na* and Siar *in* are descendants of PNI *\*i-na*, and that the structure of the noun phrase in these south New Ireland languages is derived from the PNI structure reflected in example (8.65). Examples of *na* are:

(8.69) Patpatar

*ta   hansik   na   waga*
ART   small   L   canoe
'a small canoe'

(8.70) Tolai/Duke of York

*a   ŋala   na   pap*
ART   big   L   dog
'a big dog'

(8.71) Kandas

*a   kum   matok   na   rumu   rai*
ART   P   new   L   house   DEM
'those new houses'

(8.72) Bilur

*o   ŋir   n-o   manu*
QM   big   L-QM   bird
'a big bird'

The suggestion that this *na* is derived from *\*i-na* PREP-P:3S is reinforced by the comparison of Tigak noun phrases in which one noun serves as the attribute of another, e.g.

(8.73) *pikoi   i-na        iai*
bark   PREP-P:3S   tree
'tree bark'

with their south New Ireland equivalents:

(8.74) Patpatar

*no   hala   na   kunai*
ART   house   L   kunai
'a kunai grass house'

(8.75) Tolai

*a   iva   na   beo*
ART   feather   L   bird
'bird feathers'

It is difficult to avoid the inference that both Tigak *i-na* and Tolai *na* (as well as Siar *in*) are descended from PNI *\*i-na*, and that the expansion in function of PNI *\*i* was quite an important part of PNI grammar.

## 8.6 THE INTERNAL RELATIONSHIPS OF THE NEW IRELAND LANGUAGES

A detailed and properly exemplified justification of the internal relationships of the New Ireland languages lies beyond the scope of this work, but some brief comment is in order, as some of my subgrouping differs from other scholars'. The groupings in need of explanation are:

a) the Lavongai/Nalik network;

b) the Tabar chain;

c) the Madak chain;

d) the inclusion of Tomoip among New Ireland languages.

### 8.6.1 THE LAVONGAI/NALIK NETWORK

The Lavongai/Nalik network consists of Lavongai, Tigak, Tiang, Kara and Nalik. It excludes Notsi and Tabar, which Beaumont (1972) grouped with the five Lavongai/Nalik languages on lexicostatistical grounds.

The similarity of the five languages is fairly transparent. Some of the innovations which they all reflect are:

A. POC *o became PLN *u in a word-final syllable.

B. POC word-final *-i, *-e, *-o, *-u were lost in PLN, but POC *-a was retained.

C. The personal article *e was lost and replaced in PLN by *na.

D. PLN included among its alienable possessive noun phrase structures one in which the PLN reflex of the POC prepositional verb *suʀi-, reinterpreted as a prepositional form with possessive pronominal suffixes, occurred in the structure POSSESSUM + *suri-P: + POSSESSOR.

E. POC *-ana, the suffix forming a locative noun from a verb, became the PLN abstract noun formative.

F. POC *-aki, remote transitive suffix, became a detransitivising suffix in PLN (section 10.3.1.4).

Notsi and Tabar share none of these innovations.

### 8.6.2 THE TABAR CHAIN

The members of the Tabar chain are Notsi, Tabar and Lihir. Their shared innovations include:

A. PNI *l (< POC *l) and PNI *r (< POC *r and *ʀ) merged as Proto Tabar *l;

B. POC/PNI *s underwent lenition on quite rare occasions, resulting in its split into Proto Tabar (fortis) *s and (lenis) *c. POC *j merged with the latter as Proto Tabar *c.

These innovations are shared by no other languages of New Ireland, and define a group which is not recognised in previous work.

### 8.6.3 THE MADAK CHAIN

The members of the Madak chain are Lamasong, Madak and Barok (the latter two showing considerable dialect variation). Their shared innovations include:

A. PNI *v (lenis reflex of POC *p) became Proto Madak zero before *i and *u and word-finally; elsewhere it re-merged with PNI *p (fortis reflex of POC *p) as Proto Madak *p.

B. POC/PNI *l merged with POC/PNI *n as Proto Madak *n word-finally (elsewhere it remained as Proto Madak *l).

C. PNI *r (< POC *r and *ʀ) became zero in Proto Madak.

Innovations A and B are not shared by any other New Ireland language. Innovation C is shared by Tangga and (other than word-finally) by Konomala. These innovations mean that Barok is a member of the Madak chain, rather than belonging with the south New Ireland languages where Beaumont (1976) places it. However, it must be said that the boundary between Barok and Patpatar is the least clear of the subgroup boundaries on New Ireland.

### 8.6.4 TOMOIP

Chowning (1969) identified Tomoip as an isolate in relation to the other Oceanic languages of New Britain, and surmised a possible origin in New Ireland. Her map and that in Wurm and Hattori (1981) show Tomoip spoken only in inland villages, whereas the map in Johnston, ed. (1980) shows it spoken in coastal villages on Wide Bay and Waterfall Bay (and apparently connected by a hill track). My informants confirm the latter locations. The sound correspondences for Tomoip which I have included in Table 34 are the most irregular of any WM Oceanic language and imply that the lexicon comes from two, perhaps three, Oceanic sources as well as perhaps from neighbouring non-AN sources. Reasons for positing a New Ireland origin for Tomoip are a mixture of the positive and the negative.

The positive reasons are morphosyntactic:

A. Tomoip has a noun phrase system similar to that described below (section 8.7) for the languages of much of New Ireland.

B. Tomoip has a preposition *lo* locative, temporal, which apparently reflects the PNI innovative preposition *la/*lo (section 8.5.2.3).

C. Tomoip marks non-future, non-habitual verb phrases with *t-*. For example:

(8.76)  o       t-a-to        n-uaŋ      aŋa   me-kakae
        D:1S    TA-S:1S-make  QM-canoe   DEM   L-small
        'I am making this small canoe.'

This *t-* appears to reflect PNI *ta 'punctiliar' (Ross 1982a).

D. Tomoip has a deictic system similiar to that referred to in section 8.4.2.2.

E. Tomoip recognises three numbers: singular, dual and plural (New Ireland languages all recognise three or more). These are marked not only in the pronominal system but also in the number-marking proclitics of the noun phrase. For example:

(8.77)  *ne-pap*          'a dog'
        *ro-pap*          'the (two) dogs'
        *e-pap*           'the dogs'

Compare this with the system in Lihir (where *a* is common article):

(8.78)  *a wehien*        'the woman'
        *a lu wehien*     'the (two) women'
        *a he wehien*     'the women'

A number of New Ireland languages have systems similar to Lihir.

The negative reasons for ascribing Tomoip to the New Ireland group are that there are (with one exception mentioned below) no grounds for subgrouping it with its nearest New Britain neighbours, the Mengen family, nor with any other languages of the North New Guinea cluster on New Britain. The innovations listed above which Tomoip shares with New Ireland languages are not found in the North New Guinea cluster languages of New Britain, whilst none of the innovations which characterise the Mengen family are found in Tomoip. Tomoip also retains a few items of basic POC lexicon which are lost in the New Britain languages of the North New Guinea cluster but reflected on New Ireland, e.g. Tomoip *m-buo* 'pig' < POC *boʀok* (where S.W. New Britain/Mengen forms reflect *gaya*); Tomoip *m-bu* 'areca nut' < POC *buaq* (where Mengen family forms reflect *kuai* and S.W. New Britain languages show a variety of other forms).

However, the Tomoip personal article is *a*, as in the South-West New Britain network, rather than *e*, as on much of New Ireland, and this provides grounds for wondering whether there has been an input into Tomoip from a language of the South- West New Britain network.

## 8.7 THE RELATIONSHIP OF THE NORTH-WEST SOLOMONIC NETWORK TO NEW IRELAND LANGUAGES

In section 8.3.1 and figure 11, it is suggested that Proto North-West Solomonic was an offshoot of the network of communalects in south New Ireland. The purpose of this section is to offer some evidence for that proposal, and to show that the languages of north Bougainville in particular – although they unmistakably belong to the North-West Solomonic linkage – retain morphological evidence of the south new Ireland origin of Proto North-West Solomonic.

There are three pieces of such evidence, all somewhat intricate. The first concerns noun categorisation and its formal manifestation in noun phrase (section ); the second the ligature *-r-* (section 8.7.2); and the third the fact that the PNI morpheme sequence *i-na* PREP-P:3S illustrated in section 8.5.2.4 is also reflected in some North-West Solomonic languages (section 8.7.3).

### 8.7.1 NOUN PHRASES IN SOME NEW IRELAND AND NORTH BOUGAINVILLE LANGUAGES

### 8.7.1.1 NEW IRELAND

Nine languages of southern New Ireland and nine in northern Bougainville share a noun phrase feature which to my knowledge is not otherwise found among Oceanic languages. The nine New Ireland languages are Lihir, Lamasong, Madak, Tangga, Bilur, Kandas, Duke of York, Siar and Tomoip. Their Bougainville partners are Nehan, Solos, Petats, Halia, Taiof, Hahon, Tinputz, Teop and Papapana.

This feature consists of the categorisation of nouns into two classes, roughly similar to the classes of 'individual' amd 'mass' nouns in English, and the morphological marking of these classes. The English individual noun *dog*, for example, is marked in the indefinite singular by *a (a dog)* and in the indefinite plural by *some* and the suffix *-s (some dogs)*. The mass noun *flour*, however, has no singular/plural distinction (except perhaps in the usage *a flour a type of flour*) and is marked by *some* but no suffix *(some flour)*. The situation in the languages we are discussing here differs from that of English in two respects. Firstly, the class of 'mass' nouns is much larger than in English, and includes nouns denoting fish, fruit, birds and trees. Secondly, because many of these mass nouns denote entities which require individual reference, the languages have one or more morphemes indicating an individual of the class denoted by the mass noun. Thus whilst Duke of York marks the singular and plural of the individual noun *pap* 'dog' as follows:

(8.79)  *a      pap*
        ART  dog
        'a/the dog'

        *a      kum  pap*
        ART  P      dog
        'some/the dogs'

the noun which translates English 'bird', Duke of York *pika* is more properly glossed as 'poultry', i.e. is a mass noun. With the article *a*, the noun denotes a portion of the mass, and the quantity marker (QM) *ina* is required to denote an individual bird. Hence:

(8.80)  *pika*
        'poultry'

        *a      pika*
        ART  poultry
        'a plate of poultry'

        *a      ina   pika*
        ART  QM   poultry
        'a bird'

        *a      kum  pika*
        ART  P      poultry
        'some/the birds'

The nine New Ireland languages named display similar semantic patterning, but use a bewildering array of morphemes – and some variation in syntax – to express it, as the following examples show. Two nouns are given for each language: the first is an individual noun, the second a mass noun:

(8.81)  Lihir

        *a      wehien*        *a      he    wehien*
        ART  woman          ART  P     woman
        'a/the woman'        'some/the women'

        *a      lames*         *[a]    i      lames*       *[a]    he    lames*
        ART  coconut        ART  QM   coconut      ART  P     coconut
        'a/the coconut palm'  'a/the coconut'      'some/the coconuts'

Lamasong

*e-sim*
ART-canoe
'the canoe'

*e-ta-sim*
ART-P-canoe
'the canoes'

*e-dan*
ART-water
'water'

*e-pa-dan*
ART-QM-water
'the drinking coconuts'

*e-ta-pa-dan*
ART-P-QM-water
'the drinking coconut'

Madak

*lo-gu*
ART-house
'the house'

*la-kan-gu*
ART-P-house
'the houses'

*nu*
coconut
'coconut'
  (in general)

*la-pat-nu*
ART-QM-coconut
'the coconut'

*la-kan-nu*
ART-P-coconut
'the coconuts'

Tangga

*fel*
house
'the house'

*am-fel*
QM-house
'the houses'

*taŋa    fel*
some    house
'some houses'

*man*
bird
'poultry'

*an-man*
QM-bird
'the bird'

*taŋa    man*
some    bird
'some birds'

Bilur

*a    pal*
ART  house
'a/the house'

*na    pal*
P    house
'some/the houses'

*a malum*
water
'river'

*o    malum*
QM  water
'container'

*na    malum*
P    water
'water(s) of water'

Kandas

*a    pap*
ART  dog
'a/the dog'

*a    kum  pap*
ART  P    dog
'some/the dogs'

*a    lamas*
ART  coconut
'coconut'
  (in general)

*in    lamas*
QM  coconut
'a/the coconut palm'

*a    kum    lamas*
ART  P      coconut
'coconuts'

Duke of York

| | |
|---|---|
| *a*     *tabuan* | *a*     *kum*    *tabuan* |
| ART   woman | ART P      woman |
| 'a/the woman' | 'some/the women' |

| | | |
|---|---|---|
| *a*     *dive* | *a*    *in*    *dive* | *a*     *kum*    *dive* |
| ART   wood | ART QM   wood | ART P       wood |
| 'bundle of sticks' | 'a/the stick tree' | 'some/the sticks' |

*dive*
wood
'firewood'

Siar

| | |
|---|---|
| *ep*    *rumai* | *rumai* |
| ART house | ART.P house |
| 'a/the house' | 'some/the houses' |

| | | |
|---|---|---|
| *ep*    *fun* | *a*     *fun* | (\*\**to fun*) |
| ART banana | QM banana | |
| 'banana tree, bananas' | 'a/the banana' | |

Tomoip

| | |
|---|---|
| *ne-pap* | *e-pap* |
| ART-dog | P-dog |
| 'a/the dog' | 'some/the dogs' |

| | | |
|---|---|---|
| *mau* | *buŋ-mau* | *e-mau* |
| banana | QM-banana | P-banana |
| 'bananas' | 'a/the banana' | 'some/the bananas' |
|    (in general) | | |

Temporarily setting aside the surface differences, it is clear that all nine languages have a similar categorisation of nouns into 'individual' and 'mass' categories. There is some evidence that this categorisation also exists in Tolai, but without explicit morphological marking. Mosel (1984:69) writes of 'nouns referring to small objects that usually occur in a certain amount such as stones used for cooking, fruit, fish, insects etc.' that they form a class which she calls $N_{small}$ and that 'ART + $N_{small}$ is primarily understood as 'some quantity of what is referred to by $N_{small}$'.'

As the examples in (8.81) show, six of these nine languages, namely Lihir, Madak, Bilur, Kandas, Duke of York and Tomoip, display similar syntactic patterns, as follows (where INDIVIDUAL is an individual noun, MASS a mass noun):

(8.82)   ART INDIVIDUAL      [ART] P INDIVIDUAL
          'a/the X'                'some/the Xs'

          ART MASS               [ART] QM MASS        [ART] P MASS
          'a usual unit/           'a/the single X'        'some/the Xs'
            portion of X'

          MASS
          'X (generic)'

Given the relatively wide geographic distribution of these languages, it is probable that this is the ancestral patterning. Lihir, Bilur, Kandas and Tomoip each show one or more sporadic or complete losses of the article (indicated by square brackets above), and in Tomoip it is possible that what I have labelled as ART and P are synchronically all members of the same morpheme category (and the same may be true of QM and P in Bilur). Despite this, however, the similarity in pattern across these languages is striking. Indeed Lamasong shows only a minor divergence from (8.82): whereas in the six languages represented by (8.82), the plural of both individual and mass nouns is formed with the plural marker alone and the individual/mass distinction is unmarked, Lamasong retains the quantity marker (QM) -pa- in the plural of mass nouns, so that in (8.81) we find Lamasong a-ta-pa-dan 'the drinking coconuts', rather than **a-ta-dan, which would be predicted from (8.82).

The variety of morphemes in (8.81) and the divergence of Siar from the patterns in (8.82) are more readily explained if we note that in several of these nine languages, the quantity morpheme occurring in (8.81) is only one of a set of quantity markers in that language. For example:

(8.83)   Lihir

*a        kiamkiam*          *a     i     kiamkiam*
ART    star                   ART  QM   star
'the stars'                   'a star'

*a        bual*              *a     pu    bual*
ART    pig                    ART  QM   pig
'a/the pig'                   'a piece of pork'

*a        lames*             *a     he    lames*          *a     e     lames*
ART    coconut                ART  P     coconut         ART  QM   coconut
'a/the coconut'               'some/the coconuts'         'some coconut '
                                                            (as substance)

Lamasong

*lames*                      *e-pa-lames*                *e-pat-lames*
coconut                       ART-QM-coconut              ART-QM-coconut
'coconut'                     'a/the coconut'             'a/the coconut palm'
  (in general)

Madak

*l-una*                      *la-pat-una*                *lo-kon-una*
ART-wood                      ART-QM-wood                 ART-QM-wood
'[the] wood'                  'the tree'                  'the piece of wood'

Bilur

*o     un*                   *e     un*                  *na    un*
QM    banana                  QM    banana                P     banana
'a banana'                    'a banana tree'             'bananas, banana trees'

Siar

*ep    uaŋ*                  *to    uaŋ*
ART   canoe                   ART.P canoe
'a/the canoe'                 'some/the canoes'

| *ep* | *iai* | *a* | *iai* | *to* | *iai* |
|------|-------|-----|-------|------|-------|
| ART | tree | QM | tree | ART.P | tree |
| 'a/the tree, wood' | | 'a/the stick' | | 'some/the trees' | |

Tomoip

| *buŋ-lme* | *la-lme* | *ka-lme* |
|-----------|----------|----------|
| QM-coconut | QM-coconut | QM-coconut |
| 'a/the coconut' | 'a piece of coconut' | 'a coconut palm' |

It is probable that the common ancestor of these languages had a set of quantity markers, and that the present-day variety of forms in (8.81) is the result of different languages making different selections from that set or adding members to it. In this light, Siar appears to have undergone a curious reversal of the pattern of morphemes in (8.82): we find *a* (in *a iai* 'a/the stick'), an apparent reflex of the article *\*a*, performing the function of a quantity marker, and *ep* (in *ep uaŋ* 'a/the canoe' and *ep iai* 'a/the tree, wood'), an apparent reflex of a quantity marker (cf. Lamasong *e-pa-* ART-QM-) performing the function of the article. This switch is perhaps not as curious as it appears, however. In Madak, it is common for individual nouns (as well as mass nouns) to occur with the quantity marker *-pat-* single item. Thus we find not only mass noun forms like *nu* 'coconut/*la-pat-nu* 'the (single) coconut' but also individual noun forms like *atlok* 'man'/*l-atlok* 'the man'/*la-pat-atlok* 'the (one) man'. Indeed, the structure exemplified in *la-pat-atlok* (ART-QM-'man') has become the unmarked singular form for many nouns. It is possible to infer that a similar process has occurred in Siar, but has proceeded a step further with the reduction of the ART-QM sequence to a single morpheme (*ep*) and its reinterpretation as the common article, taking over most of the functions of the article *\*a* and leaving the latter only as a marker of singularity, with which a quantity marker is no longer needed.

Repeating for convenience's sake the Tangga example from example (8.81), we see that it entails the apparent oddity that for individual nouns e.g. *fel* 'house' (see example 8.81), the unaffixed form is singular, and the form prefixed by *an/am/aŋ* is plural, whilst for mass nouns like man poultry, almost the reverse is true, since the prefixed form is singular, and the unaffixed form is generic.

| (8.84) | *fel* | *am-fel* | *taŋa fel* |
|--------|-------|----------|------------|
| | house | QM-house | some house |
| | 'the house' | 'the houses' | 'some houses' |
| | *man* | *an-man* | *taŋa man* |
| | bird | QM-bird | some bird |
| | 'poultry' | 'the bird' | 'some birds' |

The morpheme *an/am/aŋ* (or word-medially *fan/fam/faŋ*) is clearly a quantity marker, at least when affixed to a mass noun, since it follows the dual number marker, and this is a syntactic feature of quantity markers in several of these languages:

(8.85)  Tangga

| *aŋ-man* | *uŋ-faŋ-man* |
|----------|--------------|
| QM-bird | D-QM-bird |
| 'the bird' | 'two birds' |

Lihir

| *i* | *lames* | | *lo* | *i* | *lames* |
|-----|---------|---|------|-----|---------|
| QM | coconut | | D | QM | coconut |

'a coconut'          'two coconuts'

Lamasong

| *e-pa-lames* | | *e-pu-pa-lames* |
|--------------|---|-----------------|
| ART-QM-coconut | | ART-D-QM-coconut |

'the coconut'        'two coconuts'

Duke of York

| *a* | *ina* | *pika* | | *u* | *ina* | *pika* |
|-----|-------|--------|---|-----|-------|--------|
| ART | QM | bird | | D | QM | bird |

'a/the bird'         'two birds'

The peculiarity of the Tangga system therefore lies in the use of *an/am/aŋ* to mark the plural of an individual noun as well as its expected function in marking a single item of something denoted by a mass noun. However, this is not without parallels, as the functionally equivalent Duke of York quantity marker *ina* may also be used to mark a group of entities denoted by an individual noun (for example, *a ina tabuan* 'a group of women'[108]), and it is not difficult to perceive that the concept of a group might be extended to a concept of plurality.

In conclusion, we may reconstruct for PNI

A. a contrast between individual and mass nouns, such that the latter category includes nouns denoting fish, fruit, insects, birds and trees;

B. a set of structures like that given in (8.82).

### 8.7.1.2 NORTH BOUGAINVILLE

The nine languages we are concerned with in north Bougainville show much less variation among themselves than those of New Ireland. All except Solos and Hahon share a pair of articles, *a* and *o* (or *u*), whose distribution is visible in this Nehan example:

| (8.86) | *a* | *um[a]* | | *o* | *um[a]* |
|--------|-----|---------|---|-----|---------|
| | ART | house | | ART | house |

        'a/the house'        'some/the houses'

| | *a* | *dok[i]* | | *o* | *dok[i]* |
|--------|-----|----------|---|-----|----------|
| | ART | tree | | ART | tree |

        'a collection of trees'   'a tree', 'a stick'

The Nehan article *a* marks the singular of the individual noun *um[a]*[109] 'house', but a collection or plurality of the mass noun *dok[i]* 'tree'. The article *o*, on the other hand, marks the plural of an individual noun, but a single item of the entity denoted by the mass noun.[110] Except for Solos, the communalects of Buka, represented here by the Hanahan dialect of Halia, and the languages of mainland north Bougainville, represented by Tinputz, display a similar pattern. It differs from the Nehan pattern in having two plural forms for individual nouns (I have not succeeded in ascertaining

the difference, if any, between them) and in apparently not allowing an *a* + NOUN structure with mass nouns:

(8.87)  Halia (Hanahan)

| *a* | *hatu* | *u* | *hatu* | *a* | *man* | *hatu* |
|---|---|---|---|---|---|---|
| ART | stone | ART | stone | ART | P | stone |
| 'a/the stone' | | 'some/the stones' | | 'some/the stones' | | |

| (**a cinihi*) | | *u* | *cinihi* | *a/u* | *man* | *cinihi* |
|---|---|---|---|---|---|---|
| | | ART | canoe | ART | P | canoe |
| | | 'a/the canoe' | | 'some/the canoes' | | |

(8.88)  Tinputz

| *a* | *kovu* | *o* | *kovu* | *a* | *ma* | *kovu* |
|---|---|---|---|---|---|---|
| ART | woman | ART | woman | ART | P | woman |
| 'a/the woman' | | 'some/the women' | | 'some/the women' | | |

| (**a sini*) | | *o* | *sini* | *a* | *ma* | *sini* |
|---|---|---|---|---|---|---|
| | | ART | canoe | ART | P | canoe |
| | | 'a/the canoe' | | 'some/the canoes' | | |

| (**a kup*) | | *o* | *kup* | *a* | *ma* | *kup* |
|---|---|---|---|---|---|---|
| | | ART | bamboo | ART | P | bamboo |
| | | 'a/the bamboo' | | 'some/the pieces of bamboo' | | |

Note that Proto North Bougainville *\*tinivi* 'canoe' behaves as a mass noun, evidently because the earlier meaning of the word (preserved in Banoni *ciniyi* 'k tree: Alstonia sp?') was 'k tree (from which canoes were made)'.

The Solos system is similar semantically to the Nehan pattern, but differs from it in using *na* approximately where Nehan uses *a* and in distinguishing between a definite singular with *na* and a singular with *in* unmarked for definiteness:

(8.89)

| *na* | *numa* | *in* | *numa* | *o* | *numa* |
|---|---|---|---|---|---|
| ART | house | ART | house | ART | house |
| 'the house' | | 'a/the house' | | 'some/the houses' | |

| *na* | *tinih* | *o* | *tinih* | | |
|---|---|---|---|---|---|
| ART | canoe | ART | canoe | | |
| 'the canoes' | | 'a/the canoe' | | | |

| *na* | *korit* | *o* | *korit* | | |
|---|---|---|---|---|---|
| ART | taro | ART | taro | | |
| 'the collection of taro' | | 'a/the taro' | | | |

Available Papapana data are very limited, but its system appears also to be similar to Nehan, differing only in that the articles are *na* and *nu*.

Some nouns can function as both individual and mass. Thus Nehan *pos[o]* 'banana' occurs as follows:

(8.90)  
| | | | | |
|---|---|---|---|---|
| *a* | *pos[o]* | | *o* | *pos[o]* |
| ART | banana | | ART | banana |
| 'a/the banana' | | | 'some/the bananas' | |

| | | | | |
|---|---|---|---|---|
| *a* | *pos[o]* | | *o* | *pos[o]* |
| ART | banana | | ART | banana |
| 'a collection | | | 'a banana tree' | |
| of banana trees' | | | | |

This entails some apparent ambiguity, but this is presumably eliminated by context. Halia *poso* and Solos *pos* behave similarly, but Halia is less ambiguous:

(8.91)  Halia (Haku)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *a* | *poso* | | *u* | *poso* | | *a* | *man* | *poso* |
| ART | banana | | ART | banana | | ART | P | banana |
| 'a/the banana' | | | 'bananas' | | | 'some/the bananas' | | |
| | | | (in general) | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *a* | *poso* | | *u* | *poso* | | *a/u* | *man* | *poso* |
| | | | ART | banana | | ART | P | banana |
| (as above only) | | | 'a/the banana tree' | | | 'some/the banana trees' | | |

(8.92)  Solos

| | | | | | | |
|---|---|---|---|---|---|---|
| *na* | *pos* | | *in* | *pos* | | *o* | *pos* |
| ART | banana | | ART | banana | | ART | banana |
| 'the banana' | | | 'a/the banana' | | | 'some/the bananas' | |

| | | | | |
|---|---|---|---|---|
| *na* | *pos* | | *o* | *pos* |
| ART | banana | | ART | banana |
| 'the collection | | | 'a/the banana tree' | |
| of banana trees' | | | | |

### 8.7.1.3 NEW IRELAND/NORTH BOUGAINVILLE SIMILARITIES

The potential ambiguities in the examples above have parallels in New Ireland. In Bilur, *na un* functions as the plural of both *o un* 'banana' and *e un* 'banana tree' (*buai* 'areca nut', *vai* 'wood', 'tree' behave similarly); in Siar (cf. example 8.81) *ep* "fun' is both singular individual ('a banana tree') and collective mass ('banana(s)'), and *lamas* 'coconut', *iai* 'tree, stick' behave in the same way.

The semantic similarity between the languages of New Ireland and those of the north Bougainville region is clear. Both distinguish at least two classes of nouns, namely individual and mass, and allow certain items to belong to both categories, giving rise (from a European viewpoint) to potential ambiguity.

Observe also, however, that there are formal similarities between the morphemes of the north Bougainville system and those of the Bilur and Kandas/Duke of York systems of New Ireland. The similarity between Nehan (North-West Solomonic) and Bilur (New Ireland) is visible in the following examples:

(8.93)   a. Individual nouns:

Nehan

| | | | | |
|---|---|---|---|---|
| *a* | *um[a]* | | *o* | *um[a]* |
| ART | house | | ART | house |
| 'a/the house' | | | 'some/the houses' | |

Bilur

| | | | | |
|---|---|---|---|---|
| *a* | *me* | | *ua* | *me* |
| ART | man | | P | man |
| 'a/the man' | | | 'some/the men' | |

b. Mass nouns:

Nehan

| | | | | |
|---|---|---|---|---|
| *a* | *dok[i]* | | *o* | *dok[i]* |
| ART | tree | | ART | tree |
| 'a collection of trees' | | | 'a tree', 'a stick' | |

Bilur

| | | | | |
|---|---|---|---|---|
| *na* | *vo-vai* | | *o* | *vai* |
| ART | RD-tree | | QM | tree |
| 'sticks', 'trees' | | | 'a stick' | |

In (a) above, the Bilur example is a human noun, and takes the plural marker *ua* (rather than non-human *na)*. Bilur *ua* human plural has cognates in Nalik (north New Ireland) *u* human *paucal* and in the first element of Minigir, Tolai (south New Ireland) *u-mana* plural (the second element *-mana* is derived from a plural marker cognate with the north Bougainville plural markers Halia *man* and Tinputz *ma* illustrated in (8.87) and (8.88) above). In (b), the morpheme marking the single item of the entity denoted by the mass noun is *o* in both Nehan and Bilur.

The morpheme marking individual plural and a single item of a mass is *o* in Nehan, Solos, Tinputz, Teop and Hahon but *u* in Petats, Halia and Taiof (*nu* in Papapana). There is no phonological reason for certain languages to have *o* and others *u*, and the comparison in the previous paragraph suggests that north Bougainville *o* may be cognate with Bilur *o* single item of a mass, and north Bougainville *u* with Bilur *(u)a* human plural, Nalik *u* human *paucal* and Minigir, Tolai *u-*. In other words, north Bougainville *o* and *u* have different origins but are conflated in present-day languages. The examples in (8.93) thus imply the following elements of an ancestral system:

(8.94)   *\*a*   INDIVIDUAL        *\*u*   INDIVIDUAL
        ART   NOUN            ART   NOUN
        'a/the X'            'some/the Xs'

        *\*a*   MASS            *\*o*   MASS
        ART   NOUN            ART   NOUN
        'a usual            'a/the single X'
          collection/portion of X'

Other formal similarities are evident if we compare the Solos (North Bougainville) and Kandas/Duke of York (south New Ireland) systems.

(8.95)  a. Individual nouns:

Solos

| *na* | *numa* | | *in* | *numa* | | *o* | *numa* |
|------|--------|--|------|--------|--|-----|--------|
| ART | house | | ART | house | | ART | house |
| 'the house' | | | 'a/the house' | | | 'some/the houses' | |

Duke of York

| *a* | *ruma* | | *(**a in ruma)* | | | *a* | *kum* | *ruma* |
|-----|--------|--|-----------------|--|--|-----|-------|--------|
| ART | house | | | | | ART | P | house |
| 'a/the house' | | | | | | 'some/the houses' | | |

b. Mass nouns:

Solos

| *na* | *korit* | | *(**in korit)* | | | *o* | *korit* |
|------|---------|--|----------------|--|--|-----|---------|
| ART | taro | | | | | ART | taro |
| 'the collection of taro' | | | | | | 'a/the taro' | |

Duke of York

| *a* | *tup* | | *a* | *in* | *tup* | | *a* | *kum* | *tup* |
|-----|-------|--|-----|------|-------|--|-----|-------|-------|
| ART | sugarcane | | ART | QM | sugarcane | | ART | P | sugarcane |
| 'a collection of sugarcane' | | | 'a/the piece of sugarcane' | | | | 'some/the pieces of sugarcane' | | |

The presence of *na* rather than *a* in Solos is probably not significant, as in Lavongai, Lihir and Label of New Ireland and Petats, Halia and Taiof of north Bougainville, *na* is the postvocalic allomorph of *a*. What is of note, however, is that Solos *in* and Duke of York *in* are very probably cognate, since both mark a single member of the entity denoted by the noun. The difference between them is that in Solos this function applies to individual nouns, in Duke of York (and Kandas) to mass nouns. It was observed above that Duke of York *in* can also apply, albeit rarely, to individual nouns. Since Solos is the only language in New Ireland and Bougainville known to mark a difference in the definiteness of noun phrases with contrasting articles, and since it is semantically more likely that a marker of singularity would be used with mass nouns (since singularity is by definition semantically unmarked in individual nouns), it is likely that the Solos pattern represents an innovation, and that Kandas and Duke of York preserve the ancestral pattern.

The likelihood that Solos and Kandas/Duke of York *in* are cognate is increased by the fact that all three languages have a subclass of nouns which take the prefix *na-* (in Kandas *na-*, *ni-* or *nu-* in accordance with vowel harmony rules) when, and apparently only when, they are preceded by *in*:

(8.96)  Solos (individual nouns)

unprefixed subclass:

| *in kus* | 'a dog' | *o kus* | 'dogs' |
|----------|---------|---------|--------|
| *in numa* | 'a house' | *o numa* | 'houses' |

prefixed subclass:

| *in na-niko* | 'an axe' | *o niko* | 'axes' |
|--------------|----------|----------|--------|
| *in na-mune* | 'a bird' | *o mune* | 'birds' |

(8.97)   Kandas (mass nouns)

unprefixed subclass:

| | | | |
|---|---|---|---|
| *in maraŋ* | 'a coconut' | *a kum maraŋ* | 'coconuts' |
| *in kiripo* | 'a fish' | *a kum kiripo* | 'some fish' |

prefixed subclass:

| | | | |
|---|---|---|---|
| *in ni-piko* | 'a bird' | *a kum piko* | 'birds' |
| *in na-namu* | 'a mosquito' | *a kum namu* | 'mosquitos' |

I have been unable to find any phonological or semantic condition which defines this subclassification; nonetheless, the occurrence of the same pattern in parallel contexts in Solos and Kandas/Duke of York is striking and unlikely to have resulted from independent parallel development. It suggests an addition to the reconstruction in (8.94):

(8.98)   *a*    MASS          *o*    MASS          *a*    *in [na]*-MASS
         ART NOUN          ART NOUN          ART QM[?]-NOUN
         'a usual collection/          'a/the single X          'a/the single X'
           portion of X'

What the semantic difference is between the structures with *o* and *a in*, I am unsure.

One other difference between Solos and Duke of York forms is that, whereas Solos agrees with Nehan in the use of *o* (discussed above), Duke of York replaces it by the sequence *a kum* ART P to express the plural of individual nouns, and also uses this sequence to make a plural of individual items of the entity denoted by a mass noun (*a kum tup* 'pieces of sugarcane'). In terms of syntax, Duke of York resembles Halia and Tinputz in examples (8.87), (8.88), (8.91) and (8.92). However, comparative evidence indicates that the plural markers Halia (and Petats) *man*, Tinputz (and Teop) *ma* (rather than Kandas/Duke of York *kum*) reflect a form ancestral to both New Ireland and north Bougainville, as these New Ireland examples show:

(8.99) Tigak:

*a       mamana    buk*
ART    P            book
'the books'

Kara:

*a     mana    lifu*
ART   P        book
'the houses'

Minigir:

*nogo    ra      umana    pali*
DEM     ART   P          house
'those houses'

Tolai:

*nomo    ra      umana    pal*
DEM     ART   P          house
'those houses'

Hence it is legitimate to reconstruct, apparently for both individual and mass nouns:

(8.100) *a    *mana*   INDIVIDUAL/MASS
       ART   P      NOUN
       'some/the Xs'

Finally, we may also reconstruct another quantity marker, namely *ti* 'a little of', on the basis of the following comparison:

(8.101)  Tangga (South New Ireland)

      *ta*     *ti*   *am-bu*
      INDEF  QM  QM-areca nut
      'a small portion of areca nut'

      Solos (north Bougainville)

      *a*    *ti*   *pos*
      ART  QM  banana
      'a small portion of banana'

      Petats (north Bougainville)

      *ci*   *ramun*
      QM   water
      'a little water'

      Halia (Haku) (north Bougainville)

      *a*    *ci*   *cinihi*
      ART  QM  canoe
      'a small canoe'

In each of these four languages, the reflex of *ti* is used in the main with mass nouns (as in these examples), and its function is to express a small quantity of the entity denoted by the mass noun. What is also of interest, however, is that in Solos and Petats it provides the only reflex I have found of the article *a* used with a mass noun, giving further support to the reconstruction of *a* + MASS in (8.94).

Below are consolidated for convenience's sake the reconstructions which have been made in this section:

(8.102)  *a*  INDIVIDUAL      *u*  INDIVIDUAL      *a*    *mana*   INDIVIDUAL
      ART NOUN          ART NOUN          ART   P      NOUN
      'a/the X'          'some/the Xs'      'some/the Xs'

      *a*    MASS         *o*   MASS         *a*    *in*   *[na]*-MASS
      ART  NOUN      ART NOUN       ART  QM  [?]-NOUN
      'a usual collection/   'a/the single X'     'a/the single X'
        portion of X'

      *a*   *ti*  MASS    *a*    *mana*  MASS
      ART  QM  NOUN    ART  P      NOUN
      'a little of X'       'many single Xs'

8.7.1.4 A SUBGROUPING ARGUMENT

The noun phrase data presented above confront us with a reconstructive dilemma. Let us temporarily give the name 'Proto Z' to the language for which the system in (8.102) is reconstructible. This system is reflected in nine New Ireland languages. However, it was shown above that there are good reasons to believe that all New Ireland languages once belonged to a dialect network we have labelled 'PNI' (section 8.5), and that the north Bougainville languages belong to the North-West Solomonic group and are descended from PNS (Chapter 7). The reconstruction of a system attributable to Proto Z either cuts across (and contradicts) these groupings, or implies that Proto Z was ancestral to both the New Ireland languages and PNS.

In the case of the New Ireland languages, neither suggestion is implausible. Since PNI was a dialect network, one of whose possible origins is the resynthesis of communalects from two or more immigrations into a new network, Proto Z could possibly represent one of those immigrations, i.e. it need be neither coterminous with nor the sole ancestor of PNI. However, the suggestion that Proto Z *was* the sole ancestor of PNI is also acceptable: the nine languages reflecting the Proto Z system span the Tabar and Madak groups and the (residual) south New Ireland languages, and reflexes of *$u$ and *$mana$ in languages of the Lavongai/Nalik group imply that it, too, is descended from Proto Z.

In the case of PNS, the reconstructive dilemma is more serious. Strong grounds were presented in Chapter 7 and by Ross (1982b, 1986) for reconstructing PNS as the ancestor of all North-West Solomonic languages, and yet only nine languages in the north-western tip of the North-West Solomonic area reflect the Proto Z noun phrase system. This means either that these nine languages do not belong to the North-West Solomonic group and that the innovations they share with it must be otherwise accounted for, or that Proto Z was indeed ancestral to PNS and that the majority of North-West Solomonic languages have lost the Proto Z noun phrase system. Of these two suggestions, the second, that Proto Z was ancestral to PNS, is more plausible: it is more reasonable to infer that the high level of redundancy in the Proto Z noun phrase system resulted in its loss in most North-West Solomonic languages than that the innovations shared by the north Bougainville languages with the rest of the North-West Solomonic group are not a shared inheritance. This inference receives possible support from the fact that Banoni (south-west Bougainville) has a noun phrase system which includes a sequence of article and plural marker similar in structure to south New Ireland and north Bougainville plurals:

(8.103)  e      moono            e      na    moono
         ART   woman            ART   P     women
         'a/the women'           'the women'

The arguments of the previous two paragraphs lead to a conclusion that Proto Z was indeed ancestral both to the New Ireland languages and to PNS. In the previous section, it was noted that the similarities in noun phrase morphology between Bilur, Kandas and Duke of York, all of southern New Ireland, and the languages of North Bougainville are greater than the corresponding similarities between Bilur, Kandas and Duke of York and their New Ireland neighbours. This suggestion that PNS was an offshoot from the residual grouping of south New Ireland languages which remained after the northward settlement of New Ireland had taken place (section 8.3.1), and further evidence of this is given in sections 8.7.2 and 8.7.3. If PNS was indeed a sometime member of the south New Ireland grouping, we are able to identify Proto Z, the ancestor of the New Ireland languages and of PNS, with PNI, and this is the finding presented in Figure 11.

There is one other hypothesis concerning the presence of reflexes of the Proto Z noun phrase system in both south New Ireland and north Bougainville languages which requires mention. This is the hypothesis that the system spread from one area to the other by diffusion. However, the possibility of such a combination of syntactic and morphological features being diffused is very low, and there are also strong non-linguistic grounds for its rejection, as prehistoric contact between New Ireland and north Bougainville seems to have been largely indirect. There was contact once a year between Tangga and Nehan (Parkinson n.d.:375) and periodic contact between Nehan and Halia (Blackwood 1935:381-382; Specht 1974). Geography precludes more intensive contact.

### 8.7.2 THE LIGATURE *-r-

Further evidence that allows us to narrow down the relationship of PNS to certain languages of south New Ireland consists in the distribution of the ligature *-r-. Its reflexes occur in certain morphological and syntactic contexts in the southern New Ireland languages Patpatar, Minigir, Tolai and Duke of York, and in Nehan and the northern Bougainville languages Petats, Halia, and Taiof. It is also reflected in the disjunctive personal pronoun forms of a large number of languages throughout the north-west Solomons area (section 7.6.1 and Table 33). I have been unable to find any reflexes of *-r- in Oceanic languages other than these.

The ligature *-r- remains as a productive morpheme only in Nehan, where Todd (1978b) describes it variously as a 'genitive suffix' or a 'suffix of relationship'. In Nehan it occurs in a variety of contexts, which may be conveniently divided into phrase- and clause-level contexts. The following example illustrates both:

(8.104) *hiŋia-r    uma-r    no-mu-a*
         which-L   house-L   PCL-P:2S-SD:2S
         'Which house is yours?'

The phrase-level usage is in the noun phrase *hiŋia-r uma-* 'which house?', where *-r* connects a pre-nominal modifier to the head noun of the phrase (the usual Nehan order is noun + modifier). In its clause-level usage, *-r* connects the noun phrase *hiŋia-r uma-* 'which house?' to the noun phrase *no-mu-a* 'yours' in accordance with a rule which fronts non-subject WH-phrases in a cleft construction (i.e. '(it is) which house that (is) yours?') and introduces the dependent clause with the ligature.

Since the clause-level uses[111] of *-r- are touched on in section 7.5.3.2 and are reflected outside Nehan only as a fossil in disjunctive pronouns (section 7.6.1), they are not described further here. Certain phrase-level uses of *-r-, however, do have reflexes outside Nehan.

The most widely distributed of these phrase-level uses is in connecting the prepositions reflecting POC *ta-* locative, possessive (section 4.5.2) and *ma-* comitative (section 4.5.3) to a noun phrase with a common noun as head. The Nehan reflex of *ta-* has undergone a curious change in function, described in section 7.5.3.2: it has become the marker of noun phrases which are neither pragmatic pivot nor subject. Here, however, it is only its formal properties which concern us. When it occurs with a noun of the 'individual' category, i.e. one with the article *a*, its form is *tar[a],* and when it occurs with a noun of the 'mass' category, the form is *toro*. In the following examples, the morpheme-by-morpheme glosses reflect my interpretation of the historical provenance of these forms. Today they are portmanteau forms which apparently cannot be segmented.

(8.105) *ta-r      tolah*
PREP-L    basket
'the basket'

*ta-r-a      tino-gi*
PREP-L-ART   mother-P:1IP
'our mother'

*to-r-o      hono*
PREP-L-ART   taro
'the taro'

Note that the origin of *tar[a]* and *toro* seems to lie in a sequence of preposition + *-r- + article, with the deletion of the article in the form *tar*.

We find a similar sequence in the phrase:

(8.106) *sala    me-r      toriki-ŋ    tahi-n*
Sala    PREP-L    two-L      brother-P:3S
'Sala and his two brothers.'

Just as *tar* is a reduction of *tara*, so *mer* is apparently a reduction of *mere*, segmentable historically as *me-r-e* PREP-L-ART, where the article *e* is the personal article (no longer used in Nehan) to which the vowel of the prepositional form *ma-* comitative has assimilated.

Such forms are widespread in north Bougainville languages, where reflexes of *ta-* serve as a locative and possessive preposition:

(8.107) Halia (Hanahan)

*a    gotana  ta-r-a      wele*
ART  shell    PREP-L-ART   coconut
'the shell of the coconut'

*ruhu    tu-r-u      tula*
smoke  PREP-L-ART  fire
'smoke of the fire'

*a    kohele  te-r-e      maria*
ART   basket   PREP-L-ART  Maria
'Maria's basket'

Note that here (and similar examples could be given from Petats or Taiof) we are dealing with morphemes which assume synchronically the sequence reconstructed above for a pre-Nehan stage. It is clear (i) that the forms *tV* are derived from the preposition *ta-*, since it occurs with possessive pronominal suffixes in Hanahan and its neighbours:

(8.108) *a    luma    ta-mu-lo*
ART  house   PREP-P:2S-SD:2S
'your house'

it is also clear that the final vowel of *tara*, *turu* and *tere* is the article (section 8.7.1.2), since it is determined by the category of the following noun (individual, mass, or personal). Unlike Nehan, however, the north Bougainville languages preserve the ligature *-r- only in this environment.

The same forms occur in locative prepositional phrases in Halia:

(8.109)  Halia (Hanahan)        *tara  pulo*        'on the floor'
                                *turu  roei*        'in the tree'

         Halia (Haku)           *tere  botoa*       'with Botoa' (a person)

Observe the following forms from south New Ireland languages:

(8.110)  Duke of York

        *na     mur  ta     r-a      ruma*
        PREP  back  PREP  L-ART  house
        'behind the house'

        *ma     r-a      muana*
        PREP  L-ART  man
        'with the man'

(8.111)  Tolai

        *ta     r-a      tuŋ*
        PREP  L-ART  ditch
        'in the ditch'

        *ma     r-a      davai*
        PREP  L-ART  wood
        'with a stick'

The situation in the south New Ireland languages with these forms (Duke of York, Minigir, Tolai and Patpatar) differs from that in north Bougainville in that these languages have only one article, *a* common, and that synchronically the form *ra* is treated as a variant of this article. However, it is clear that Nehan *tar/tara*, Halia, Petats *tara*, and south New Ireland *ta ra* are the same form with the same origin, a sequence of preposition + *-r-* + article. The same syntagm is reflected in Nehan *mer* in (8.106) and Duke of York/Tolai *ma ra* in 8.109 and (8.111).

Mosel (1984:17) writes of Tolai: '*a* and *ra* are phonologically conditioned alternants, *a* being used after pauses (i.e. utterance initially, in nominal predicates of nominal clauses, or in apposiitons), and after words ending in /r/ or /l/, whereas *ra* occurs in all other places.' This statement is also true of Minigir and Patpatar. However, in Duke of York, the distribution of *a* and *ra* is morphosyntactically determined: *ra* occurs at the beginning of a possessor noun phrase, after a preposition (as above), and after a deictic form preceding the head noun of a noun phrase. I suggest that the weight of evidence is that *-r-* was a morphosyntactically determined ligature, and that the phonological conditioning described by Mosel is a reinterpretion of earlier morphosyntactic conditioning.

There are two other phrase-level contexts in which the ligature *-r-* is found both in Nehan and in south New Ireland. The first is where certain attributes precede the noun (in south New Ireland only with deictic attributes, in Nehan with a wider range):

(8.112)  Nehan

        *ela-r   uma    timuh*
        DEM-L  house  new
        'that new house'

> *a      uleki-r    ŋusu-sia*
> ART    big-L      nose-D:3P
> 'their big noses'                    (Todd 1978b:1204)

(8.113) Tolai

> *nam   r-a    buk*
> DEM   L-ART book
> 'that book'

(8.114) Patpatar

> *yakan   r-a      tunotuno*
> this     L-ART    man
> 'this man'

The other context of *-r- reflected in both Nehan and south New Ireland is perhaps an extension of the first, namely after numerals:

(8.115) Nehan

> *u      kaletel   tar     tolima-r   kuen*
> S:1S   bring     ART     five-L     coconut
> 'I have brought five coconuts'

In south New Ireland, the ligature *-r- is largely replaced in this context by the new ligature *na* (PNI *ina*; section 8.5.2.4), and *-r- is found only after *one*:

(8.116) Minigir

> *tikai   r-a      lama*
> one     L-ART    coconut
> 'one coconut'

In Duke of York, *ra* in this context has been reinterpreted as the numeral:

(8.117) *ra      muana*
> one    man
>
> *ra      in     ləma*
> one    QM     coconut
> 'one coconut'

When the evidence from Nehan, where the reflex of *-r- is still a segmentable morpheme, is placed alongside the evidence presented here from Petats, Halia, Duke of York, Minigir, Tolai and Patpatar, it is clear that these languages reflect the same morpheme in the same contexts, i.e. that *-r- is reconstructible in a proto language ancestral to this set of languages. If the fact that *-r- is reflected in pronoun forms throughout the North-West Solomonic chain, then we have morphological evidence that Proto North-West Solomonic belonged to the same linkage as the communalects ancestral to Duke of York, Minigir, Tolai and Patpatar.

### 8.7.3 REFLEXES OF PNI *i-na IN THE NORTH-WEST SOLOMONS

In section 8.5.2.4, it was shown that PNI reflex of the POC preposition *qi had expanded its possessive function to include specific possessors and to take a possessive pronominal suffix. It was also suggested that the structure of possessive noun phrases with *i-na was used in noun phrases with stative verbs as attributes, and that the ligatures which intervene between the adjective and the noun in south New Ireland languages are reflexes of this *i-na. If Proto North-West Solomonic was closely related to south New Ireland communalects, then we should also expect to find relics of *i-na in the North-West Solomonic linkage. Two such relics will be presented, one from each end of the North-West Solomonic chain. However, if the form is also reflected in North-West Solomonic languages, it must be reconstructed as *i-ña, since POC *ñ was preserved in Proto North-West Solomonic.

The first relic concerns those cases where a reflex of *i-ña is used to join an attributive noun to the noun it describes, as in:

(8.118) = (8.74) Patpatar

> no    hala   na   kunai
> ART  house  L   kunai
> 'a kunai grass house'

Nehan and Taiof (north Bougainville) display reflexes of the same structure:

(8.119) Nehan

> a    tolaha-ŋ   koko
> ART  basket-L   yam
> 'a yam basket'

> a    kodomo-ŋ   num
> ART  water-L    drink
> 'drinking water'

(8.120) Taiof

> a    kot  i-ñ      kusi
> ART  bite  PREP-S:3S  mosquito
> 'mosquito bite'

> a    ian  i-ñ      aiñ
> ART  fish  PREP-S:3S  eat
> 'a fish for eating'

Nehan -ŋ, as Todd (1978b) points out, is the ligature used with a following personal noun. However, it is clear that the items which follow -ŋ in (8.119) are not personal nouns and that this use of -ŋ has a different origin, which may be interpreted as a reflex of *i-ña.

The Taiof sequence i-ñ is glossed as PREP-S:3S above. Whilst this is transparently its historical origin (< *i-ña), it is probably not segmentable in this way in modern Taiof (since locative *i is lost in Taiof) and is a relic like the Siar ligature in.

The second relic of *i-ña requires somewhat more intricate description. It concerns Maringe noun phrases containing a numeral like:

(8.121) glimai     khoilo
       five        coconut
       'five coconuts'

       phiei     nalhau
       two       man
       'two men'

Two features of these phrases invite comment: the suffixation of -*i* to the numerals and the strangeness of some Maringe consonants and consonant sequences (*gl*, *kh*, *ph*, *lh*).

The addition of -*i* is a consistent feature of Maringe numerals, missing only from seven.

(8.122) *kaisei*       1
        *phiei*        2
        *thiloi*       3
        *fati*         4
        *glimai*       5
        *namnoi*       6
        *fitu*         7
        *nanhai*       8
        *nhevai*       9
        *nabotoi*      10

The origin of some of the unusual features of the Maringe consonant system becomes evident if we examine cases in which a verb undergoes change to form a noun (data from Bosma 1981 and White et al 1988):

(8.123) *p* > *ph*     *pore*     'comb (hair)'      *phore*     'a comb'
        *t* > *h*      *tarai*    'pray'             *tharai*    'prayer'
        *k* > *kh*     *kegra*    'stand'            *khegra*    'post'
        *g* > *ɣ*      *gorha*    'paddle (canoe)'   *ɣorha*     'a paddle'
        *l* > *ɣl*     *lehe*     'die'              *ɣlehe*     'death'
        *r* > *ɣr*     *ragi*     'dance'            *ɣragi*     'a dance'

A clue as to the source of these changes in initial consonants provided by verbs with other initial segments:

(8.124) *hamu*     'scoop out'       *n-hamu*      'a scoop'
        *haru*     'tie'             *na-haru*     'knot'
        *fnera*    'injure'          *na-fnera*    'injury'
        *blau*     'steal'           *na-blau*     'theft'

It appears that the noun-initial segments in (8.123) are the outcomes of weakenings which have occurred as the result of the cliticisation of the article *na*, which has lost its original function in Maringe and remains attached to some nouns (like *na-lhau* 'man' in (8.121) above) but has been subsequently lost from others.

If we return to the example above – *glimai khoilo* 'five coconuts' – and reverse the historical process which has just been outlined by reinserting and *na-* then a probable Proto Ysabel form results:

(8.125) *na-lima-i na-koilo
     'five coconuts'

Now consider the corresponding Minigir phrase (the illustration could equally be from Tolai, Patpatar, Bilur, Kandas or Duke of York):

(8.126) ailima     na     ləma
     five      L     coconut
     'five coconuts'

remembering that the proposed origin of the south New Ireland ligature *na* is *i-na* and that an earlier south New Ireland form would be:

(8.127) *a     i-lima     i-na     lamas
     *ART     CL-five     PREP-P:3S     coconut *
     'five coconuts'

and the structural parallel between the Proto Ysabel reconstruction in (8.125) and the south New Ireland reconstruction in (8.127) becomes evident. Both contain forms with the shape *i-na* between the numeral and the noun, suggesting that Ysabel and Minigir have inherited different resegmentations and reinterpretations of the same ancestral structure. This ancestral structure is also reflected in Notsi (of the Tabar chain) with numerals from eleven upwards:

(8.128) saŋaul     ma     lua     ina     niu
     ten      with     two     L     coconut
     'twelve coconuts'

The forms in (8.125), (8.127) and (8.128) all suggest a Proto New Ireland noun phrase structure of the form:

(8.129) *a/na [CL-] NUMERAL i-ña NOUN

where the numeral (like the stative verb of examples in section 8.5.2.4) was the head of the phrase and the enumerated noun was the grammatical possessor. This proposal implies simply that numerals were (or could be) treated as nouns of quantity like English 'heap' in 'a heap of apples' or French *douzaine* 'dozen, twelve' in *une douzaine de pommes* 'a dozen apples'.

Although there are many languages between south New Ireland and Maringe where such a structure is not obviously reflected, I suggest that this hypothesis accounts for two facts about Maringe noun phrases containing numerals: it explains (i) the origin of the numeral suffix *-i*, and (ii) why the numeral precedes the noun in Maringe (whereas other attributes follow it).

The implication of the relic forms described in this section is that Proto North-West Solomonic shared with New Ireland languages, and especially those of south New Ireland, the innovations in the use of the preposition descended from POC *qi* which are described in section 8.5.2.4.


## 8.8 MESO-MELANESIAN CLUSTER: CONCLUSIONS

In this chapter I have argued that the Meso-Melanesian cluster was a portion of an early Oceanic linkage of communalects (and perhaps the eastern part of the same linkage as the early North New Guinea linkage broke off from). Evidence has been given to show that there are innovations shared by the languages of the whole linkage. Data to support the morphosyntactic innovations of the whole linkage is less easy to find in the languages of the North-West Solomonic chain, because of the

radical morphosyntactic changes which have occurred there (Chapter 7). However, evidence linking Bali-Vitu and the Willaumez languages with New Ireland, linking the New Ireland languages to each other, and linking the languages of the North-West Solomonic chain particularly to the more southerly languages of New Ireland has been presented, and it supports the events reconstructed in section 8.3.1, whereby Oceanic speakers from the Willaumez Peninsula area sought room to expand and found it to the east, particularly in New Ireland. At (probably) a later date, speakers of a south New Ireland communalect moved south-east and settled Nehan, Buka and the offshore islands of the latter, and their speech was ancestral to the languages of the North-West Solomonic chain.

It has also been suggested in this chapter that extant subgrouping hypotheses regarding the Willaumez area and New Ireland need revision. Of these, the most important revision is that Bali-Vitu and the Willaumez languages are separate first-order subgroups of the Meso-Melanesian cluster. This is significant because it indicates that the Willaumez area was the centre of dispersion of the Meso-Melanesian cluster, just as the north-west New Britain/Vitiaz Strait area was the centre of dispersion of the North New Guinea cluster. That is to say, the centres of dispersion of the two clusters are geographically adjacent, a matter to which I return in section 10.3.

# CHAPTER 9

## THE ADMIRALTIES CLUSTER AND THE ST MATTHIAS GROUP

### 9.1 INTRODUCTION

The languages of the Admiralties group (including the islands as far as Aua and Wuvulu in the west) are all Oceanic, and I shall present evidence here that, as Blust (1978a:34) has said, they constitute a single first-order Oceanic subgroup. There is no linguistic evidence of pre-Oceanic habitation, and dates from other disciplines are consistent with this. Kennedy (1980) reports the earliest radiocarbon date for the Manus Province (i.e. the eastern Admiralties) to be 2070 ±120 B.P. for obsidian and pottery, but Lou obsidian dated to 2460 ±120 B.P. has been found at Losu on New Ireland (Ambrose 1978). Pain (1981) reports of the volcanic island of Lou that 'three island-wide stratigraphic units of airfall volcanic ash are recognised', the earliest of which dates from around 2200 B.P., the latest from about 1600 A.D. Pottery and obsidian artefacts are found under the latest ash fall, but not under the earlier ones. Whilst it is always possible that artefacts of earlier date will be found – and we might expect this if the Admiralties languages are indeed a first-order Oceanic subgroup – it appears unlikely that there was pre-Oceanic habitation.

The two languages (Mussau-Emira and Tench) of the St Matthias group, to the north of New Ireland, are also treated here, partly because it is clear that they do not belong to the same first-order Oceanic subgroup as the languages of New Ireland and its offshore islands, partly because there is a possibility that they form a first-order subgroup with the Admiralties languages. (If this proved to be so, then the putative Admiralties subgroup would be demoted from first- to second-order.) If they do not belong historically with the Admiralties languages, then they constitute the smallest first-order subgroup of Oceanic languages.

### 9.2 PREVIOUS STUDIES AND AN OVERVIEW OF THE LANGUAGES

The only previous study of the Admiralties languages which employs the comparative method is by Blust, who has published his major findings (1978a:34) but as yet little of the supporting evidence and analysis. His findings are:

a) that there is 'a first-order OC [Oceanic] subgroup containing all and only the languages of the Admiralties Islands';

b) that the Admiralties cluster divides into two second-order groups:

    i) the western Admiralties, containing Wuvulu and Aua (dialects of a single language), Seimat, and the now extinct Kaniet language;

    ii) the eastern Admiralties, divisible into two third-order subgroups:

       - the south-eastern Admiralties, comprising Pak-Tong, Baluan-Pam, Lou, Lenkau, Penchal and Nauna;

       - the Manus subgroup, which includes all languages of Manus Island and its remaining offshore islands.

On the basis of the data available to me, which cover the communalects listed in Appendix A (section A.4) and are perhaps not as detailed in coverage as Blust's, I arrive at a subgrouping which agrees with his in all but one small respect, the position of Pak-Tong.[112] This subgrouping is set out in Figures 12 and 13, and its geographical distribution is shown in Map 14.
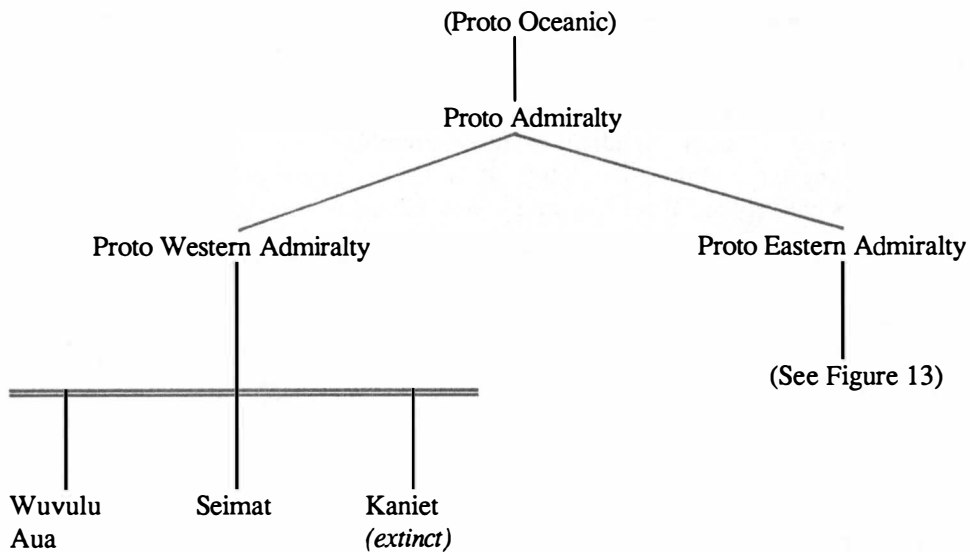


FIGURE 12: THE ADMIRALTIES CLUSTER: GENETIC TREE

The languages of the St Matthias group have not been the subject of comparative work as such, but Blust (1984a) has published a Mussau vocabulary with notes on its synchronic and diachronic phonology, showing, among other things, that POC *$r$ is in Mussau either lost or reflected as $l$ (my data indicate that the former is far more frequent) and that POC *$r$ and *$l$ merge in Mussau. Since New Ireland languages merge POC *$r$ and *$r$ (but not *$l$ in most languages), Mussau is clearly not a close relative of its southern neighbours. Admiralties languages, however, generally lose POC *$r$ or retain medial *$r$ as [-h-] or [-i] (see section 9.3.1), and the possibility therefore exists that Mussau is more closely related to them than to any other group of Oceanic languages (at any rate in WM). Under the principle of shortest moves (section 1.6.3), this is a relationship which is predictable; what needs explanation is the lack of relationship between Mussau and the languages of New Ireland, and this is provided in section 10.3.2.
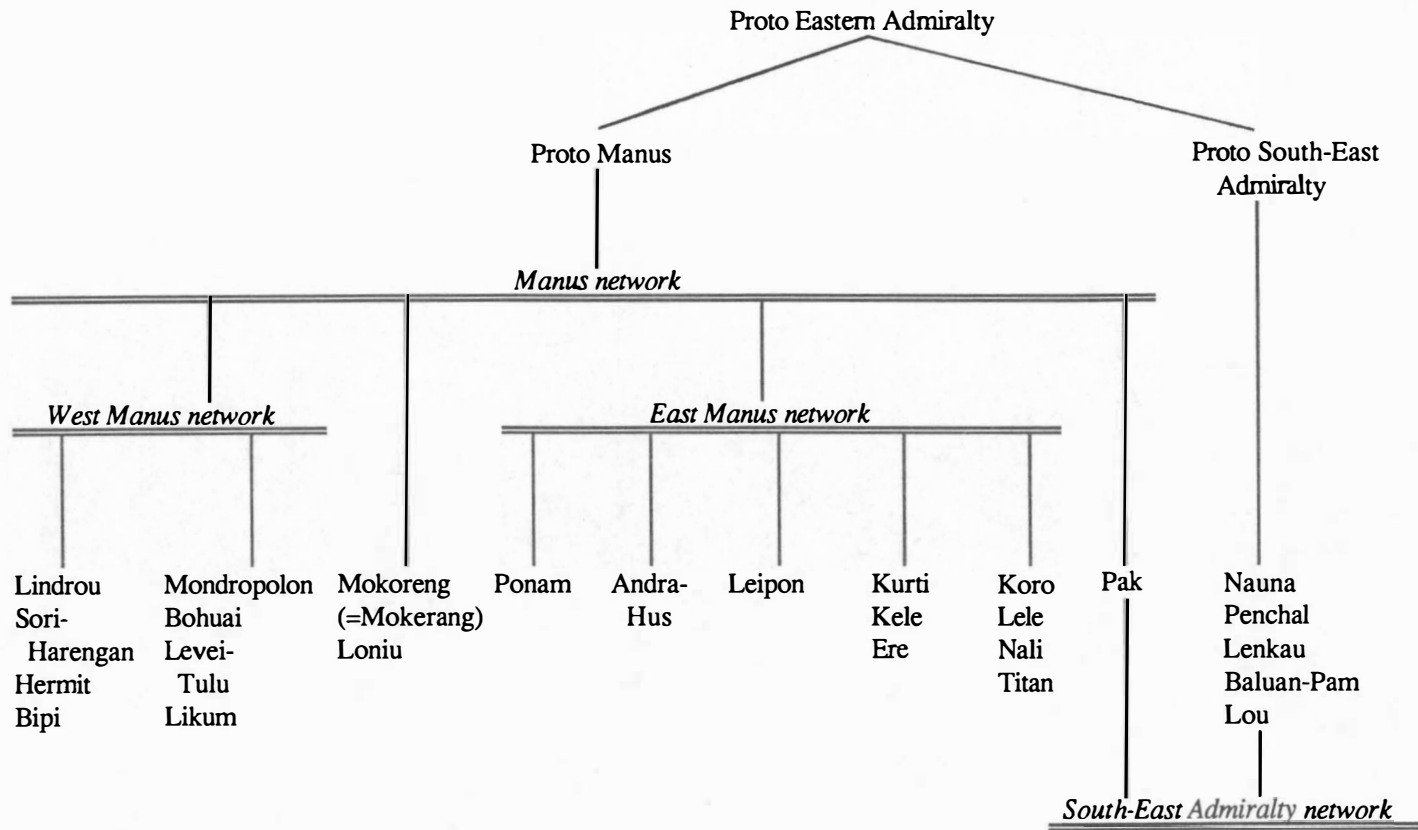
FIGURE 13: EASTERN BRANCH OF THE ADMIRALTIES CLUSTER: GENETIC TREE
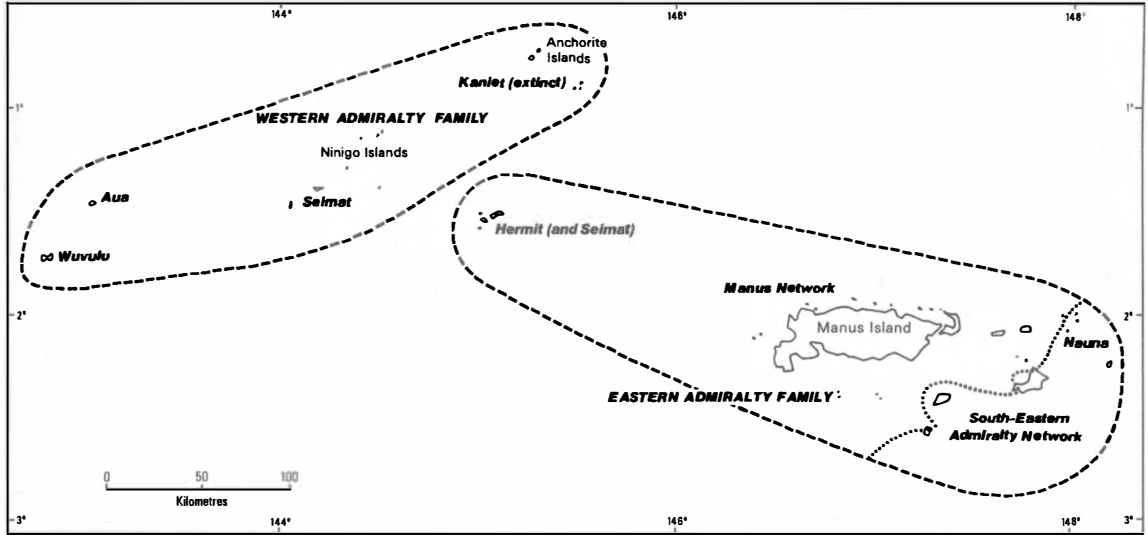
MAP 14: LOCATION OF THE ADMIRALTIES CLUSTER OF OCEANIC LANGUAGES AND ITS SUBGROUPS
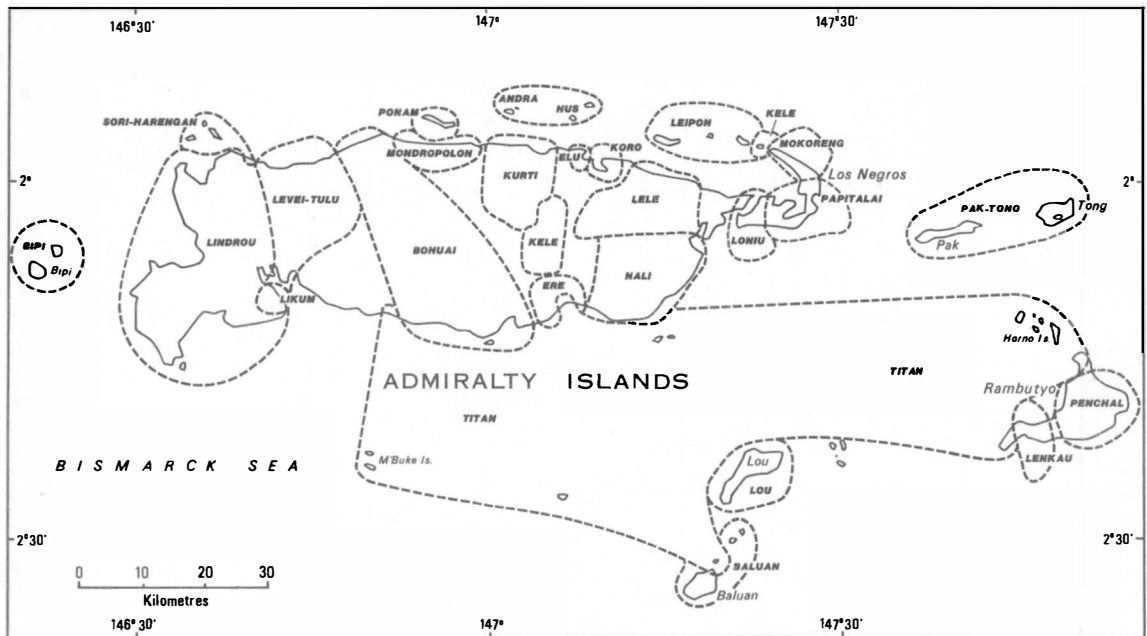


MAP 15: LANGUAGES OF THE EASTERN ADMIRALTIES

Healey (1976) performs the difficult task of comparing and trying to reconcile the internal groupings of the Admiralties languages arrived at by Blust and by three previous scholars, Meyer, Schwartz and Smythe. I have not had access to Meyer (1932), and supporting evidence for Schwartz's classification has not been published. Extracts from Smythe's unpublished (1958) work were published posthumously as Smythe (1970) (edited by Healey), and his classifications are based largely on morphosyntactic typology and on an assumption of multiple AN intrusions similar to those proposed by Capell (1943) for Papua, an assumption for which I have found no evidence.

Meyer, Schwartz and Smythe agree on the western/eastern Admiralties division, and Smythe and Schwartz appear to agree with Blust and myself in treating the languages of the south-eastern Admiralties as a separate group, but not about their position as one of the two major subgroups of the eastern Admiralties. There is very little agreement on the internal subgrouping of what Blust has labelled the Manus group, and Blust groups all its members together without internal differentiation. Although I have shown some internal differentiation in Figure 13, it is clear not only that the languages of the Manus group are the outcomes of a dialect network, but that languages have moved from one geographical position in the network to another and have then been modified in the direction of greater similarity with their near neighbours. This has been shown by the Schoolings' (1980) sociolinguistic survey of the Admiralties, which does not attempt a subgrouping of the languages but provides network diagrams showing inter-relationships based on lexicostatistical percentages.

An interesting example of the difficulties of subgrouping Manus languages is provided by Bipi, spoken on an island west of Manus Island, which, according to the Schoolings' informant(s) was colonised from Loniu, on Los Negros Island to the east of Manus Island. The Schoolings find that Bipi has more in common with its new neighbour, Lindrou (cognate count: 41 per cent) than its previous and present neighbours, Loniu and Lindrou, have with each other (26 per cent). Phonological innovations, however, imply that Bipi is more closely related to its nearest island neighbour, Sori-Harengan (off the north-west coast of Manus – see Map 15[113]), than to either Loniu or Lindrou. Bipi shares with Sori-Harengan:

A. the merger of Proto Eastern Admiralty (PEAd) *c with *s (regarding the origin of this contrast, see section 9.3.3.2):

(9.1)   POC *suluq 'torch' > PEAd *cul(u) > Bipi sun, Harengan suŋ (but Loniu cun)

POC *saman 'outrigger float' > PEAd *cam(a) > Bipi, Harengan sam (but Loniu cam)

POC *suʀsuʀ 'sew' > PEAd *susu- > Bipi sus 'sew' ('thatch'), Harengan susu, Loniu susu(i)

POC *susu 'breast' > PEAd *susu(-) > Bipi sus, Harengan suh, Loniu susu-

B. a backed reflex of PEAd word-final *-t (also shared by Lindrou):

(9.2)   POC *tamwata 'man' > PEAd *dramat(a) > Bipi xamak, Harengan hamaʔ, Lindrou dramak (but Loniu amat)

POC *mate 'die' > PEAd *mat(e) > Bipi mak, Harengan maʔ, Lindrou mek (but Loniu met)

POC *kutu* 'louse' > PEAd *kut(u)* > Bipi, Lindrou *kuk*, Harengan *ʔuʔ* (but Loniu *kut*)

C. the reduction of word-final PEAd *-ñ* to *-i* (also shared by Lindrou):

(9.3) POC *poñu* 'turtle' > PEAd *poñ(u)* > Bipi *pui*, Harengan, Lindrou *boi* (but Loniu *poñu*)

The difficulties arising from these conflicting pieces of information are further confounded by the fact that according to my informant the Bipi people came from Tong Island, to the east of Los Negros. Although the Bipi case is the most problematic I have encountered among the Manus languages, conflicts of evidence with regard to internal relationships are common. In Figure 14 I present a diagram which attempts to show the overlapping relationships[114] of some of the Manus languages, based on phonological and morphological innovations.
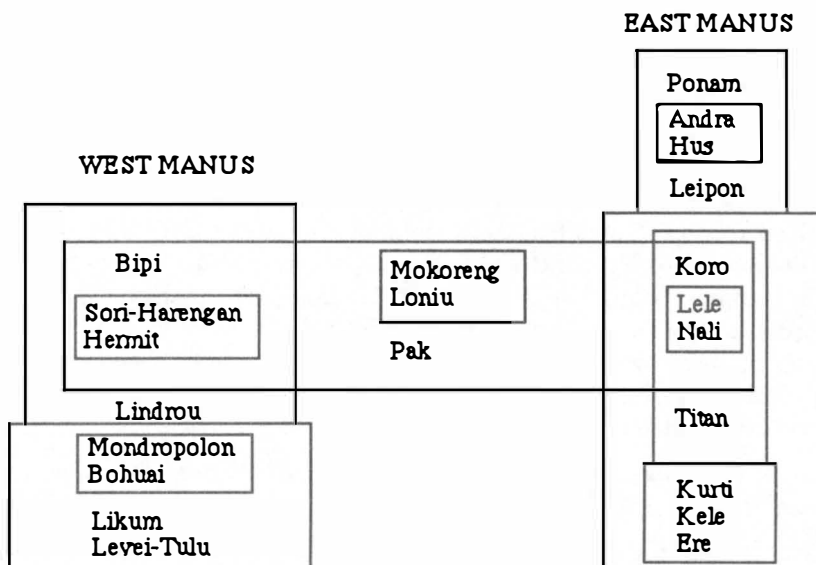


FIGURE 14: RELATIONSHIPS OF THE LANGUAGES OF THE MANUS NETWORK

However, I do not present a justification of its details beyond the sound correspondences in Table 36, as far more detailed study of this topic is obviously required. This chapter is limited to description of the innovations which characterise the Admiralties cluster as a whole and each of its two first-order subgroups, the Western and Eastern Admiralties families.

Besides Blust's simple statement (with which I agree) that the Admiralties cluster is on present evidence a first-order Oceanic subgroup, two other claims have been made about their external relationships.

TABLE 36: ST MATTHIAS AND ADMIRALTY ISLANDS: CONSONANT CORRESPONDENCES

| POC | *p | | *b | *m | *w | *mw |
|---|---|---|---|---|---|---|
| Mussau | p, Ø | | b | m | u, o | m |
| Tench | ., Ø | | . | m | o | . |
| PAd | *p; *-f- | | *b | *m | *w | *mw |
| | secondary | | | | | |
| | oral | nasal | | | | |
| PWAd | *f | *p-; f-/_u | *b | *m | *w | *mw |
| Aua | f | p-; f-/_u | p | m | w | w |
| Wuvulu | f | p-; f-/_u | p | m | . | . |
| Seimat | h | | p | m | w | w |
| Kaniet | f | | p | m | w | mu- |
| PEAd | *p-; -f-; -p | | *p | *m | *w | *mw |
| Nauna | p-; -h- | | p | m | w- | mw- |
| Penchal | p-; -h-; -p | | p | m | -u | mw- |
| Lou | p-; -Ø-; -p | | p-; -v- | m | w; -Ø | mw- |
| Baluan | p-; -Ø-; -p | | p | m | w- | mw- |
| Lenkau | p-; -h-; -p | | p | m | -u | mw- |
| Pak | p-; h | | p | m | -u | mw- |
| Koro | p-; b-/_u; h | | p; . | m | . | . |
| Nali | p-; β-/_u; h | | p; β-, -b-/_u | m | -u | mw- |
| Lele | p-; β-/_u; h | | p; β-, -b-/_u | m | -u | m- |
| Titan | p-; β-/_u; h | | p; β/_u | m | w-; -u | m- |
| Kurti | p-; β-/_u; h | | p; . | m | w-; -u | m°- |
| Kele | p-; β-/_u; h | | p; β/_u | m | w-; -u | mw- |
| Ere | p-; b-/_u; h | | p; . | m | w- | mw- |
| Ponam | p-; β-/_u; f | | p; β/_u | m | gw-; -u | mw- |
| Andra | p-; β-/_u; h | | p; β-, -b-/_u | m | w- | mw- |
| Hus | p-; β-/_u; h | | p; β-, -b-/_u | m | w- | mw- |
| Leipon | p-; β-/_u; h | | p; β/_u | m | -u | mw- |
| Bohuai | p-; h | | p | m | w-; -u | mw- |
| Mondropolon | p-; h | | p | m | w-; -Ø | m°- |
| Levei-Tulu | p-; h | | p | m | b-; -u | mw-, m°- |
| Likum | p-; h | | p | m | gw- | mw- |
| Lindrou | b-; h | | b | m | gw-; -u | mw- |
| Sori-Harengan | b-; h | | b | m | g-; -u | mw- |
| Hermit | b-; h | | b | m | w- | mw- |
| Bipi | p-; h | | p | m | -u | m- |
| Mokoreng | p-; h | | p | m | -u | mw- |
| Loniu | p-; h | | p | m | -u | mw- |

TABLE 36: (continued)

| POC | *t | *r | *dr |
|---|---|---|---|
| Mussau | t | l | r |
| Tench | t | r | r |
| PAd | *t | *r | *dr |

| | | secondary | | |
|---|---|---|---|---|
| | | oral | nasal | |
| PWAd | *t | *x | *r | *r |
| Aua | Ø-; -?- | h | r- | r, x |
| Wuvulu | Ø-; -?- | k | x-, k- | x |
| Seimat | t | h | x-, k- | k, x |
| Kaniet | t | Ø | Ø- | k |

| | | secondary | | secondary | |
|---|---|---|---|---|---|
| | | oral | nasal | oral | nasal | |
| PEAd | *t | *nt- | *r | *dr- | *dr |
| Nauna | t | t- | l | c-, t- | c |
| Penchal | t; -r- | r- | l | t- | t; -c |
| Lou | t; -r- | r- | r | r- | r |
| Baluan | t; -r- | n- | .; c/_u, o | c- | n; c/_i, u |
| Lenkau | t; -r- | d- | h; -h-, -r- | h- | h |
| Pak | t-; -r | d- | h | h- | h |
| Koro | t; -r- | d- | r | dr- | dr |
| Nali | t; -r- | dr- | l; -n | dr- | dr; -n |
| Lele | t; -r- | d- | l | dr- | dr- |
| Titan | t | dr- | l | l- | l |
| Kurti | t | dr- | r | dr- | dr; -h |
| Kele | t | dr- | r | dr- | dr |
| Ere | t | dr- | r | dr- | dr |
| Ponam | t; -r- | h- | l | h- | h |
| Andra | t | dr- | l; -l, -r | dr- | dr |
| Hus | t | nh- | l | nh-, h- | nh |
| Leipon | t; c/_i, u | dr- | r | dr- | d |
| Bohuai | t; c/_i, u; -k | c- | l; -l, -r | c- | c |
| Mondropolon | t; c/_i, u; -k | c- | l; -l, -r | c- | c-; -dr- |
| Levei-Tulu | t; s/_i, u; -k | c- | l; -r | dr-; c-/_u | c- |
| Likum | t; -k | c- | r | dr-; c-/_u | c- |
| Lindrou | t; -k | dr- | l, r | dr- | dr |
| Sori-Harengan | t; -?, -Ø | d- | h | h- | h |
| Hermit | t | d- | h; -Ø | h- | h |
| Bipi | t; -x | dr- | x | x- | x |
| Mokoreng | t; c/_i, o | r- | Ø; -?- | Ø- | Ø |
| Loniu | t | t | Ø; -?- | Ø- | Ø |

TABLE 36: *(continued)*

| POC | *d | *R | *l | *n | *ñ |
|---|---|---|---|---|---|
| Massau | r | Ø, l | l | n | n |
| Tench | r | Ø | r | n | n |
| PAd | *d | *Ø-; -R- | *l | *n | *ñ |
| PWAd | . | *Ø-; h/a_a | *l | *n | *ñ |
| Aua | . | Ø-; h/a_a | d, l, δ | n | n |
| Wuvulu | . | Ø | l | n | n |
| Seimat | . | Ø, h | l | n | n |
| Kaniet | . | . | l | n | ñ |

| | *d | /_a | /_o | /_i, u | *l | *n | *ñ |
|---|---|---|---|---|---|---|---|
| PEAd | . | *R | *R | *Ø | *l | *n | *ñ |
| Nauna | . | -i | -Ø-, -i | Ø | l | n | ñ |
| Penchal | . | Øⁱ- | -Ø- | Ø | l | n | ñ |
| Lou | . | Øⁱ | -Ø- | Ø | l | n | n |
| Baluan | . | -i | . | Ø | l | n | n |
| Lenkau | . | Øⁱ-; -y- | -Ø- | Ø | l | n | n |
| Pak | -n | Øⁱ-; -i | -w- | Ø | l | n | n |
| Koro | -r | . | . | Ø | l | n | . |
| Nali | -n | Ø-; -y- | -w- | Ø | i | n | n |
| Lele | -dr | y-; -i- | -Ø- | Ø | i | n | n |
| Titan | -l | Ø-; -i | -y- | Ø | l | n | ñ |
| Kurti | . | Øⁱ-; -i | -Ø- | Ø | l | n | n |
| Kele | . | Øⁱ-; -i | -Ø- | Ø | l | n | n |
| Ere | . | Ø-; -y- | . | Ø | l | n | n |
| Ponam | -h | Øⁱ-; -y-; -Ø | -y- | Ø | l | n | ñ; -n |
| Andra | -r | Ø-; -y- | . | Ø | l | n | n |
| Hus | -h | Ø | . | Ø | l | n | n |
| Leipon | -dr | Øⁱ-; -i | -w- | Ø | l | n | ñ |
| Bohuai | -k | Øⁱ-; -y-; -i | -y- | Ø | l | n | ñ |
| Mondropolon | -k | Øⁱ-; -y- | . | Ø | l | n | nⁱ |
| Levei-Tulu | -k | Øⁱ-; -Ø- | . | Ø | l; -ŋ | n | n |
| Likum | . | -i | . | Ø | l; -n | n | n |
| Lindrou | -r | y; -Ø | . | Ø | l; -n | n | ñ; -i |
| Sori-Harengan | -h | y-; -i | . | Ø | l; -r-; -ŋ | n | ñ; -i |
| Hermit | -n | y-; -i | . | Ø | l | n | ñ; -Ø |
| Bipi | -x | Ø-; -y-; -i | . | Ø | l; -n | n | ñ; -i |
| Mokoreng | -Ø | Øⁱ-; -y-; -i | -w- | Ø | l | n | ñ, n |
| Loniu | -Ø | Øⁱ-; -y-; -i | -w- | Ø | l; -n | n | ñ |

TABLE 36: *(continued)*

| POC | *s | | | *-c- | *j |
|---|---|---|---|---|---|
| | fortis | lenis | | | |
| Mussau | s | r | | -s- | s, r |
| Tench | s | . | | -s- | . |

| PAd | *s | | | *-c- | *j |
|---|---|---|---|---|---|
| | fortis | lenis | | | |
| PWAd | *s | *-z- | | *-c- | *s |
| Aua | t | -r- | | -h- | t |
| Wuvulu | t | -k-, -x- | | -k- | t |

| | secondary | | | | |
| | oral | nasal | | | |
|---|---|---|---|---|---|
| Seimat | s | x-, l- | -x-, -l- | -x-, -l- | s |
| Kaniet | s | t- | -s- | . | s |

| | secondary | | | | |
| | oral | nasal | | | |
| PEAd | *s | *c- | | *-r- | *c |
|---|---|---|---|---|---|
| Nauna | s | c- | | -l- | c |
| Penchal | s | c- | | -l- | c |
| Lou | s; -t | s- | | r | s |
| Baluan | s; -t | s- | | y | s |
| Lenkau | s | s- | | h | s |
| Pak | s | t- | | h | t |
| Koro | s | c- | | r | . |
| Nali | s | s- | | l | s |
| Lele | s | s- | | l | s |
| Titan | s | c- | | l; s/_i | c |
| Kurti | s | s- | | . | s |
| Kele | s | s- | | r | s |
| Ere | s | s- | | r | s |
| Ponam | s | s- | | l | s |
| Andra | s | c- | | l | c |
| Hus | s | c- | | l | c |
| Leipon | s | c- | lenis | r, d | c |
| Bohuai | s | c- | -r- | . | c-; -s |
| Mondropolon | s | s- | -r- | l | s |
| Levei-Tulu | .; -h | s-, c-† | -r- | . | s, c† |
| Likum | s-; -h | s- | -r- | . | s |
| Lindrou | s | s- | | r | s |
| Sori-Harengan | s; -h | s- | | h; s/_i | s |
| Hermit | h | s- | | h | s |
| Bipi | s | s- | | x | s |
| Mokoreng | s | c- | | ? | c |
| Loniu | s | c- | | ? | c |

†Levei *c*, Tulu *s*

TABLE 36: *(continued)*

| POC | *y | *k | *g | *ŋ | *q |
|---|---|---|---|---|---|
| Mussau | i | k, Ø | g | ŋ; -Ø | k, Ø |
| Tench | i | k, Ø | . | ŋ | k, Ø |
| PAd | *y | *k | *g | *ŋ | *q |
| PWAd | *y | *Ø; h/a_a | *Ø; -k | *ŋ | *Ø; h/a_a |
| Aua | -r- | Ø; h/a_a | Ø | Ø | Ø; h/a_a |
| Wuvulu | -x- | Ø | . | Ø | Ø |
| Seimat | Ø | Ø; h/a_a | Ø; -k | ŋ | Ø |
| Kaniet | . | Ø | Ø; -k | n | . |

|  |  | secondary |  |  |  |
|---|---|---|---|---|---|
|  |  | oral | nasal |  |  |
|  | *Ø-; -y- | *Ø; -k | *k- | *-g- | *ŋ | *q; -Ø- |

| PEAd | *Ø-; -y- | *Ø; -k | *k- | *-g- | *ŋ | *q; -Ø- |
|---|---|---|---|---|---|---|
| Nauna | Ø-; -i | Ø | k- | -Ø | ŋ | k-; -Ø- |
| Penchal | Ø-; -i | Ø | k- | -ŋ | ŋ | k-; -Ø- |
| Lou | Ø | Ø; -k | k- | -ŋ | ŋ | k-; -Ø- |
| Baluan | Ø-; -i | Ø | k- | -ŋ | ŋ | k-; -Ø- |
| Lenkau | Ø-; -i | Ø; -k | k- | -k | ŋ | k-; -Ø- |
| Pak | Ø-; -i | Ø | k- | -Ø | ŋ | k-, Ø-; -Ø- |
| Koro | Ø-; -i | Ø | k- | . | ŋ | . |
| Nali | Ø-; -i | Ø | k- | . | ŋ | k-, Ø-; -Ø- |
| Lele | Ø-; -i | Ø | k- | . | ŋ | k-, Ø-; -Ø- |
| Titan | Ø-; -i | Ø | k- | . | ŋ | k-, Ø-; -Ø- |
| Kurti | Ø-; -i | Ø; -ʔ- | k- | . | ŋ | k-, Ø-; -Ø- |
| Kele | Ø-; -i | Ø | k- | . | ŋ | k-, Ø-; -Ø- |
| Ere | Ø-; -i | Ø; -ʔ- | k- | . | ŋ | k-, Ø-; -Ø- |
| Ponam | Ø-; -i | Ø | k- | -k | ŋ | .; -Ø- |
| Andra | Ø-; -i | Ø | k- | -k | ŋ | k-, Ø-; -Ø- |
| Hus | Ø-; -i | Ø | k- | -k | ŋ | .; -Ø- |
| Leipon | Ø-; -i | Ø | k- | . | ŋ | .; -Ø- |
| Bohuai | Ø-; -i | Ø; -ʔ- | k- | -k | n | k-, Ø-; c/_i; -Ø- |
| Mondropolon | Ø-; -i | Ø; -ʔ- | k- | -k | n | k-, Ø-; c/_i; -Ø- |
| Levei-Tulu | Ø-; -i | Ø | k- | . | n; -ŋ | .; -Ø- |
| Likum | Ø-; -i | Ø; -ʔ- | k- | . | n | .; -Ø- |
| Lindrou | Ø-; -i | Ø; -ʔ- | k- | -k | n, ñ | k-, Ø-; -Ø- |
| Sori-Harengan | Ø-; -i | Ø | k- | -k | ŋ; -Ø | ḷ; -Ø- |
| Hermit | Ø-; -i | Ø | k- | -k | ŋ; -k | k-, Ø-; -Ø- |
| Bipi | Ø-; -i | Ø | k- | -Ø | ŋ; -k | k-, Ø-; -Ø- |
| Mokoreng | Ø-; -i | Ø | k- | -Ø | ŋ | k-, Ø-; -Ø- |
| Loniu | Ø-; -i | Ø | k- | -Ø | ŋ | k-, Ø-; -Ø- |

Smythe's (1970) claim is that 'All languages of the Admiralty Islands are Melanesian in general outline ... The languages of Manus ... have strong affinities with Micronesia ...' In keeping with his methodology, based on morphosyntactic behaviour, Smythe outlines the characteristics of what he believes to be the potentially intrusive groups: Melanesian, Indonesian and Micronesian. The typically Micronesian features which he outlines include (i) the suffixing of possessive pronominal forms directly to various kinds of noun (not just to inalienable nouns); (ii) the use of possessive classifiers which are themselves nouns; (iii) the use of classifiers with numerals. Since these features *are* found among Manus languages, it is puzzling (and perhaps a result of the fact that he was never able to prepare his own work for publication) that he seemingly contradicts his initial claim and says that '[the Manus group] has no specifically Indonesian or Micronesian features'. His initial claim seems to be based solely on his comparison of Seimat and Kele (Smythe's Gele?) vocabulary with Trukese.

Blust (1984b) has shown that Smythe's lexical comparisons are unconvincing. Jackson (1986), examining the possible external relationships of the Micronesian languages, accepts Blust's finding, but believes that the Admiralties languages will remain candidates for a relatively close relationship with Proto Micronesian until rather more is known about them. It seems to me that this topic indeed deserves further investigation, since Smythe's half-stated claim is not completely without justification. Some (eastern and western) Admiralties languages do affix pronominal possessive suffixes directly to alienable nouns, and Seimat and Aua (western Admiralties) use possessive classifiers which are themselves nouns. Numeral classifiers which *follow* the numeral are used in all Admiralties languages other than the offshore chain from Bipi through the northern islands to Los Negros. Each of these features is found in Micronesian languages. Interestingly, the first two are also found in Mussau. However, if a connection between the Admiralties and Micronesia were demonstrable, it would not necessarily be of (or only of) the kind assumed by Smythe, namely Micronesian intrusion into the Admiralties; it might also be that the Admiralties and Micronesia were each settled at an early date by travellers from Mussau.

I give below examples of these morphosyntactic similarities, which are not found elsewhere in WM, and are certainly not common in Central-Eastern Oceania. Directly suffixed nouns, which elsewhere in WM would be treated as alienable and would co-occur with a possessive classifier, are illustrated first:

(9.4)    Kele (Manus network) (Smythe n.d.b)

*mwehe-m*
dog-P:2S
'your dog'

*emwe-n      dakum*
house-P:3S    Dakum
'Dakum's house (which he owns)'

Seimat (Western Admiralties)

*iŋa-k*
house-P:1S
'my house'

*iŋ-i      kalu*
house-C   Kalu
'Kalu's house'

Aua (Western Admiralties)

*fei      rufu-m*
DEM   house-P:2S
'That's your house.'

*pahafu-na*
banana-P:3S
'his banana'

Mussau[115]

*ai-gi      eteva*
tree-P:1S   ART
'my tree'

*ale-na      ateva    rilu*
house-P:3S   ART      Rilu
'Rilu's house'

Sonsorol-Tobi (Micronesia)(Capell 1969b:26,29)

*wa-i*
canoe-P:1S
'my canoe'

*imwe-i*
house-P:1S
'my house'

The following examples illustrate the use of a noun (in some cases no longer used independently) as a possessive classifer. (Possible relics of such a system also found in Vanuatu: Tryon 1973).

(9.5)    Seimat (Western Admiralties)

*welu-k      up*
palm-P:1S    coconut
'my coconut palm'

*unuma-k      up*
drink-P:1S    coconut
'my coconut (for drinking)'

*ana-k      up*
eat-P:1S    coconut
'my coconut (for eating)'

Aua (Western Admiralties)

*ana-u      nia*
food-P:1S   fish
'my fish (for eating)'

*fei    ape-u         puopi*
DEM  property-P:1S  dog
'my dog'

Mussau

*ai-gi    niu      etea*
tree-P:1S  coconut   ART
'my coconut tree'

*ropi-gi    niu      eteva*
drink-P:1S  coconut   ART
'my coconut (for drinking)'

*kie-gi    paua    ateva*
pet-P:1S   dog     ART
'my (pet) dog'

*ane-gi    paua    ateva*
food-P:1S  dog     ART
'my dog (for eating)'

Sonsorol-Tobi (Micronesia)(Capell 1969b:28)

*ja-i          saru*
property-P:1S    water
'my water'

*rume-i         saru*
drink-P:1S     water
'my water (for drinking)'

Admiralties and Micronesian numeral classifiers are seen in the examples below. The possibly innovative feature is not the use of classifiers, which are reconstructible for POC, but the sequence of numeral + classifier, rather than the reverse. (Hambruch 1908:43-44 reports the use of such classifiers in Aua, but gives no phrase examples; my informant used no classifiers. The classifier system also seems to be breaking down in Seimat, to judge from a comparison of my data with Smythe's.)

(9.6)    Kele (Manus network)

*arŋwan    tul-mou*      *kei  tul-iy*       *eseu    tul-pwim*
man        3-person      tree  3-long        house    3-building
'three men'               'three trees'       'three houses'

Lou (S.E. Admiralty network)

*puol      til-ip*       *molue   tul-ue?*     *ramat    tulu-mo?*
coconut   3-CL          canoe    3-long       man       3-person
'three coconuts'         'three canoes'       'three men'
(*-ip* is the general classifier, used where no other applies)

Seimat (Smythe n.d.a.) (Western Admiralties)

| *iŋ* | *tolu-hu* | *tolu-ok* | *sinen* | *tolu-a* | *waa* |
|------|-----------|-----------|---------|----------|-------|
| house | 3-CL | 3-CL | dog | 3-long | canoe |
| 'three houses' | | 'three dogs' | | 'three canoes' | |

(where *-hu* is used with houses, utensils and root crops, and *-ok* is used with animals and bananas)

The use of classifiers described for Micronesian languages by Groves et al (1985:35) for Kiribatese, by Elbert (1974:110-114) for Puluwat and by Capell (1969b:65-70) for Sonsorol-Tobi appears very similar to the Admiralties system.

To the apparently Micronesian-like features noticed by Smythe another may be added: this is the use of the numeral *one*, or a short form thereof, as a common (not necessarily indefinite) article. The Mussau examples in (9.4) and (9.5) illustrate its common article formed from *-teva* 'one' (cf. *ka-teva niu* COUNT-one coconut 'one coconut'). Also found are:

(9.7)  Lou (S.E. Admiralties network)

| *um* | *si-p* | *ta* | *papaheun* | *to* |
|------|--------|------|------------|------|
| house | one-CL | REL | new | DEM |
| 'that new house' | | | | |

Seimat (Western Admiralties)

| *te-te-l* | *seilon* | *io* |
|-----------|----------|------|
| RD-one-CL | man | DEM |
| 'that man' | | |

Kiribatese (Groves et al 1985:60)

| *te* | *kao* | *aei* |
|------|-------|-------|
| one | ox | DEM |
| 'this ox' | | |

In Kiribatese synchronic grammar, *te* is properly glossed as the common article, but it form it is identical to *one* (Groves et al 1985:32-35).

The second claim concerning the external relationships of the Admiralties languages has been made by Z'graggen. He writes (1975a), 'There is strong evidence that the languages of Group 2 (Seimat and Kaniet) have links with the Austronesian languages of the Lesser Schouten Islands. The Schouten islanders appear to have migrated from the western Admiralty islands to either Wogeo or Bam island, and from there they migrated east and west and south to the mainland.' Elsewhere (1975b) he writes, 'From New Ireland ... a western branch migrated through the eastern part of the Admiralty Islands to the lesser Schouten Islands and from this point to the Mainland, then eastwards to Manam and from there to Sepa and Medebur, and westwards to Kairiru Island, Aitape, Jayapura and Sarmi. This view is suggested by local history, the language maps and the overlap of some lexicon between the currently posited language groups.' These somewhat differing accounts appear to refer to one migration rather than to two. Z'graggen does not provide details of his evidence. Whilst it may be inferred from the principle of shortest moves that the Admiralties were settled from New Ireland, we have no linguistic evidence for this other than the Mussau connection, and no linguistic evidence for settlement of the Schoutens from the Admiralties. I argue in Chapter 5 that the Schouten language chain belongs to the North New Guinea cluster. Suffice it to say here that the

Admiralties and Mussau reflexes of POC *ʀ differentiate these languages from those of the Schoutens (where POC *ʀ medially merges with *r and initially is retained separately as a liquid) in much the same way as they are differentiated from New Ireland.


## 9.3 SHARED INNOVATIONS OF THE ADMIRALTIES CLUSTER

### 9.3.1 ADMIRALTIES PHONOLOGICAL INNOVATIONS

There are three phonological innovations common to the whole of the Admiralties cluster:

A. POC *ʀ was lost before high vowels in Proto Admiralty (PAd) and became PAd *ʀ before other vowels (probably *[-x-] or *[-ɣ-] as eastern Admiralty reflexes tend to be -y-, or in some languages -w- before -o-, whilst western Admiralties languages always lose it).

B. POC *p became PAd *-f- word-medially (its outcome word-initially is examined in section 9.3.3;

C. POC word-final consonants were lost in PAd.

Loss of POC final consonants is common in Oceanic languages and therefore of somewhat limited validity for subgrouping. As it is liberally illustrated by examples scattered through this chapter, it will not be discussed further.

Innovation A is illustrated in the following examples:

(9.8)  POC *ʀumaq 'house' > PAd *um(a) > Wuvulu, Aua *umu* (Hambruch 1908), Nauna *(y)um*, Penchal, Lenkau, Pak, Titan, Kurti, Bohuai, Mondropolon, Andra, Hus, Bipi, Loniu *um*, Kele *um* 'men's house', Baluan, Koro, Nali, Lele, Tulu, Hermit, Leipon, Mokoreng *(w)um*, Sori, Harengan *(g)um*, Ponam *om*

(9.9)  POC *ʀapi 'evening' > PAd *(pa)ʀafi > Aua *(f)afi*, Seimat *(alo-h)ah (alo* 'sun'), Lou *(po)ep*, Lenkau *(ho)yep*, Nali *(ipi)ya*, Lele *(yipi)yah*, Bohuai *(pi)yieh*, Mondropolon *(pi)yih*, Ponam *(pa)yaf*, Bipi *(ha)yah*, Mokoreng *(kehe)yah*, Loniu *(kokehe)yah*

(9.10)  POC *ʀopok 'fly' > PAd *-ʀof(o) > Nauna, Kurti, Kele *-oh*, Penchal, Lou, Lenkau *-op*, Pak *-wo-woh*, Titan *-yo*, Nali *-wo*, Lele, Leipon, Mokoreng, Loniu *-woh*, Bohuai *-yah*, Ponam *-yef*

(9.11)  POC *boʀok 'pig' > PAd *bou > Seimat, Lenkau, Titan, Bohuai, Mondropolon, Mokoreng, Loniu *pou*, Penchal, Pak, Ere, Ponam, Andra *pu*, Lou *puo*, Nali, Lele, Kele, Bipi *puu*, Lindrou, Harengan *bou*

Innovation B, whereby POC *p became PAd *-f- medially, is illustrated in examples (9.9) and 9.10 above. It is also exemplified below:

(9.12)  POC *papine 'woman' > PAd *mpefine (see section 9.3.3.2 regarding *mp-) > Aua, Wuvulu *pifine*, Nauna, Penchal, Lenkau *pehin*, Loi, Titan *pein*, Baluan *piin*, Pak, Koro, Nali, Lele, Kele, Ere, Bohuai, Mondropolon, Leipon, Bipi, Mokoreng, Loniu *pihin*, Sori *bibin*, Harengan *bibiŋ*, Ponam *fefin* 'unmarried woman', Hus *(dra)pihin*

Of these three innovations, only A is of substance for subgrouping; B and C are merely supportive, as they occur fairly commonly elsewhere in Oceania.

Mussau shows an innovation similar to A, but does not share B or C (POC *p is lost in Mussau; final POC consonants are retained). POC *ʀ is lost in all environments, but a following *a more often than not becomes Mussau e, indicating that, as in the eastern Admiralties, the sequence *-ʀa- became *-ya-, then in some cases -e- (Blust 1984a:178). Cases of POC *ʀ before *a, where -a- becomes -e-, are:

(9.13) POC                                         Mussau
       *draʀaq        'blood'                      rae
       *uʀat          'vein'                       ueta
       *kiʀam         'axe'                        iema          'knife'
       *apaʀat '      N.W. monsoon'                apae          'strong wind'

Cases of POC *ʀ before *a, where -a- does not become -e-, are:

(9.14) *piʀaq         'taro: *Alocasia*'           ia
       *kadroʀa        'cuscus'                     aroa

Cases of *ʀ before other vowels, where it is lost in Mussau, are:

(9.15) *paqoʀu         'new'                        ou
       *suʀi           'bone'                       rui
       *ŋoʀo           'snore'                      ŋoo
       *tapuʀi         'Triton shell'               taue
       *ikuʀ           'tail'                       ui
       *qatoluʀ        'egg'                        otolu
       *pitaquʀ        '*calophyllum*'              itau
       *niuʀ           'coconut'                    niu

Only in a few cases does POC *ʀ become Mussau *l*:

(9.16) POC                                         Mussau
       *(pa)ʀapi       'evening'                    (a)lai
       *ʀopok          'fly'                        loo
       *maʀaŋo         'dry'                        malaŋo

Since South-East Solomonic languages reflect PSS *ka-raŋo 'dry', it may well be that Mussau ma-laŋo reflects the same apparent POC doublet *-raŋo.


### 9.3.2 ADMIRALTIES MORPHOSYNTACTIC INNOVATIONS

The languages of the Admiralties cluster share a number of morphosyntactic innovations in common:

A.  Numeral classifiers are used, and occur in the sequence numeral + classifier, the sequence forming a single word phonologically.

B.  The numeral one is used as a common article (marking not only indefinite but also specific and definite noun phrases).

C.  All POC non-singular possessive pronominal suffixes were lost and replaced by PAd disjunctive pronouns.

D. The POC possessive pronominal suffix *-ña P:3S is replaced by PAd *-na (for expected **-ña).

E. The POC disjunctive pronoun *kita D:1IP is reflected by PAd *ta (for expected PAd **ita).

F. Reduplication of the verb, used to form the continuative aspect in POC, was lost in PAd; in many Admiralties languages it is replaced by the verb *stay* as an auxiliary.

G. The POC common article *na has coalesced with common nouns, resulting in phonological changes in some initial consonants.

Innovations A and B are illustrated in section 9.2, and as is shown there, Mussau shares in them. Mussau does not share in innovations C to F.

Innovation C, the loss of POC non-singular possessive pronominal suffixes and their replacement by disjunctive pronouns is seen in the following examples, where an inalienably possessed noun has a possessive suffix if the possessor is singular, but a cliticised disjunctive form if the possessor is plural:

(9.17)    Aua (Western Admiralties)

| *ama-m* | *am-ai?ou* | *ama-ra?odu* |
|---------|-----------|--------------|
| father-P:2S | father-D:1ET | father-D:3P |
| 'thy father' | 'our fathers (of a few of us)' | 'their fathers' |

Seimat (Western Admiralties)

| *pula-m* | *pul-amite* | *pula-lahato* |
|----------|------------|---------------|
| eye-P:2S | eye-D:1EP | eye-D:3P |
| 'thy eye' | 'our eyes' | 'their eyes' |

Lindrou (Manus network)

| *mine-k* | *mine-?aso* | *mine-?oro* |
|----------|------------|-------------|
| arm-P:1S | arm-D:1EP | arm-D:3P |
| 'my arm' | 'our arms' | 'their arms' |

Kele (Manus network)

| *mara-m* | *mara-yoru* | *mara-su* |
|----------|------------|-----------|
| eye-P:2S | eye-D:1EP | eye-D:3P |
| 'thy eye' | 'our eyes' | 'their eyes' |

The singular/plural contrast illustrated above is reflected less clearly in South-East Admiralties languages, because each has modified the inalienable possession system in some way. In Lou and Lenkau, inalienable nouns with singular possessors behave as in the languages above, but with plural possessors they receive the suffix -n P:3S plus the disjunctive pronoun (e.g. *maro-m* 'thy eye' but *mara-n ere* 'our (exc) eyes'). However, this is attributable to a later development, as the straight replacement of non-singular pronominal suffixes by disjunctive pronouns is reflected in Lou with the alimentary possessive classifier *ka-*:

(9.18)   Lou (S.E. Admiralties network)

| *ka-m mun* | *k-ere mun* | *k-are mun* |
|---|---|---|
| PCL-P:2S banana | PCL-D:1EP banana | PCL-D:2P banana |
| 'thy banana' | 'our bananas' | 'your bananas' |

Self-evidently innovation D , the replacement of POC *-ña P:3S by PAd *-na is only detectable in those languages which ~normally reflect POC *ñ as PAd *n. In my data corpus these are: Kaniet, Nauna, Penchal, Titan, Ponam, Leipon, Bohuai, Lindrou, Sori-Harengan, Hermit, Bipi, Mokoreng and Loniu.  Because of final-vowel loss in most Admiralties languages, the expected reflex is the word-final reflex of POC *ñ.  This is reflected in the cognate set derived from POC *poñu 'turtle':

(9.19)   POC *poñu 'turtle' > PAd *poñ(u) > Kaniet foñ, Nauna, Penchal puñ, Lindrou, Harengan boi, Hermit bu, Bipi pui, Loniu poñ, Ponam pun

It is clear from (9.19) that the word-final reflexes of POC *ñ are Kaniet, Nauna, Penchal, Loniu -ñ, Lindrou, Harengan, Bipi -i, Ponam -n.  All the languages listed in (9.19) except Harengan reflect POC *n as -n word-finally; Harengan reflects it as -ŋ (cf. example 9.12).  Hence Ponam is the only language which does not retain a contrast between word-final reflexes of POC *ñ and *n.  However, as can be seen in (9.20), in each of the languages in which contrast is retained, the reflex of POC *-ña P:3S contains a reflex of POC/PAd *n, not *ñ:

(9.20)   POC *-ña P:3S > PAd *-na > Kaniet, Nauna, Penchal, Lindrou, Hermit, Bipi, Loniu, -n, Harengan -ŋ

Thus all available evidence indicates that POC *-ña P:3S is replaced by PAd *-na (for expected **-ña).

Innovation E , loss of initial PAd *i- from expected PAd **ita (< POC *kita D:1IP), leaving PAd *ta, has a set of reflexes which are affected by (i) the addition of reflexes of PAd *-rua 'dual' and *-tou 'trial'; (ii) vowel assimilation caused by the addition of these number markers.  In all cases except those noted below the tabulation in (9.21), the trial forms function as plurals.  The origin of Seimat k- for expected **t- is unknown.

(9.21)

| POC | *kita-rua | *kita-tolu |
|---|---|---|
| PAd | *ta-rua | *ta-tou |
| PWAd | *ta-xua | *ta-tou |
| Aua | a-hua | o-ʔou |
| Seimat | ka-lu | ka-ko |
| PEAd | *ta-ru(a) | *ta-tou |
| Penchal | ... | ta-tu |
| Lou | to-ru | ta-re |
| Lenkau | to-hu | te-reu |
| Pak | tu-hou | ta-h |
| Titan | (yo)ta-lu | ... |
| Nali | ... | (w)o-rou |
| Lele | (wo)to-lo | (w)o-tu |
| Koro | te-ru | te-ru(n) |

| Kurti | *to-ru* | *ti-tu* |
|---|---|---|
| Kele | *ti-ru* | *ti-ru* |
| Ere | *ta-ru* | *tu-t* |
| Bohuai | *ta-lu* | *tu-Ø* |
| Mondropolon | ... | *to-Ø* |
| Lindrou | *ta-lu* | *to-Ø* |
| Harengan | *ta-hu* | *ta-rou* |
| Hermit | *ta-ru* | ... |
| Ponam | *ti-ru* | *tu-ru(n)* |
| Andra | *ta-du* | *ta-tu* |
| Bipi | *ta-xo* | *ta-rou* |
| Mokoreng | *tu-ʔu* | *co-ro* |
| Loniu | *to-ʔu* | *cu-to* |

In Aua, the trial form above functions as a true trial, and the plural is *o-ʔodu*, with the reflex of PAd *\*tolu* 'three' (as opposed to *\*-tou* 'trial'). In other cases where the trial functions as a true trial or as a paucal, the plural is a reflex of the quadral POC *\*kita-pati*, PAd *\*ta-fa* (i.e. also reflecting the innovative PAd *\*ta*). These cases are:

(9.22)  Seimat *ka-ha*, Lou *ta-ra-p* (with reduplication of *ta-*), Lenkau *ta-ra-p* (with reduplication of *ta-*), Pak *ta-h*, Titan *(yo)ta-Ø*

Innovation F concerns the loss of the POC continuative aspect form, consisting of verb-stem reduplication (and reflected thus in almost every WM language outside the Admiralties, including Mussau, and in South-East Solomonic), in PAd. In many, but not all, Admiralties languages it is replaced by the verb *stay* as an auxiliary. The typical Oceanic continuative is illustrated by Mussau:

(9.23)  
| *a* | *nama-nama* | *asi* |
|---|---|---|
| S:1S | RD-eat | taro |

'I am eating taro.'

Admiralties replacements are illustrated below:

(9.24)  Aua (Western Admiralties)

| *aiʔou* | *fi* | *muta* | *fuda* |
|---|---|---|---|
| D:1ET | CONT | eat | taro |

'We are eating taro.'

Lou (S.E. Admiralties network)

| *ŋa-ro-ŋan* | *kal* |
|---|---|
| S:1S-stay-eat | taro |

'I am eating taro.'

compare:

| *palsi* | *ŋa-ro-ro* | *e* | *rei* |
|---|---|---|---|
| formerly | S:1S-RD-stay | PREP | Rei |

'I used to live at Rei.'

Lele (Manus network)

*pita    le    i-ta-dan*
Peter    too    S:3S-stay-dance
'Peter too is dancing.'

compare:

*yo    u-ta    aka*
D:1S    S:1S-stay    here
'I live here.'

Innovation G, the coalescence of the POC common article *na* with common nouns, has considerable consequences, and for this reason much of the following section is devoted to it.


### 9.3.3 CONSONANT GRADE IN ADMIRALTIES LANGUAGES

Innovations associated with consonant grade are of considerable importance in the subgrouping of the Admiralties languages. Because these innovations are connected with each other and with other innovations in quite complex ways, they are presented together here.

Consonant grade affects the sound correspondences of the Admiralties languages (Table 36) in three different ways, one dating from POC, the other two later:

A. The conventional oral-/nasal-grade pairs of POC, *p/*b, *t/*d, *r/*dr, *s/*j, and *k/*g were apparently reflected in PAd without change (PAd *p/*b may have been phonetically *[f]/*[p], but this is uncertain and it will lessen confusion to retain the POC orthography here).

B. Post-POC lenition, described in sections 3.5 and 3.6.2.1, affects only reflexes of POC medial *-s-, and only after the break-up of PAd; the areas affected (independently of each other) are the Western Admiralties and a chain of communalects in the western part of the Manus network.

C. Secondary nasal grade is a phenomenon peculiar to the Admiralties, and refers to a second set of reflexes of POC *p-, *t-, *r-, *s- and *k- which occurs (i) only word-initially and (ii) only on common nouns. This grade is assumed to be nasal partly because some of its reflexes are prenasalised consonants, and partly because its environment suggests that it has resulted from cliticisation of *na, one of the two variants *a and *na of the POC common article (which is further discussed in section 4.1), with subsequent vowel loss leaving the clitic PAd *n- to coalesce with the initial consonant of the noun.[116] From the somewhat different behaviours of secondary nasal grade in the western and eastern Admiralties, it is probable that this coalescence was still in progress when PAd split into western and eastern groups. I have called this phenomenon *secondary* nasal grade to distinguish it from the primary oral-/nasal-grade distinction reflected in POC.[117]

The two post-POC developments, lenition and secondary nasal grade, are discussed below.

## 9.3.3.1 LENITION

The Western Admiralties reflexes of POC *s are:

| | fortis | lenis |
|---|---|---|
| POC | *s | |
| PAd | *s | |
| | fortis | lenis |
| PWAd | *s | *-z- |
| Aua | t | -r- |
| Wuvulu | t | -k-, -x- |
| Seimat | s | -x-, -l- |
| Kaniet | s | -s- |

As the Kaniet reflexes are both *s*, it is possible that lenition postdates the break-up of PWad. It is in any case somewhat pedantic to distinguish between a fortis and a lenis grade of POC *-s- in the Western Admiralties, as there is only one known exception to the rule that all and only medial reflexes of POC/PAd *-s- undergo lenition. The exception consists of reflexes of POC *susu 'breast', where the medial *-s- is reflected identically to the initial *-s- instead of in the same way as other reflexes of medial *-s-. Thus 'fortis' *s is reflected in:

(9.25)  POC *susu 'breast' > PAd/PWAd *susu- > Aua, Wuvulu *tutu-*, Seimat, Kaniet *susu-*

POC *saqit 'sew' > PAd/PWAd *sawit > Aua *tawi*, Wuvulu *tawi* 'needle', Seimat *sawit(i)*

POC *saŋa 'bifurcation' > PAd/PWad *saŋa- > Wuvulu, Aua *tata-*, Seimat *saŋa-*

'Lenis' *-s- is seen in:

(9.26)  POC *tasik 'sea' > PAd *tasi > PWAd *tazi > Aua *ari*, Wuvulu *aki*, Seimat *(i)tax)*, Kaniet *tasi*

POC/PAd *pose 'paddle' > PWAd *poze > Aua *pore*, Wuvulu *poxe*, Seimat *(x)ox*, Kaniet *fose*

Setting reflexes of POC *susu aside, we could say that the fortis/lenis distinction in PWAd is sub-phonemic: the lenis reflex is simply the medial allophone of *-s-.

Lenition of POC medial *-s- in the western Manus languages Bohuai, Mondropolon, Levei-Tulu and Likum does not appear to be conditioned by environment. Most items reflect medial *-s- as -s-, but a few replace it with -r-, the apparent lenis reflex. Examples of medial fortis *-s- are:

(9.27)  POC/PAd/PEAd *pose 'paddle' > Bohuai, Mondropolon pos, Levei-Tulu poh

POC *talise 'Terminalia catappa' > PAd/PEAd *ntalise > Bohuai, Mondropolon calis

Examples of medial lenis *-s- are:

(9.28)  POC *tasik 'sea' > PAd/PEAd *ntasi > Bohuai ciar, Mondropolon, Levei-Tulu cer, Likum cah 'salt' (-h for exp -r)

POC/PAd/PEAd *lisa 'nit' > Bohuai nirie-, Mondropolon nir

POC *susu 'breast' > PAd/PEAd *susu- > Bohuai curu-, Mondropolon, Likum suru-

## 9.3.3.2 SECONDARY NASAL GRADE

Secondary nasal grade, as explained above, operates only on initial POC *p-, *t-, *r-, *s- and *k- of common nouns, and results from the cliticisation of the POC common article *na and its coalescence with the noun-initial consonant. The following examples show reflexes of these initial consonants with secondary oral grade (i.e. without cliticisation) and with secondary nasal grade (derived from proclitic POC *na). The proto consonants reconstructed in connection with the secondary oral/nasal contrast are discussed after the examples and are summarised in Table 37.

(9.29) POC *p- > PAd *p- (secondary oral grade) > PWAd *f-:

POC *pican 'how many?' > PAd *pica > PWAd *fica > Aua (e)fiha, Wuvulu fika

POC/PAd *panako 'steal' > PWAd *fanao > Aua fa-fanao

(9.30) POC *p- > PAd *mp- (secondary nasal grade) > PWAd *p-, f-/_u:

POC *na padran 'pandanus' > PAd *mpadra > PWAd *para > Aua para, Wuvulu paxa

POC *na pose 'paddle' > PAd *mpose > PWad *poze > Aua pore, Wuvulu paxe

POC *na papine 'woman' > PAd *mpefine > PWAd *pefine > Aua, Wuvulu pifine

POC *na pua 'fruit' > PAd *mpua > PWAd *fua > Aua, Wuvulu fua

In the example below, note that POC *tama, a human kinship noun, belongs to the POC category of personal noun, not common noun, and therefore does not have the common article *na:

(9.31) POC *t- > PAd *t- (secondary oral grade) > PEAd *t-:

POC *tama 'father' > PAd/PEAd *tama- > Nauna, Penchal, Lou, Pak, Koro, Nali, Kurti, Kele, Mondropolon, Likum, Lindrou, Harengan, Hermit, Ponam, Andra, Hus, Bipi, Mokoreng tama-, Baluan tamo-, Lele tami-, Ere, Leipon tima-, Bohuai tumua-, Levei tomo-

POC *tolu 'three' > PAd *tolu- > PEAd *tulu- > Nauna, Penchal tulu-, Lou tele-, Baluan tuli-, Lenkau tolo-, Titan, Mondropolon, Likum, Lindrou, Ponam, Andra, Hus talo-, Koro (mwa)tala-, Lele (ma)toy-, Kurti, Bohuai tol-, Kele (dri)tel-, Ere, Bipi tula-, Harengan, Hermit taro-

(9.32) POC *t- > PAd *nt- (secondary nasal grade) > PEAd *nt-:

POC *na tasik 'sea' > PAd/PEAd *ntasi > Pak des, Titan, Nali, Kurti, Kele, Ere, Lindrou, Andra, Bipi dras, Bohuai ciar, Mondropolon, Levei-Tulu cer, Likum cah 'salt' (-h for exp -r), Lele das, Harengan dah, Hermit dax, Hus nhas, Mokoreng ras

POC *na talise 'Terminalia catappa'> PAd/PEAd *ntalise > Penchal ralis, Pak deih, Titan, Kele, Lindrou, Bipi dralis, Kurti drelis, Ere drilis, Bohuai, Mondropolon calis, Harengan dari, Ponam hales, Mokoreng relis

(9.33)  POC *r- > PAd *r- (secondary oral grade) > PWAd *x-, PEAd *r-:

POC/PAd *rua 'two' > PWAd *xua- > Aua (e)hua(i), Wuvulu -kua (pronoun) dual, Seimat huo-, Kaniet ua; PEAd *rua > Nauna ru-, Penchal lu-, Lou, Kurti, Likum rue-, Nali (ma)li-, Lele (ma)lu-, Ere ruo-, Bohuai lui-, Mondropolon lu-, Levei lue-, Lindrou (ma)la-, Ponam luo-, Andra liwo-, Hus luo-, Leipon (ma)rue-

POC *roŋoʀ 'hear' > PWAd *xoŋ(o) > Seimat hoŋ, Kaniet -oŋ; PEAd *roŋ(o) > Nauna, Penchal loŋ, Nali (hi)liŋ(i), Lele (he)loŋ, Kurti, Ere ruŋ, Kele ruŋ(i), Bohuai (uhu)luon, Likum rohon, Levei (hu)leŋ, Ponam leŋ, Andra (hu)loŋ, Leipon (he)ŋ(e)

(9.34)  POC *r- > PAd *dr- (secondary nasal grade) > PWAd, PEAd *dr-:

POC *na raqan 'branch' > PAd *[dra]dra- > Aua ra-ra-, Wuvulu xa-xa-, Nauna ca-, Nali, Leipon dra-dra-, Lele, Kurti, Kele dra-, Bohuai ca-ca(ʔa), Likum, Lindrou (a)dra, Levei (i)dra, Ponam ha-ha-, Bipi xa-xa-

POC *na ruʀi 'thorn' > PAd *drui- 'bone' > Aua rui-, Wuvulu, Seimat kui-, Nauna ci-, Nali, Kele, Lindrou, Andra, Leipon drui-, Likum, Levei cui-, Ponam, Hus hui-

(9.35)  POC *s- > PAd *s- (secondary oral grade) > PWAd, PEAD *s-:

POC *sai 'who?' > PAd/PEAd *sai > Nauna sii, Penchal si, Pak si, Titan (mo)se, Koro sei, Bohuai (e)reh (lenis *s), Levei (a)reh (lenis *s), Andra (i)se, Leipon si(h), Mokoreng (i)hei (h for exp **s), Loniu he (h for exp **s)

POC *sinaʀ 'shine' > PAd/PEAd *sin(a) > Nauna, Penchal, Pak sin 'sun', Andra, Mokoreng, Loniu siŋ

POC *susu 'breast' > PAd/PWAd *susu- > Seimat, Kaniet susu-, Nauna sus, Penchal, Pak, Titan, Andra, Leipon, Mokoreng, Loniu susu-, Koro (e)sus, Bohuai curu- (c- is secondary nasal grade)

(9.36)  POC *s- > PAd *ns- (secondary nasal grade) > PWAd *ns-, PEAd *c-:

POC *na suluq 'torch' > PWAd *nsul(u) > Seimat lul; PEAd *cul(u) > Nauna, Penchal, Titan, Bohuai, Leipon, Loniu cul, Pak tul

POC *na saman 'outrigger float' > PWAd *nsama > Seimat xam (Smythe n.d.a.), Kaniet tama(yu); PEAd *cam(a) > Nauna, Penchal, Titan, Andra, Hus, Leipon, Mokoreng, Lonui cam, Pak tam, Koro (e)cam

POC *na sapa 'what?' > PWAd *nsa(pa) > Seimat la; PEAd *caf > Nauna, Titan, Leipon, Mokoreng, Loniu cah, Penchal ca/cap, Pak ta, Koro ca, Bohuai ciah, Andra ce(ka)

(9.37)  POC *k- > PAd *k- (secondary oral grade) > PEAd *∅-:

POC *ka[m]i-rua D:1ED > PEAd *ai- ru(a) > Lou e-ru, Lenkau heu (by metathesis < *e-hu), Ere a-ru

POC *ka[m]i-pat D:1EQ > PEAd *ai-fa > Lou, Lenkau e-p, Pak e-h

POC *ka[m]u-rua D:2D > PEAd *au- ru(a) > Lou a-ru, Lenkau hau (by metathesis < *a-hu), Lindrou a-xo, Mokoreng o-u

POC *ka[m]u-tolu D:2T > PEAd *au-tou > Lou, a-re, Kurti, Loniu o-tou, Kele e-ru, Ere a-t, Bohuai u-tuo, Ponam a-ro, Bipi a-rou

POC *ka[m]u-pat D:2Q > PEAd *au-fa > Lou, Lenkau o-p, Pak e-h

(9.38)   POC *k- > PAd *ŋk- (secondary nasal grade) > PEAd *k-:

POC *na kuluʀ 'breadfruit' > PAd *ŋkulu > PEAd *kul(u) > Penchal, Lou, Baluan, Lenkau, Pak, Titan, Kurti, Kele, Bohuai, Mondropolon, Ponam, Andra, Hus, Leipon, Mokoreng kul, Nali, Lele kui, Levei kuŋ, Harengan ʔuŋ, Hermit, Bipi, Loniu kun

POC *na kayu 'tree' > PAd *ŋkai > PEAd *kai > Nauna kii, Lou (pata)kei, Lou ke, Baluan, Lenkau, Pak, Titan, Nali, Kurti, Kele, Ere, Mondropolon, Lindrou, Leipon kei, Koro (para)kei, Bohuai kiai, Likum, Tulu, Hermit, Ponam, Andra, Hus kai, Harengan ʔai, Bipi (para)ki, Mokoreng, Loniu ke

Full correspondence sets are shown in Table 36, but the PAd oral and putative secondary nasal grade phonemes of POC oral-grade phonemes, together with PAd reflexes of POC (primary) nasal-grade phonemes (which are involved in some mergers), are set out in Table 37. Putative PAd secondary nasal grade phonemes are shown there (as in the examples above) as *mp-, *nt-, *ns-, *ŋk- to distinguish them from PAd *b-, *d, *j- and *g- (the secondary nasal grade of POC *r has merged with POC *dr throughout the Admiralties, and this is accordingly written as PAd *dr-). 'Putative' is used deliberately here, since there is no means of being sure whether *n- had coalesced with the following consonant in PAd or whether perhaps the coalescences took place independently after the split of PAd into western and eastern branches. This uncertainty arises from the fact that no secondary nasal-grade reflex of PAd *p- is reconstructible in PEAd and no secondary nasal-grade reflexes of PAd *t- or *k- are reconstructible in PWAd. To reconstruct these secondary nasal-grade phonemes in PAd assumes that re-mergers with the PAd oral grade proto phoneme have taken place in PEAd and PWAd: the doubtful PEAd and PWAd proto phonemes are shown in brackets in Table 37.

TABLE 37: RECONSTRUCTED ADMIRALTIES REFLEXES OF POC ORAL- AND NASAL-GRADE PROTO PHONEMES

| POC | *p- | *na + *p- | *b- |
|---|---|---|---|
| PAd | *p- | *mp- | *b- |
| PWAd | *f- | *p-, f-/_u | *b- |
| PEAd | *p- | *(p-) | *p- |
| POC | *t- | *na + *t- | *d- |
| PAd | *t- | *nt- | no reflex |
| PWAd | *t- | *(t-) | no reflex |
| PEAd | *t- | *nt- | no reflex |
| POC | *r- | *na + *r- | *dr- |
| PAd | *r- | *dr- | *dr- |
| PWAd | *x- | *dr- | *dr- |
| PEAd | *r- | *dr- | *dr- |

| | | | |
|---|---|---|---|
| POC | *s- | *na + *s- | *j- |
| PAd | *s- | *ns- | *j- |
| PWAd | *s- | *ns- | *s- |
| PEAd | *s- | *c- | *c- |
| | | | |
| POC | *k- | *na + *k- | *g- |
| PAd | *k- | *ŋk- | *g- |
| PWAd | *∅- | *(∅-) | *∅- |
| PEAd | *∅- | *k- | no reflex |

I have inferred that the source of the nasal elements in Admiralties secondary nasal grade is the POC common article form *na. The grounds for the inference are distributional: of the two POC noun classes, common and personal, secondary nasal grade affects only common nouns. It does not affect kinship nouns, which we know to be treated as personal in many Oceanic languages; it affects POC *sapa 'what?' (in example 9.36), which is common, but not *sai 'who?' (in 9.35), which is personal. However, we would expect the cliticisation of *na to have affected nouns with initial segments other than those listed in Table 37, and it appears that it did.

Consider the following data:

(9.39)   POC *[na] ikan 'fish' > PAd/PWAd *[n-]ika > Aua nia, Kaniet i; PEAd *nik(a) > Lou, Lenkau nik, Nauna, Penchal, Pak, Titan, Nali, Lele, Kurti, Kele, Ere, Bohuai, Mondropolon, Likum, Levei, Lindrou, Ponam, Andra, Leipon, Mokoreng, Loniu ni

POC *[na][yaŋo]yaŋo 'turmeric', 'yellow' > PAd *[n-][aŋo]aŋo > PWAd *aŋo-aŋ(o) > Seimat aŋo-aŋ; PEAd *[n-][aŋo]aŋ(o) > Nauna, Penchal aŋo-an, Ere, Bipi aŋu-an, Kurti oŋu-an, Kele aŋu-an, Nali n-oŋo-an, Lele n-uŋu-an

POC *[na] ʀabia 'sago' > PAd *[n-]ʀabia > PWAd *abia > Aua pia-pia, Seimat api; PEAd *[n-]ʀapi(a) > Penchal, Lenkau, Mokoreng, Loniu epi, Titan, Ere api, Nali n-api, Bohuai n-ipii, Sori, Hermit ñabi

POC *ikan 'fish' is one of the few unambiguously vowel-initial nouns which is commonly reflected in Oceanic languages: all Admiralties reflexes except Kaniet reflect proclitic *n-. POC *y is lost in PAd, so that POC *yaŋo is reflected as PAd *aŋo: only Nali and Lele reflexes reflect clitic *n-, but this is not surprising, as the etymon has both nominal ('turmeric') and adjectival ('yellow') meanings. With regard to POC *ʀabia 'sago', POC *ʀ became PAd *ʀ (probably [x] or [ɣ]) before *-a-, and this in turn became PEAd *[ɣ], which in some reflexes has raised the following *-a- to -e- or -i- (in Penchal, Lenkau, Mokoreng, Loniu and Bohuai) and in Sori and Hermit has merged with clitic *n- to form *ñ-.

Consider further:

(9.40)   POC *[na] qacan 'name' > PAd *[n-]qaca- > PWAd *aca- > Aua aha-, Wuvulu aka-, Seimat axa-; PEAd [n-]qara- > Sori aha-, Bipi kaxa-, Nauna ŋal, Penchal, Titan, Nali ŋala-, Lou ŋara-, Lenkau, Pak ŋaha-, Lele ŋali-, Lindrou ñara-, Mokoreng, Loniu ŋaʔa-

POC *[na] qaco 'sun' > PAd/PEAd *[n-]qaro > Bohuai, Mondropolon, Ponam al, Bipi ŋan, Mokoreng ŋal

POC *[na] qapuʀ 'lime' > PAd/PEAd *[n-]qafu > Lenkau *kop*, Pak, Lindrou *eh*, Kele, Ere, Bohuai, Mondropolon, Levei, Tulu *ah*, Ponam *af*, Nali, Lele, Leipon, Bipi, Mokoreng, Loniu *ŋah*

POC *[na] qasu 'smoke' > PAd/PEAd *[n-]qasu-[a] > Penchal, Lindrou *kasu-*, Lou, Lenkau *kosu*, Titan *kusu-*, Ponam *aso-*, Bipi *ŋas*, Loniu *ŋesu-*

[a]The final hyphen on a reflex of *qasu indicates that the reflex is apparently always followed by a noun meaning 'fire'.

Each of the four examples above has POC initial *q-, and includes among its reflexes some with initial ŋ- (these always include the Los Negros communalects of Mokoreng and Loniu). It thus appears that this ŋ- reflects *n- + q- and is the Admiralties secondary nasal grade of POC *q-.

It was noted above that the PAd secondary nasal grade of POC *r- has merged with POC *dr- as PAd *dr-. This is also evidence for the unity of the Admiralties subgroup, and is accordingly illustrated here. Reflexes of POC *na raqan 'branch' and *na ruʀi 'thorn' were presented in example (9.34) above to illustrate the PAd secondary nasal grade of POC *r-. The items below share the same correspondence set as those in (9.34), but reflect POC *dr.

(9.41)   POC *dranum 'water' > PAd *dranu > Aua *ranu*, Wuvulu *xanu*, Seimat *kan*, Kaniet *(a)kanu*, Nauna, Baluan *cin*, Penchal *tin*, Lou *ronu-* 'coconut milk', Pak *hen*, Koro, Nali, Lele, Leipon *dran*, Kele *drenu-* 'coconut milk', Bipi *xan*, Mokoreng, Loniu *an*

POC *draʀaq 'blood' > PAd *draʀa- > Aua *rara-*, Wuvulu *xaxa-*, Seimat *kaka-*, Nauna, Likum *cai-*, Pak *kai-*, Titan *lai-*, Kurti, Ere, Lindrou, Andra *draye-*, Kele *drai-*, Bohuai *cayie-*, Mondropolon *cayi-*, Levei *ca-*, Sori, Harengan, Hermit *hai-*, Ponam *hae-*, Hus *nha-*, Bipi *xai-*, Mokoreng, Loniu *ai*

### 9.3.4 Shared innovations in the Admiralties: a stocktake

We are now in a position to take stock of the innovations shared by the Admiralties languages. I have noted that of the three phonological innovations in section 9.3.1, only the first, concerning the fate of POC *ʀ in the Admiralties languages, is of significance for subgrouping. However, in section 9.3.2, seven morphosyntactic innovations shared by the Admiralties languages were listed. Even if it should prove that the first two of these are shared by the St Matthias group (and perhaps the Micronesian languages), we are still left with strong evidence for the Admiralties subgroup, the more so as these innovations include Admiralties secondary nasal grade, discussed in the section above (which in turn includes a further phonological innovation, the merger of the Admiralties secondary nasal grade of POC *r with POC *dr).

### 9.4 Shared innovations of the Western Admiralties family

Shared innovations of the Western Admiralties family are:

A. POC/PAd medial *-s- underwent lenition in Aua, Wuvulu and Seimat, but possibly not in Kaniet (section 9.3.3.1).

B. POC/PAd *j merged with the *fortis* grade of POC/PAd *s as PWAd *s.

C. POC/PAd *r was apparently backed to PWAd *x, to judge from its reflexes Aua, Seimat *h*, Wuvulu *k* and Kaniet ∅.

No shared morphosyntactic innovations have been found: Aua and Seimat, for which morphosyntactic data are available, appear quite conservative grammatically in comparison with PAd.

Innovation A was discussed and illustrated in section 9.3.3.1. It was noted there that only in one item, POC *susu* 'breast', does medial *-s-* remain fortis. However, the same correpondence set is reflected both initially and medially in items reflecting POC/PAd *j*, i.e. POC/PAd *j* has merged with the *fortis* grade of POC/PAd *s* as PWAd *s* (innovation B). Items reflecting POC *j* include:

(9.42)  POC *jalan* 'path' > PAd *jala* > PWAd *sala* > Aua, Wuvulu *tala*, Seimat *sala*, Kaniet *sala(e)*

POC *jujun* 'push' > PAd *jujun-* > PWAd *susun-* > Aua *tutun(ai)*

POC *tajim* 'sharpen' > PAd *taji[m-i]* > PWAd *tasi[m-i]* > Aua, Wuvulu *ati*, Seimat *tasim-i*

POC/PAd *laje* 'k coral' > PWAd *lase* > Aua, Wuvulu *late*, Seimat *las*

Innovation C, the backing of POC/PAd *r* to PWAd *x* with resultant backed reflexes in Aua, Wuvulu and Seimat and zero in Kaniet, was illustrated in word-initial environment (secondary oral grade) in example (9.33). It occurs medially in the examples below:

(9.43)  POC/PAd *muri* 'posterior' > PWAd *muxi-* > Aua *muhi-*, Wuvulu *muki* '(canoe) stern'

POC *matirur* 'sleep' > PAd *matiʀu* > PWAd *matixu* > Wuvulu *maʔiku*, Seimat *matihu(en)*

POC *(q)uraŋ* 'crayfish' > PAd *ura* > PWAd *uxa* > Aua *uha*, Wuvulu *uka*, Seimat *(a)uh*

## 9.5 Shared innovations of the Eastern Admiralties family

Shared innovations of the Eastern Admiralties family are:

A.  POC/PAd initial *p-* merged with POC/PAd *b* as PEAd *p*.

B.  POC/FAd *r* and POC/PAd *c* merged as PEAd *r*.

C.  POC *j* merged with the secondary nasal grade of POC *s* as PEAd *c*.

D.  POC *nus[o,a]* 'squid' is reflected as PEAd *nuy(V)* (for expected **nus(V)).

E.  POC numerals from seven to nine are replaced by a system based on subtraction from ten.

F.  POC *kami* D:1EP and *kamu* D:2P are replaced entirely by their alternants *kai* and *kau*.

G.  The tense/aspect marker PEAd *k-* plays a major role in the verb system, especially in forming the future.

H.  The declarative negative is formed with reflexes of PAd clause-final *pwe[n]*.

Collectively, these shared innovations are more than enough to indicate the unity of the Eastern Admiralties family.

Innovation A merged only POC/PAd initial *p- with POC/PAd *b, as POC medial *-p- had become PAd *-f- (section 9.3.1). The reflexes of POC/PAd *p- before a vowel other than *-u- are illustrated in example (9.12) and below:

(9.44)   POC/PAd *pose '(canoe) paddle' > PEAd *pos(e) > Nauna, Titan, Nali, Lele, Kurti, Kele, Ere, Bohuai, Mondropolon, Tulu, Ponam, Hus, Leipon, Bipi, Mokoreng, Loniu pos, Levei pox, Lindrou bos, Harengan, Hermit boh

POC/PAd *patu 'stone' > PEAd *pat(u) > Pak pur, Titan, Nali, Lele, Kurti, Kele, Ere, Ponam, Andra, Hus, Leipon, Mokoreng, Loniu pat, Bohuai poak, Mondropolon, Likum, Levei, Tulu pok, Lindrou bek, Sori bak, Harengan ba, Bipi pak

POC *b is reflected by the same correspondence set, illustrated by POC *boʀok 'pig' in (9.11), *ʀabia 'sago' in (9.39), and below:

(9.45)   POC *bakiwa 'shark' > PAd *baiwa > PEAd *paiu(a) > Penchal paheu, Pak, Titan, Lele, Kele, Ponam, Andra, Hus, Leipon, Bipi, Mokoreng, Loniu peu, Kurti, Bohuai, Mondropolon peʔeu, Levei peʔei, Lindrou beʔeu, Sori, Harengan, Hermit beu

Before *-u-, initial PAd *p- from both sources is reflected by a correspondence set in which the languages of eastern Manus and the northern offshore islands replace p- by the bilabial trill β̞.

(9.46)   POC/PAd *pudi 'banana' > PEAd *pud(i) > Pak pun, Titan βul, Koro bul, Nali βun, Lele, Leipon βudr, Bohuai, Mondropolon, Tulu puk, Levei pud, Lindrou bur, Sori, Harengan, Ponam, Hus βuh, Hermit bun, Andra βur, Bipi pux, Mokoreng po, Loniu pu

POC/PAd *pulan 'moon' > PEAd *pul(a) > Nauna, Penchal, Lou, Baluan, Lenkau, Bohuai, Mondropolon, Tulu, Mokoreng pul, Titan, Andra, Hus, Leipon βul, Ponam βol, Pak paul, Levei puiŋ, Lindrou bun, Sori, Harengan buŋ, Bipi, Loniu pun

Innovation B, the merger of POC/PAd *r and POC/PAd *c as PEAd *r, has been thoroughly illustrated by Blust (1978a), who drew attention to it as part of his evidence that POC had preserved PAN *j separately from PAN *s/c/z/Z: POC/PAd *c is that separate reflex of *j. The correspondence set reflecting POC/PAd *r is illustrated in (9.33); the same set reflecting POC/PAd *c is exemplified in reflexes of POC *qacan 'name' and *qaco 'sun' in (9.40), and in the example below:

(9.47)   POC *taci 'younger sibling' > PAd *taci 'same-sex sibling' > PEAd *tari- > Nauna teli-, Lou teri-, Pak dehi-, Titan drasi-, Lele deli-, Harengan (na)dasi-, Leipon (ne)deri-, Bipi draxi-, Loniu teʔi-

Innovation C is the merger of POC *j with the secondary nasal grade of POC *s as PEAd *c. The Admiralties secondary nasal grade of POC *s is illustrated in (9.36). The same correspondence set occurs in the following reflexes of POC *j:

(9.48)   POC *jalan 'path' > PAd *jala > PEAd *cal(a) > Nauna, Penchal, Titan, Andra, Hus, Leipon, Mokoreng *cal*, Lou, Baluan, Kurti, Kele, Ere, Mondropolon, Ponam *sal*, Pak *tal*, Nali, Lele *sai*, Bohuai *cial*, Lindrou, Hermit, Bipi, Loniu *san*

POC/PAd *laje* 'k coral' > PWAd *lace* > Nauna, Penchal, Titan, Leipon, Mokoreng, Loniu *lac*, Lenkau, Ponam *las*, Pak *lat*

POC *na kiajo* 'outrigger boom' > PAd *n-kiajo* > PEAd *n-k[a]iaco* > Nauna *kiac*, Penchal *kicic*, Lenkau *keas*, Pak *kayat*, Titan *kacac*, Lele, Kele, Bohuai, Mondropolon *kayas*, Kurti, Lindrou *kies*, Harengan *ie*, Leipon, Loniu *kiec*, Mokoreng *kias*

Innovation D is an idiosyncratic phonological innovation in a lexical item: POC *nus[o,a]* 'squid' is reflected as PEAd *nuy*(V) (for expected **nus*(V). Whereas the only western Admiralties reflex, Seimat *nus*, is as expected, eastern Admiralties forms reflect *nuy*(V) (PAd *-y- normally reflects POC *-ʀ- or *-y-) or, in the arc of islands around the north of Manus, what appears to be a metathesised form reflecting *ñu* (< *nyu*):

(9.49)   POC *nus[o,a]* 'squid' > PEAd *nuy*(V) > Penchal, Lenkau, Pak *nui*, Kele, Bohuai, Andra *nuu*, Ere, Mondropolon *nou*, Harengan *nuk* (-k unexpected), Ponam *ñou*, Bipi, Mokoreng *ñu*

Under innovation E, POC numerals from seven to nine are replaced in all eastern Admiralties languages by a system based on subtraction from ten, where the subtraction morpheme is reconstructible as PEAd *(a)nto-*. Hence we find the numerals one to six following the Oceanic pattern in, for example (with a general numeral classifer added):

(9.50)

|   | POC | PEAd | Titan | Ponam |
|---|---|---|---|---|
| 1 | - | *si-* | si-∅ | si-∅ |
| 2 | *rua* | *ru-* | lu-o | luo-f |
| 3 | *tolu* | *tolu-* | tal-o | talo-f |
| 4 | *pat* | *fa-* | ea-∅ | fa-f |
| 5 | *lima* | *lima-* | lima-∅ | lime-f |
| 6 | *onom* | *ono-* | won-o | wono-f |

(The languages of the South-East Admiralties network have replaced the forms for four, five and six by innovative forms.) However, POC *pitu* 'seven', *walu* 'eight' and *siwa* 'nine' are replaced by:

(9.51)

|   | PEAd | Titan | Ponam |
|---|---|---|---|
| 7 | *(a)nto-tolu-* | ada-tal-o | aha-talo-f |
| 8 | *(a)nto-ru-* | ada-lua-∅ | aha-luo-f |
| 9 | *(a)nto-si-* | ada-si-∅ | aha-se-∅ |

The data supporting innovation F, whereby the full forms of the POC disjunctive pronouns *kami* D:1EP and *kamu* D:2P are replaced entirely by the shorter POC forms *kai* and *kau*, resulting in PEAd *ai-* and *au-* (always suffixed by the reflex of a dual, trial or quadral marker) are shown in example (9.37).

Innovation G refers to the fact that in almost all eastern Admiralties languages for which morphosyntactic data are available, the tense/aspect marker PEAd *k- plays a major role in the verb

system, especially in forming the future/imperative. This is true of Lou, Lenkau, Pak, Titan, Nali, Lele, Koro, Kurti, Kele, Ere, Bohuai, Mondropolon, Lindrou, Ponam, Bipi, Mokoreng and Loniu. No reflex is found in Penchal or Harengan. In Pak, Titan, Nali, Lele, Koro, Ponam, Bipi, Mokoreng and Loniu it also has what seem to be stative or perfective functions. Examples are (reflexes of *k- are glossed simply K-):

(9.52)  Lou (S.E. Admiralties network)

| | | | | |
|---|---|---|---|---|
| *woŋ* | *pa* | *ŋ-ka-lak* | *e* | *baon* |
| D:1S | FUT | S:1S-K-go | PREP | Baon |

'I shall go to Baon.'

Lele (Manus network)

| | | | | |
|---|---|---|---|---|
| *moh* | *po-nawa* | *al* | *k-i-kohis* | *k-e* |
| tomorrow | MALE-Nawa | FUT | K-S:3S-board | K-S:3S.use |

| | |
|---|---|
| *dol* | *ati-n* |
| canoe | PREP-P:3S |

'Tomorrow Nawa will get on his canoe.'

| | | |
|---|---|---|
| *meapo* | *i* | *k-i-n-mat* |
| now | D:3S | K-S:3S-PF-die |

'Now he is dead.'

The origin of this marker is unclear. In form it appears to be cognate with Proto Huon Gulf *g-, but the latter is used in forming the realis (past/present), not the future (cf. paradigms in examples 10.44 and 10.45). Otherwise I know of no cognate marker elsewhere in Oceania (although Bughotu *k-* future looks similar, it is derived from earlier *k-, whereas PEAd **k- comes from earlier *g-).

Under innovation H, the declarative negative is formed with reflexes of PAd clause-final PEAd *pwe[n],* with a reflex in every eastern Admiralties language except Penchal (and no external cognates that I am aware of). It is often accompanied by a preverbal negative morpheme. For example:

(9.53)  Lenkau (S.E. Admiralties network)

| | | | | | | |
|---|---|---|---|---|---|---|
| *woŋ* | *an* | *hes* | *hi* | *kel* | *i* | *pwe* |
| D:1S | NEG.NON-FUT | go.up | PREP | canoe | D:3S | NEG |

'I did not get onto his canoe.'

Titan (Manus network)

| | | | | | |
|---|---|---|---|---|---|
| *yo* | *ne* | *tu* | *ani* | *bul* | *pwen* |
| D:1S | NEG | stay | eat | banana | NEG |

'I'm not eating bananas.'

WESTERN OCEANIC

## 10.1 INTRODUCTION

In the foregoing chapters, I have suggested that the Oceanic languages of WM belong to four clusters: North New Guinea, the Papuan Tip, Meso-Melanesian and the Admiralties. The purpose of this chapter is to examine evidence about the relationship of these clusters (a) to each other and (b) to their Oceanic neighbours, especially their immediate neighbours in the South-East Solomonic group. The latter was firmly established by Pawley (1972:98-110), and has received further support through the work of Levy (1979, 1980, n.d.) and of Tryon and Hackman (1983:65-70), and its integrity does not need justification here.

The Western Oceanic hypothesis, which I outline below, differs considerably from earlier large-scale subgrouping proposals involving WM Oceanic languages. In order to facilitate comparison between these and the Western Oceanic hypothesis, I take the liberty of describing previous studies using the terminology of the present work.

## 10.2 PREVIOUS STUDIES

If we take the topic of this chapter to be the establishment of the largest putative groupings within the WM Oceanic area, then studies based on the comparative method fall into two groups.

The first group consists of the writings of Capell (1969a, 1971a, 1976a), in all of which he takes the position originally proposed in his 1943 work, namely that the AN languages of PNG are descended from several migrations of AN-speakers into the region, and that the task of the comparative linguist is to tease out the contributions made to present-day languages by each of these migrations and by non-AN substrata. This approach leads him to no firm conclusions about the prehistory of the WM Oceanic languages, since, although he divides PNG AN languages into two typological groups based on their clause order – SVO and SOV – it is in the nature of his theory that these are attributable to substratum influences, not to genetic inheritance. As Lincoln (1977; also reported by Pawley 1978:37) indicated for the Rai coast, and as has been shown at various points in this work, unmarked clause order is no criterion for any but the smallest genetic groupings (cf. sections 5.4.3.2, 6.2.2, and 7.5.2). Bradshaw (1982) has used evidence from Huon Gulf languages to give insight into some of the mechanisms which may have effected the transition from SVO to SOV order.

The second group of studies consists of the work of Milke (1958, 1961 and especially 1965), of Chowning's (1973) critique of Milke's proposals, of Pawley's (1978) review of, among others, both Milke and Chowning, and finally of Bradshaw's (1985) position paper on all his predecessors. Milke, unlike Capell, accepted the Oceanic hypothesis and was concerned to identify major groupings among the Oceanic languages (1958). He put forward a number of pieces of evidence which, he believed, defined a New Guinea Oceanic grouping. This grouping included – in the terms of this work – all the then known languages of the Papuan Tip cluster, the known languages of the North New Guinea cluster (these apparently did not include the languages of the South-West New Britain network or the Mengen family), Bali-Vitu and the languages of the Willaumez family (1965:342). Chowning (1973) argued against the inclusion of the Willaumez languages in such a grouping, but conceded that a New Guinea Oceanic grouping might exist: it would include the Central Papuan languages, most but possibly not all the remaining languages of the Papuan Tip region, some languages of the north coast of New Guinea, and perhaps Kove, Bariai and Kilenge. Pawley (1978) agreed that a reduced New Guinea Oceanic grouping might be demonstrable, but not on the basis of the then available evidence. In a more recent paper (1981) he seems to retreat from his 1978 position by implying that the early history of POC is such that we can expect to find only relatively small genetic groupings among its descendants (cf. section 2.3).

Since Milke's New Guinea Oceanic hypothesis has received such careful treatment from his reviewers, discussion here will be limited to a listing of the pieces of evidence for it put forward and/or discussed by Milke, Chowning and Pawley and brief comment on each (Milke's evidence for subgrouping within his New Guinea Oceanic group is not included). The pieces of evidence are:

A.  POC *r and *ʀ merged in New Guinea Oceanic languages (Milke 1958).

B.  New Guinea Oceanic languages place the possessor noun phrase before the head noun phrase (Milke 1965).

C.  When the possessor is a pronoun, New Guinea Oceanic languages mark the possessor not only with a pronominal possessive suffix but also with a phrase-initial disjunctive pronoun (Milke 1965).

D.  The languages of the Ngero family and many in the Papuan Tip cluster reflect *-iai, 'a postposition marking locative or general relation' (Pawley 1978:37).

E.  A number of New Guinea Oceanic languages stretching from Manam to Motu attach pronominal possessive suffixes to adjectives, cross-referencing the person and number of the noun which is modified – attributively or predicatively – by the adjective (Pawley 1978:39-40, but see below).

F.  There are a number of lexical items which appear to be exclusively shared by New Guinea Oceanic languages (Milke 1965; Pawley 1978:32-33).

The first innovation above, the merger of POC *r and *ʀ, cannot strictly define the putative New Guinea Oceanic grouping since, as Milke (1958) recognised, it is also shared by the Oceanic languages of south-west New Britain and of the North-West Solomonic group. As was shown in Chapter 5, the merger has not occurred in a number of members of the North New Guinea cluster, all of which would lie within Milke's New Guinea Oceanic grouping.

Features B and C above were adopted by Milke (1965) from Schmidt (1900) and Friederici (1912, 1913). Milke (1961) recognised that both features were shared by the non-Oceanic languages of eastern Indonesia, and attributed this to a supposed geographical proximity of POC to eastern

Indonesian languages early in its history. He also saw that feature B is not shared by the Willaumez languages, but concluded that they had been influenced by Tolai. The basic thesis of Chowning's (1973) critique of the New Guinea Oceanic hypothesis is that not only this difference, but many others, indicate the genetic separateness of Kove (representing Milke's New Guinea Oceanic languages) and Nakanai (representing the Willaumez group), and that if the New Guinea Oceanic grouping is demonstrable, then the Willaumez languages do not belong to it. As was shown in chapter 8, the Willaumez languages and Tolai all belong to the Meso-Melanesian cluster, and the behaviour of possessive noun phrases is one of the features which provides evidence for the genetic connection between the Willaumez languages and the New Ireland chain to which Tolai belongs.

Feature C is of doubtful value in any subgrouping hypothesis. If it is separated from feature B, then it is only a statement that New Guinea Oceanic languages add a disjunctive pronoun coreferential with the pronominal suffix in a possessive noun phrase. This feature occurs in North-West Solomonic languages and in Oceanic languages outside WM. There are also a number of languages where the presence or absence of the disjunctive pronoun is a choice dependent on discourse considerations.

Pawley (1978:37) says of feature D that it is 'perhaps the single strongest piece of evidence for a New Guinea Oceanic subgroup'. However, he points out that the postposition *-iai is derived from the POC locative preposition *(q)i plus the proform *ai which refers to oblique arguments and is well attested (Pawley 1972:77; Chapin 1974). He says, 'Evidently, in New Guinea Oceanic the locative pronoun *ai was reanalysed as a post-nominal particle and its function was generalised to that of a locative case marker. Further study is needed to determine the precise distribution of this putative innovation.' This distribution is now known, and consists of:

a)  all languages of the Papuan Tip cluster except Tubetube, Sudest, Magori, Yoba and the members of the Kilivila chain;

b)  within the North New Guinea cluster

  i)   all members of the Ngero family except Malai;

  ii)  within the Vitiaz network, Roinji and Biliau;

  iii) within the Markham family, Silisili;

c)  within the Meso-Melanesian cluster, Torau and Mono-Alu.

An interesting feature of this distribution is the co-occurrence of the postposition and of SOV clause order. It is a reasonable assumption that Proto Papuan Tip had a postposition *-iai: it has disappeared from Sudest and the Kilivila chain, all of which languages today have SVO clause order (in Tubetube it has merely been replaced by another postposition, -me, whilst its replacement by a preposition in Magori and Yoba remains unaccounted for). It is an equally reasonable assumption that Proto Meso-Melanesian and its daughter language Proto North-West Solomonic did *not* have a postposition *-iai, and that its presence in Torau and Mono-Alu is associated with the latter's SOV clause order, unusual in the North-West Solomonic chain. The Torau and Mono-Alu case is of special interest, because their reflexes of *-iai as a postposition are probably recent innovations. Their postpositional (enclitic) behaviour is clear in these examples:

(10.1)   Torau:

> nimani   ena   tioni   e-na        wakasi   gesi-ai      mani-pa-lao
> D:1EP    DEM   man     PCL-P:3S    canoe    big-POSTP    S:1EP-TA-go
> 'We shall go in that man's big canoe.'

(10.2)   Mono-Alu:

> soipa    maha-iai      nnta   uaka    sa-na
> Soipa    D:1S-POSTP    TA     work    PCL-P:3S
> 'Soipa is working for me.'

In Mono-Alu, however, *iai* is not only a postposition, but remains the oblique proform, which is its most usual function in Oceanic languages:

(10.3)   maha   ha-i-roroi    ga   ?au   tioŋ   aŋ-i-sa?u      iai    ?au?au
         D:1S   S:1S-TA-see   ?    dog   man    REL-S:3S-hit   OBLP   dog
         'I saw the stick which the man hit the dog with.'

Furthermore, Mono-Alu *iai* occurs as a postposition only in tightly constrained circumstances. It apparently does not occur in Wheeler's texts (Fagan 1986 does not mention it), and alternates in modern Alu with the postposition *-?aŋ* (which is common in Wheeler's texts):

(10.4)   soipa   ema-?aŋ       nnta   uaka    sa-na
         Soipa   Ema-POSTP     TA     work    PCL-P:3S
         'Soipa is working for Ema.'

The postposition *-?aŋ* is evidently derived from *\*ka-na* PREP-P:3S (on *\*ka-*, see section 8.4.2.1) and is not used with a non-third-person head (= pronoun) because of its incorporation of a relic third-person possessive pronominal suffix *(-ŋ)*. Instead, the oblique proform is used coreferentially with the preceding pronoun, so that *maha iai* in example (10.2) means (or originally meant) something like 'me for-that-one'. This distribution indicates that *iai* is still in the process of becoming a postposition in Mono-Alu, whilst it has achieved this status in Torau.

It is apparent, both from this evidence and from the fact that Torau and Mono-Alu are clearly members of the North-West Solomonic group on phonological and morphological grounds, that the Torau and Mono-Alu postposition *-iai* has developed independently of the Proto Papuan Tip postposition *\*-iai*. If this development can occur independently in two places, then there is no reason why it should not occur independently in three or more places. In other words, its presence in Proto Ngero and in occasional other North New Guinea languages may equally be the result of independent parallel development. Hence its value as a potential shared New Guinea Oceanic innovation is low.[118]

Pawley does not put feature E forward as an innovation characteristic of the putative New Guinea Oceanic grouping, but as a warning against using features whose full distribution is unknown. He points out that languages of -- in my terminology -- the North New Guinea and Papuan Tip clusters attach pronominal possessive suffixes to adjectives, cross-referencing the person and number of the noun which is modified by the adjective, as in:

(10.5)   Duau

*hada   kehau-na*
house   new-P:3S
'a new house'

*hada   kehau-di*
house   new-P:3P
'new houses'

but adds that the same feature is found in Roviana (of the Meso-Melanesian cluster) and therefore cannot be treated as a New Guinea Oceanic innovation. It happens that feature E is also found in Mono-Alu, and there is evidence, in the form of a fossilised *-n* on some adjectives in Admiralties languages, that a reflex of POC *-ña* P:3S may also have been attached to PAd adjectives:

(10.6)   Seimat:      *solia-n*      'good'
                      *lialu-n*      'bad'
                      *xuha-n*       'full'
                      *kaka-n*       'red'      (cf. *kak* 'blood')
                      *kuii-n*       'strong'   (cf. *kui* 'bone')

         Kele:        *namada-n*     'big'
                      *uye-n*        'good'
                      *elwe-n*       'long'
                      *mewi-n*       'new'
                      *pode-n*       'black'

The distribution of this feature thus includes all four of the WM clusters, but, it seems, no languages outside WM. Whilst this appears a promising feature for a subgrouping of all WM Oceanic languages, there are two objections to interpreting it in this way:

a)   it is the only known feature common to the four WM clusters but not found outside WM;

b)   its distribution among and within WM Oceanic languages is inconsistent: in the Meso-Melanesian cluster it occurs only in Mono-Alu and Roviana, and there only in limited environments (predicatively in Roviana); in Manam it is found only with certain adjectives (Lichtenberk 1983:266-269, 312-331); only in languages of the Papuan Tip cluster is it an obligatory feature.

It is more probable that this feature existed as an alternant in POC, probably within the context of noun phrases in which the adjective was treated as head, the noun as attribute (section 5.5.1.1), and that this alternant became the norm in Proto Papuan Tip (section 6.2.2) and possibly in some other Oceanic languages. That no reflexes are found in non-WM Oceanic languages might be a (weak) subgrouping feature of Central-Eastern Oceanic languages (cf. Lynch and Tryon 1985 and section 10.4 below), but it has no subgrouping significance for languages in WM.

Feature F refers to the fact that Milke (1965) found a number of lexical items which appeared to be exclusively shared by New Guinea Oceanic languages. For the reason given in section 1.6, I am skeptical about the validity of this kind of subgrouping evidence, and this skepticism is confirmed by the fact that Chowning and Pawley are able to refute so many of Milke's 'uniquely shared' lexical innovations.

In sum, the six features which are discussed in the literature in connection with the New Guinea Oceanic hypothesis do not add up to firm evidence in its favour. Below I propose the Western Oceanic hypothesis as an alternative to it.

## 10.3 THE WESTERN OCEANIC HYPOTHESIS

The Western Oceanic hypothesis is that three of the four clusters identified in WM form a single grouping which I call 'Western Oceanic'. These three clusters are the North New Guinea, Papuan Tip and Meso-Melanesian clusters, which, I argue below, share certain innovations which do not appear to have occurred either in the Admiralties or in Central-Eastern Oceania. The difference between this and Milke's New Guinea Oceanic hypothesis is that the proposed Western Oceanic grouping covers a much larger geographical area by including the Meso-Melanesian cluster, the languages of which Milke largely sought to exclude from his New Guinea Oceanic grouping.

The presentation of the Western Oceanic hypothesis falls into three parts. In the first (and longest), the innovations characterising Western Oceanic are described; the second deals with the external relationships of Western Oceanic; and in the third evidence concerning the genesis of the Western Oceanic grouping is examined.

### 10.3.1 SHARED INNOVATIONS OF WESTERN OCEANIC LANGUAGES

There are no phonological innovations shared by all Western Oceanic languages except the merger of POC *d and *dr. However, this is also shared by the languages of Micronesia (Jackson 1986), the South-East Solomons family (Tryon and Hackman 1983) and the Torres and Banks Islands, Aoba and Maewo of northern and central Vanuatu (Tryon 1976).

The innovation with which Milke hoped to define the New Guinea Oceanic grouping, the merger of *r and *R, does define the boundaries of the Western Oceanic grouping: it has not occurred in either of the two geographically contiguous groups – the Admiralties cluster and the South-East Solomonic family – or in Mussau. But, as I have shown, this merger has not occurred in parts of the North New Guinea cluster, and is therefore not a shared Western Oceanic innovation. I return to the merger of POC *r and *R in section 10.3.3 below.

We therefore turn to shared morphosyntactic – or more precisely, morphological – innovations to define the Western Oceanic group. There are five of these:

A. Almost all Western Oceanic languages have a reflex of the innovative third person plural disjunctive pronoun form Proto Western Oceanic (PWO) *idri[a]. To the best of my knowledge, it is not reflected outside the clusters comprising Western Oceanic.

B. Languages of the three Western Oceanic clusters reflect the form *ta indefinite article. This appears to be an innovation.

C. In the course of moving from a Type A (simple) to a Type B (complex) verb phrase morphology, languages of the three Western Oceanic clusters have incorporated the tense/aspect marker *-na- 'future'[119] into the verb phrase, suggesting that they share a period of common morphosyntactic development.

D. No language in Western Oceanic reflects the variant *-akini of the 'remote transitive suffix'. The variant *-aki is reconstructible in PWO but was apparently in competition with alternative dative-shift markers.

E. The prepositional forms *pa- 'instrumental, locative', *ŋa- 'instrumental, refective', and *ka- 'benefactive' are apparently not reflected outside Western Oceanic. However, they are also not found in the Papuan Tip cluster, where the change to SOV clause order has resulted in the loss of all prepositions.

The weakest of the innovations listed above is clearly the last. It is not adequate to claim as evidence that the forms one had hoped to find (in the Papuan Tip cluster) cannot be found because their morpheme-class has ceased to exist. Whilst it may be inferred that relevant forms may have occurred in some precursor of Proto Papuan Tip, we may not infer that they did occur. Hence the last of these five innovations amounts to a claim about the North New Guinea and Meso-Melanesian clusters, but can say nothing about the Papuan Tip cluster. Since the history of these prepositions was discussed in section 4.5.4, I shall not return to it here.

### 10.3.1.1  PWO *idri[a] THIRD PERSON PLURAL DISJUNCTIVE PRONOUN

This section examines the evidence for an innovative form PWO *idri[a] D:3P.

Pawley (1972:67) reconstructs the Proto Eastern Oceanic third person plural forms (in my orthography) disjunctive *(k)ira and possessive *-dra. The corresponding Proto Malayo-Polynesian forms reconstructed by Blust (1977) are disjunctive *i-Da/*si-Da and possessive *ni-Da, and, apart from the facultative *(k-) of the disjunctive form, Pawley's PEO reconstructions are the direct descendants of these (Blust argues that PMP *ni- is the source of the prenasalisation in Pre-POC forms such as *n-da P:3P, *ŋ-ku P:1S which gave rise to the prenasalised voiced consonants of POC *-dra, *-gu, etc.). We would therefore expect the POC forms to be identical with the PEO forms.

This expectation is justified in the case of the disjunctive form POC *(k)ira (for which no reconstruction has previously been published), in that, in addition to Central-Eastern Oceanic reflexes such as:

(10.7)  <u>South-East Solomonic:</u> (Proto South-East Solomonic *[i]yira >) Bugotu ira, Gela (ga)ira, West Guadalcanal, Talise (i)yira, Logu yira, Kwaio gila, 'Are'are, South Malaita (i)kira

<u>North/Central Vanuatu:</u> Merlav kira, Navenevene yira, Tam (i)yira, Toak xil, Maat yil, Paamese (ka)ile, Tasmate, Malmariv, Nonona, Matae ire, Fortsenal, Tambotalo ira, Malua Bay xar, Sesake (na)ra, Nguna (naa)ra

<u>Interior Malekula:</u> Big Nambas (h)ir

<u>Micronesia:</u> (Proto Micronesian *ira >) Ponapeic, Mokilese ihr, Marshallese yer, Kosraean el(tahl) (Jackson 1986; original orthography retained)

<u>Central Pacific:</u> Bauan Fijian ira

we find corroborative evidence in WM in the shape of:

(10.8)  St Matthias: Mussau *ila*

Admiralties: (Proto Admiralty *(i)ra-tou* D:3T, *(i)ra-fa* D:3Q), Seimat *ha(to)*, *ha(wa)*

Central Papuan: Keapara (Hula, Aroma) *ila*, Sinagoro (Balawaia) *γila*

Choiseul: Varisi *-gira* O:3P, Ririo *(z)ar* (by regular metathesis of **zira*), Babatana *(z)ira*, Sengga *öra*

(Reflexes are found in no other Admiralties languages; Eastern Admiralty forms reflect an apparent proto form PEAd *si*, but reflexes are confused.) All Western Oceanic languages other than the Central Papuan and Choiseul languages cited here have replaced POC *(k)ira* by a reflex of PWO *idri[a]* or some other form.[120]

In the case of the putative possessive form POC *-dra*, the situation is not as straightforward. As Lichtenberk (1985:113) has shown, there is evidence for the reconstruction of three alternants for the POC third person plural possessive, namely, *-dri*, *-dria*, and *-dra*. The first and second of these, which will here be written as *-dri[a]*, are unexpected, and are discussed below. The third is the predicted form, but its reflexes are fewer than those of the disjunctive *(k)ira:*

(10.9)  St Matthias: Mussau *-(i)ra*

South-East Solomonic: (Proto South-East Solomonic *-dra* >) Logu *-da*, Kwaio *-ga*, 'Are'are *-ta*, South Malaita *-te*

North/Central Vanuatu: Nguna *-ta*, Sesake *-da*

Central Pacific: Bauan Fijian *-dra*

The presence of fewer reflexes of *-dra* than of *(k)ira* is the result of three occurrences. One is that in the Admiralties all non-singular possessive pronoun suffixes have been replaced by the corresponding disjunctive forms. The second is analogical change such that a language's reflex of *-dra* comes to have the same consonant as its reflex of *(k)ira*, i.e. it appears to reflect **-ra*, although this form apparently did not occur in POC. Cases of this are:

(10.10)  South-East Solomonic: Talise *-ra*

North/Central Vanuatu: Merlav *-ra*, Paamese *-le*, Big Nambas *-(a)r*

Micronesia: (Proto Micronesian *(i)ra* >) Marshallese *-yer*

The third occurrence is that there are ample reflexes in WM, and some in South-East Solomonic, of the alternative POC possessive form *-dri[a]*. South-East Solomonic reflexes are:

(10.11)  South-East Solomonic: (Proto South-East Solomonic *-di[a]* >) Bugotu *-dia*, Gela, West Guadalcanal *-di(ra)*,

The following are a sample of WM forms:

(10.12)  Ngero: Lusi *-ri*, Bariai *-d*, Malai *-di*

Residual Vitiaz: Kilenge *-re*, Lukep *-di*

Bel: Mindiri, Bilibil, Matukar *-di*, Takia *-di*, Gedaged *-di(n)*

Schouten: Medebur, Manam, Wogeo *-di*, Kairiru *-ñi*, Ali, Tumleo *-r*

South-West New Britain: Amara -de, Psohoh -ri

Mengen: Uvol, Poeng -ria, Maeng -re

Papuan Tip: Kakabai, Bwaidoga, Molima, Dobu, Duau, Suau (Sariba, Kwato, Daui), Magori -di, Tubetube -li, Misima -lia, Sudest -ji, Keapara (Hula, Aroma), Sinagoro (Balawaia) -ria, Motu -dia, Roro -kia, Mekeo -ʔi[121]

Bali-Vitu: Bali -di, Vitu -dia

Willaumez: Bulu -dia, Nakanai -gi(teu)

New Ireland: Tigak -ri, Lavongai -ria, Tabar -dia, Notsi, Lamasong, Barok, Sursurunga, Tomoip -di, Patpatar, Duke of York -di(et), Tolai -di(at)

North-West Solomonic: Petats -ri(ru), Halia (Haku, Hanahan) -r(en), Taiof -r, Teop -ri, Torau -dia, Banoni -ri, Varisi -ria O:3P, Ririo ja(r) (by regular metathesis of **ji-ra), Babatana -di(ra), Sengga - dö(ra), Nduke -di, Roviana, Hoava -dia, Kia, Blablanga, Ghove, Maringe -dia

It could reasonably be argued that the South-East Solomonic reflexes of *-dri[a] are the result of their proximity to North-West Solomonic languages and that *-dri[a] represents a Western Oceanic innovation. Whilst the argument from proximity may well be valid for the South-East Solomonic reflexes, there are grounds for inferring that *-dri[a] is of at least POC antiquity. Firstly, when we look at the very few Western Oceanic languages (Sinagoro, Keapara and the Choiseul languages) in (10.8) which have preserved reflexes of the disjunctive *(k)ira (which we know on the basis of both internal and external reflexes to be of POC antiquity), we find that these languages have possessive forms reflecting *-dri[a], not *-dra or **-ra as the preservation of the disjunctive form might lead us to expect. Secondly, there are scattered forms elsewhere in Central-Eastern Oceania which reflect a form in which the first or only vowel is *-i, not *-a. Lynch (1986) reconstructs Proto South Vanuatu *-Lia and emphasises the need to reconstruct *-i-; Rotuman has -ri(sa).[122] Thirdly, external evidence suggests that POC inherited *-dri[a] from a PEMP form *-ndi(a), since it is also reflected in South Halmahera languages as Buli -ri, East Makian -di[123] (West New Guinea languages have lost the possessive pronominal suffix set).

Hence there are grounds for reconstructing:

| | | |
|---|---|---|
| POC | *(k)ira | D:3P |
| POC | *-dra | P:3P |
| | *-dri[a] | P:3P |

Within the three clusters of Western Oceanic languages, however, we find many reflexes of the third person plural disjunctive form *idri[a]:

(10.13) Ngero: Lusi (as)iri, Bariai (g)id

Residual Vitiaz: Kilenge ire, Lukep di

Bel: Mindiri, Matukar di, Bilibil id, Takia iŋ

Schouten: Medebur adi, Manam di, Wogeo dia, Kairiru ñi, Ulau-Suain adi, Ali, Sissano re, Tumleo, Sera rei

South-West New Britain: Amara ide, Atui (Lesing) ir, Psohoh ri

Mengen: Uvol *iri*, Mamusi (Kakuna) *eri*, Poeng, Maeng *ri*

Papuan Tip: Misima *(h)elia*, Nimoa *(s)idie*, Sudest *jie*, Magori *idi*, Motu *idia*, Kuni *isi*

Bali-Vitu: Bali *di(ro) D:3D*, *di(tolu) D:3T* (but ɣ*izi* D:3P), Vitu *dia*

Willaumez: Bulu, Bola *ria*, Nakanai *egi(teu)*

New Ireland: Tigak *(na)ri*, Lavongai *ri-ria*, Tabar *dia*, Notsi, Barok, Sursurunga, *di*, Lamasong *(na)di*, Patpatar, Duke of York *di(et)*, Tolai *di(a)/di(at)*

North-West Solomonic: Banoni *(na)ri*, Nduke, Hoava *ria*, Roviana *ari*

The reflexes of *\*idria* above are well distributed among the three clusters of Western Oceanic, and provide good grounds for proposing that they constitute a shared innovation of Western Oceanic. Precisely because this is proposed, however, it is important that certain peculiarities of form and distribution be examined.

The formal peculiarities concern the fate of the initial vowel of *\*idria*, which in some reflexes is lost and in others replaced by *a-*.

The reason for the loss of *\*i-* appears to be that it was a separable pronoun-initial element in the POC disjunctive pronouns. Pawley 1972:58, 61-63 reconstructs it as a PEO 'pronominal article'. PWO *\*idri[a]* is made up of this separable disjunctive-marking element *\*i-* and the POC possessive pronominal suffix *\*-dri[a]*. Hence *\*i-* is missing from some reflexes of *\*idri[a]* D:3P just as it is also missing from some reflexes of POC *\*iau* D:1S and *\*iko[e]* D:2S. Examples (10.14) and (10.16) below show WM reflexes of *\*iau* and *\*ikoe* which have retained *\*i-*, (10.15) and (10.17) WM reflexes which have lost it:

(10.14) POC *\*iau* D:1S >

Ngero: Kove *iau*, Bariai ɣ*au*, Gitua *yau*

Residual Vitiaz: Kilenge *iau*

Schouten: Bam *(n)iau*, Kairiru *(k)yau*, Ulau-Suain *jau*

Papuan Tip: Ubir *yau*, Are *yau[ku]*, Yamalele, Sewa Bay, Tubetube, Suau (Sariba, Kwato, Daui) *yau*, Keapara (Aroma) ð*au*, Motu *lau*, Kuni *yau*

Bali-Vitu: Bali, Vitu ɣ*au*

Willaumez: Bola *iau*, Meramera (clause-initially) *iau*

New Ireland: Tiang *(n)iəu*, Nalik *(n)ia*, Notsi *ya*, Lihir, Barok *yo*, Patpatar, Minigir, Tolai, Label *iau*

North-West Solomonic: Halia (Hanahan) *(a-l)ia*, Papapana *(a-n)iau*

(10.15) POC *\*au* D:1S >

Residual Vitiaz: Lukep, Malasanga *au*

Schouten: Kis *au*

Papuan Tip: Misima, Nimoa, Magori *(n)au*

Willaumez: Meramera (clause-medially) *(e)au*

New Ireland: Lavongai *(n)au*, Tabar *au*

North-West Solomonic: Torau *(i-n)au*

(10.16) POC *iko[e]* D:2S >

Schouten: Wogeo *iko*, Kis *ikuo*, Kaiep *ik*, Ulau-Suain, Ali *i*

Willaumez: Bola *ioe*

North-West Solomonic: Papapana *(a-n)ioi*

(10.17) POC *ko[e]* D:2S >

Bel: Mindiri *kuo*, Wab, Biliau, Gedaged *o*

Papuan Tip: Arifama (Meniafia) *o*, Duau, Tubetube, Suau (Sariba) *ko(a)*, Misima *ho(a)*, Nimoa *huo*, Keapara (Aroma), Sinagoro (Balawaia) *yoi*, Motu, Doura, Kuni, Roro *oi*

Bali-Vitu: Bal*i (o)yo*, Vitu *yo*

Willaumez: Bulu *(e)yo*, Bola (Harua) *koe*

New Ireland: Tabar *(v)oi*

North-West Solomonic: Halia (Haku, Hanahan) *(a- l)o*, Banoni, Roviana *(a)yoi*

The replacement of *i-* by *a-* in some reflexes of *idria* in (10.13) is apparently the same phenomenon as we find among North-Solomonic reflexes of *iau* in (10.14) and of *ikoe* and *koe* in (10.16) and (10.17). The most likely explanation of this replacement is that *a-* reflects POC *a* common article (cf. Table 33 and accompanying discussion).

The distributional peculiarities in (10.13) concern the Papuan Tip cluster and the North-West Solomonic chain.

There are relatively few Papuan Tip reflexes of *idri[a]*. This is due to four factors. Firstly, the languages of the Are-Taupota, Kakabai, Bwaidoga and Dobu-Duau chains have in most cases replaced their inherited disjunctive pronoun sets with a (formerly emphatic?) set consisting of the reflex of POC *tau* 'person', 'body' + the possessive pronoun suffix, so that we find, for example, Kakabai,Molima, Dobu, Duau *taudi* D:3P. Secondly, the languages of the Suauic network have forms with *-s-* or *-t-* where we expect **-d-*: Suau (Sariba), Tubetube *sia*, Suau (Kwato) *isi*, Suau (Daui) *iti*. These may be reflexes of *idri[a]*. Thirdly, Keapara and Sinagoro retain reflexes of POC *(k)ira* (cf. 10.8), a phenomenon to which I return in section 10.3.3. Fourthly, the West Central Papuan languages other than Kuni reflect the form POC *ia* D:3S as third person pronoun, both singular and plural.

Turning to the North-West Solomonic forms in (10.13), the Nduke, Hoava and Roviana reflexes listed in (10.13) have an unexplained *-r-* for expected **-d-*. The majority of North-West Solomonic forms, i.e, those not listed in (10.8) or (10.13), appear to be derived from neither *(k)ira* nor *idri[a]*, but to contain as a second element a reflex of the possessive pronoun suffix POC *-dri[a]*:

(10.18) Petats, Halia (Haku) *arori*, Halia (Hanahan) *nori*, Taiof *areh*, Teop *eori*, Torau *iodi*, Kia, Blablanga *maneri*, Ghove, Maringe *mare*

Torau *io-di* is a demonstrative (*io-na*, its singular equivalent, doubles as third person singular disjunctive pronoun), and it is possible that the other items in (10.18) have a similar origin.

Despite these formal and distributional peculiarities in the reflexes of *idri[a]*, the latter are more than well enough distributed among the three clusters of Western Oceanic to justify the reconstruction of PWO *idri[a]*. No reflexes of *idri[a]* are found in the Admiralties or in Central-Eastern Oceanic languages, and none occur in data from SHWNG languages.[124] Hence the form *idri[a]* D:3P is evidently a Western Oceanic innovation.

### 10.3.1.2 PWO *ta* INDEFINITE ARTICLE

The morpheme PWO *ta* indefinite article is found well distributed throughout the languages of the three Western Oceanic clusters, and represents an innovation. It is apparently not found in non-Oceanic AN languages, and the few apparent cognates which occur in other Oceanic languages seem to represent independent parallel developments.

Data supporting the reconstruction of PWO *ta* indefinite article are:

(10.19)  North New Guinea cluster:

Residual Vitiaz: Mangap *ta* 'one', Roinji *ta* indefinite article

Bel: Minidiri, Bilbil, Gedaged, Takia, Matukar *ta* indefinite article

Schouten: Wogeo, Kis *ta* indefinite article

Huon Gulf: Yabem *ta(geŋ)* 'one', Sirasira *ta(gua)*, Maralango, Dangal *ta(kanag)* 'one'

South-West New Britain: Kaulong, Psohoh *ta* 'one'

Papuan Tip cluster:

Are-Taupota: Ubir *(kai)ta(mo-m)* 'one', Doga *ta(mo-na)* 'one', Anuki *ta(na) one*, Wedau *ta(gogi)* 'one'

Bwaidoga network: Yamalele *(ʔai)ta(moga-na)* 'one'

Central Papua: Sinagoro (Balawaia) *ta* 'one', Keapara (Aroma) *a(pua)*, Motu *ta*, *ta(mo-na)* 'one', Doura *ka(o-na)*, Lala *ka* 'one', Gabadi *ka*, *ka(pea)* 'one', Roro *ha*, *ha(mo-na)* 'one', Kuni *ka(u-na)* 'one'

Meso-Melanesian cluster:

Bali-Vitu: Bali *ta* indefinite article, Vitu *ta(ða)* indefinite article

Willaumez: Bola *ta(ku)* 'one', Bola (Harua) *ta(ra)* indefinite article, Meramera *ta(sa)* 'one'

Lavongai-Nalik: Lavongai, Tigak, Kara, Nalik *ta* indefinite article, Tiang *tə* indefinite article

Central/South New Ireland: Lamasong, Barok, Tangga, Patpatar, Minigir, Tolai, Label, Duke of York, Siar *ta* indefinite article, Konomala*tə* indefinite article, Sursurunga *te* indefinite article

North-West Solomonic: Petats, Halia (Haku, Hanahan), Taiof, Teop *ta* indefinite article, Roviana *ta(sa)* 'one' (in counting)

Where an item is glossed indefinite article, it is used as in the following examples:

(10.20)  Wogeo (Shouten chain)

> *va      veine    ta      o-romei  kaintua*
> D:1S   woman   ART   S:1S-see  just.now
> 'I saw a woman just now.'

Bilbil (Bel family)

> *yeb    ta      ponu-g*
> areca  ART   give-P:1S
> 'Bring me an areca nut!'

Bali (Meso-Melanesian cluster)

> *wagi   ta      kaura    kir-a        rumaka*
> bring  ART   bamboo  PREV-ART  house
> 'Bring some bamboo for the house!'

Nalik (New Ireland)

> *suruk   tak-u        ta      bua*
> bring   PREP-P:1S   ART   areca
> 'Bring me some areca nut!'

Tolai (Mosel 1984:18)

> *una     kul   pa    ta    ier    ma    ta    buai*
> S:2S.TA buy  PREP  ART  betel  and   ART  areca
> 'Buy some betel pepper and some areca nut!'

Petats (Bougainville)

> *polas-ma   ta      tapalan    wele*
> carry-DIR  ART   some        coconut
> 'Bring me some coconut!'

As the examples above indicate, *ta* is an article, at least in Meso-Melanesian languages, in that it precedes the noun, occupying the same slot as reflexes of *a common article. It is not a numeral (i.e. one), as the position for numerals is after the noun: Nalik *a maraŋ a sake* 'one coconut', *sake* = 'one'. The status of *ta* in North New Guinea languages is a little less clear, as like all modifiers it follows the noun. Mosel (1984:17-18) says that the use of *ta* in Tolai differs from English usage in that the indefinite article is only used when the (indefinite) referent is mentioned for the first time (at subsequent mentions the common article *a* is used). This appears to be true of the other languages which have reflexes of *ta* as indefinite article.

A number of the items in (10.19) are glossed 'one' rather than indefinite article. However, there are two reasons for glossing the reconstructed proto form as indefinite article rather than one.

The first reason is the distribution of the two glosses among the items in (10.19). Reflexes of *ta* in the languages of the North New Guinea and Meso-Melanesian clusters usually serve as the indefinite article. Only in three languages of the North New Guinea cluster, Mangap, Kaulong and Psohoh, does *ta* serve only as the numeral 'one'. In the Huon Gulf languages (of the North New Guinea cluster) and in Bola, Meramera, and Roviana (of the Meso-Melanesian cluster), reflexes of

*ta also serve as the numeral, but in conjunction with a second item. In the Huon Gulf languages and in Bola, the second item evidently means 'only' (in Yabem ta-geŋ, -geŋ certainly means 'only'; in Bola ta-ku, -ku reflects PWO *ku 'only'), whilst in the cases of Meramera and Roviana ta-sa, Bola (Harua) ta-ra (and Vitu ta-ða indefinite article), the second morpheme reflects POC *sa 'one'.

Among the languages of the Papuan Tip Cluster, reflexes of *ta always serve as the numeral 'one' (these languages have no articles), but only in some languages of the Central Papuan family may the reflex of *ta alone mean *one*. In the languages of the Are-Taupota and Bwaidoga groups, and in most Central Papuan languages, reflexes of *ta behave in the same way as in the Huon Gulf languages and Bola: 'one' is expressed by a combination of *ta + 'only' and/or a reflex of *-ña P:3S marking singularity. Thus Anuki ta-na 'one' reflects PWO *ta-ña 'one' + P:3S, whilst Doga, Motu ta-mo-na, Roro ha-mo-na reflect PWO *ta-mo(qa)-ña 'one' + 'only' + P:3S and Doura ka-o-na, Kuni ka-ku-na reflect PWO *ta-ku-ña 'one' + 'only' + P:3S .

This distribution suggests strongly that the following may be reconstructed:

| | |
|---|---|
| PWO *ta | indefinite article |
| PWO *ta-mo(qa)-ña | 'one' |
| PWO *ta-ku-ña | 'one' |
| PWO *ta-sa | 'one' |

As these reconstructions indicate, PWO *ta was only used for 'one' with the support of another morpheme; the use of the reflex of *ta alone for 'one' is a later development which has occurred only sporadically (and is only an alternant in several Central Papuan languages).

The second – and complementary – reason for glossing PWO *ta as indefinite article rather than one is that there are three other items which have been reconstructed in POC meaning one, and all three of them also have reflexes in Western Oceanic languages. The three items are:

| | |
|---|---|
| POC *sa | 'one' (Blust 1972) |
| POC *-kai | 'one' (Grace 1969) |
| POC *tai | 'one' (Lynch 1977a) |

Since one belongs to a closed system, that of the numerals, it is surprising that we find more than one or two items for it. It is most unlikely that *ta, a fourth item, had the same meaning. Furthermore, if *ta had originally meant one, then we would expect to find reflexes of the other three items undergoing the same extension/change of meaning from one to indefinite article – but this is precisely what we do not find. Only *ta has the indefinite article meaning.

It is probable that there is a historical relationship between PWO *ta indefinite article and POC *tai 'one', although it is not clear exactly what that relationship was. Characteristically in Oceanic languages, the glide *ai is reduced to *e, especially when it is unstressed. This is exactly what happens in the following reflexes of POC *kai 'one', drawn from a range of languages:[125]

(10.21)  South-West New Britain: Aria ke(ne), Arove, Akolet, Bebeli ke

Papuan Tip: Taupota ʔe(mosi), Are ke(sa-na), Tubetube ke(sega), Suau (Sariba) ʔe(sega)

North-West Solomonic: Tabar ke(sa), Sursurunga ke(s), Nduke ke(ka), Roviana ke(ke), Hoava ke(ke)

West Guadalcanal *ke(sa)*

Hence we would expect POC *\*tai* 'one' to be reduced, if at all, to *te* rather than to *ta*. Reflexes of POC *\*tai* (as opposed to PWO *\*ta*) do occur sporadically in WM, either without reduction or with reduction of *\*-ai* to *-e*:

(10.22) North New Guinea: Tami *te*, Sio *tai(tu)*, Gedaged *tai(mo-n)*, Kairiru *tai*, Ali *tei*

Papuan Tip: Arifama *tai(mo-na)*, Arifama (Meniafia) *tai(mo-n)*

It thus seems rather unlikely that the form *ta* generally reflects *\*tai*. However, the resemblance of form, whatever its historical origins, does cause a problem. The formal resemblance between the items in (10.19) on which the reconstruction PWO *\*ta-mo(qa)-ña* 'one' above is based and Gedaged *tai(mo-n)*, Arifama *tai(mo-na)*, Arifama (Meniafia) *tai(mo-n)* is self-evident. What we do not know with certainty is whether *\*tai* 'one' originally occurred in this structure and was later replaced by *\*ta*, or whether the structure originally contained *\*ta* which was replaced by reflexes of *\*tai*. Frequency of occurrence favours the latter.

A difficulty with the hypothesis I have proposed here concerning putative PWO *\*ta* indefinite article is the existence of occasional possible reflexes outside the clusters of Western Oceanic. Some of these, at least, are apparent rather than real. Pawley (1973:52) quotes the following in support of his PEO reconstruction *\*ta(n)sa* 'one': Vaturanga *tasa*, Gela *eta*, Arosi *ta*, Tasiko, Baki *tai* and Nogugu *tamo*. Of these, the Tasiko and Baki items reflect *\*tai*. The source of Pawley's Gela *eta* 'one' is unclear, as it is not given by Codrington (1885), nor by Ivens (1937), nor by Tryon and Hackman (1983) (Gela has *sakai* 'one'). Arosi *ta* reflects POC *\*sa* 'one', not *\*ta* or *\*tai*. Nogugu *tamo* is not a numeral but, from Ray's (1926:400) account, appears to be a demonstrative proform ('the one' in 'the one you have chosen'); the Nogugu numeral 'one' is *tewa*, confirmed by Tryon's (1976) *teu*. This leaves Vaturanga *tasa* 'one at a time' as a potential counter-example to the claim that *\*ta* is exclusive to the Western Oceanic languages, but the origin of *ta-* is suspect (it may reflect POC *\*ta-* intransitive formative), as the base of this form is *sa*, also occurring in Vaturanga *kesa*, the usual word for 'one' (< POC *\*sa* 'one').

A perhaps more substantial piece of counter-evidence to the exclusivity of *\*ta* is found in the languages of Epi (Central Vanuatu; Tryon 1976:408), where the word for 'one' in a number of cases contains *ta-*:

(10.23) Lewo *taŋa*, Tavio *tayana*, Bonkovia *ta*, Burupika *takoran*, Yavali *ta*, *takore*

However, the presence of Baki *tai* in the same group of languages suggests that the items in (10.23) are derived from POC *\*tai*. Confirmation of this must await greater knowledge of the history of the languages of Epi. In view of their distance from WM, however, and the lack of counter-evidence in the intervening region, it seems probable that PWO *\*ta* indefinite article does indeed constitute an exclusively shared Western Oceanic innovation.

### 10.3.1.3 PWO *-na-* FUTURE MARKER

POC evidently inherited a Type A verb phrase like that found in the majority of North New Guinea languages, and illustrated in examples 4.11 and 4.12, whereby the future was marked by a morpheme outside (and usually preceding) the verb phrase (section 4.4). At various places and times in the history of the Oceanic languages pre-verbal (and sometimes post-verbal) free morphemes have been incorporated into the verb phrase as bound morphemes. There are at least two potential sources for

these morphemes: verbs and adverbs.  Lynch (p.c.) has noted that this process is occurring in Tok Pisin of PNG at the moment.  The verb *save* 'know' is used as a habitual marker: *mi save go* ... 'I usually go ...' but phonological reduction is taking place in many idiolects, with the result that *sa* of *mi sa go* is losing its verbal identity.  It is also useful to note that the earlier adverb *baimbai* 'bye and bye' has not only been reduced to *bai*, thereby becoming a future marker, but is losing its adverbial identity for many speakers through incorporation into the verb phrase: for earlier *baimbai mi go* ... 'I shall go ...' we find both *bai mi go* and *mi bai go*.  These examples provide a model of the incorporation process which is discussed in this section.

A number of languages in the three clusters of Western Oceanic reflect the bound morpheme *-na-* 'future' in their verb phrases.  This observation is a further piece of evidence for the proposal that the communalects ancestral to the North New Guinea, Papuan Tip and Meso-Melanesian shared a period of common development.  It also has the odd implication that the pattern typical of the North New Guinea cluster, namely that the future morpheme is external to the verb phrase (examples 4.11 and 4.12, is the result of re- simplification, rather than a direct inheritance from POC.  However, this does not alter our POC reconstruction, since no incorporated tense/aspect morphemes are reconstructible for POC.

Since cognate forms of PWO *-na-* 'future' are found in languages outside the Western Oceanic area, this morpheme is almost certainly descended from a POC pre-verbal morpheme *na*.  However, it is suggested here that Western Oceanic reflexes of POC *na* provide evidence of a period of common morphosyntactic development separate from non-Western reflexes, and the course of Western Oceanic development will be described before a brief examination of non-Western reflexes is made at the end of the section.

The Western Oceanic languages which reflect the incorporated verbal morpheme *-na-* 'future' are:

A.  North New Guinea cluster

    1.   Ngero: Gitua

    2.   Residual Vitiaz: Tami

    3.   Schouten: Medebur, Manam, Kis, Kaiep, Ali, Tumleo

    4.   Huon Gulf: Numbami, Kaiwa, Hote, Mapos Buang, Mangga Buang, Kapin, Yabem, Labu, Wampar

    5.   Mengen: Maeng

B.  Papuan Tip cluster

    1.   Are-Taupota: Arifama, Ubir, Are, Boianaki, Wedau, Tawala

    2.   Bwaidoga: Iduna, Yamalele, Molima

    3.   Misima

    4.   Central Papua: Sinagoro (Saroa), Keapara (Hula, Aroma)

C.  Meso-Melanesian cluster

    1.   Bali-Vitu: Vitu

    2.   Willaumez: Meramera

    3.   Lavongai-Nalik: Nalik

4. Other New Ireland: Madak, Sursurunga, Konomala, Patpatar, Minigir, Tolai, Kandas, Duke of York

5. North-West Solomonic: Uruava, Mono-Alu, Varisi

I shall illustrate reflexes of *-na- in only a restricted sample of these languages both for reasons of space and because I have provided examples elsewhere from New Ireland and other languages (Ross 1982a) and from Mono-Alu (Ross 1982b).[126]

The following examples are drawn from languages geographically separate from each other and probably representative of future marking in PWO:

(10.24) Gitua (Ngero family, North New Guinea cluster)

*yau   ŋa-na-lam*
D:1S   S:1S-FUT-come
'I shall come.'

(10.25) Are (Are-Taupota chain, Papuan Tip cluster)

*i-na-ravi*
S:3S-FUT-hit
'He will hit it.'

(10.26) Sinagoro (Saroa) (Central Papuan family, Papuan Tip cluster)

*b-a-na-iayo*
REM-S:1S-FUT-go
'I shall go (sometime).'

(10.27) Bali (Vitu)

*ta    yo    n-u       vano* ...
CD    D:2S    IRR-S:2S    go
'If you had gone ...'

(10.28) Tolai (New Ireland, Meso-Melanesian cluster)

*i-na        vana*
S:1S-FUT    go
'I shall go.'

(10.29) Varisi (Choiseul, Meso-Melanesian cluster) (Scheffler n.d.)

*tu    vae    g-era       t-o-no           dae*
CD    hit    O:2S-D:1S    FUT-S:2S-FUT    cry
'If I hit you, you will cry.'

Examples (10.24), (10.25) and (10.28) appear to preserve the putative PWO structure of:

(10.30) SUBJ PROCLITIC + *-na- + VERB

However, I shall suggest below that this appearance of uniformity is deceptive.

Various modifications to (10.30) have occurred. In a few languages, like Vitu in example (10.27), a semantic change has occurred (in Vitu *n-* expresses the counterfactual rather than the future). In

others, like Sinagoro in example (10.26) and Varisi in (10.29), another morpheme (here respectively *b-* and *t-*) has been added.

More important here, however, are the various formal variations which occur in the reflexes of *-na-* itself. For example, in (10.29), vowel assimilation appears to have taken place (i.e. *-na-* has apparently become *-no* under the influence of adjacent *-o-* S:2S). In (10.27), the morpheme sequence appears to have been reversed. Both of these variations are discussed in some detail in Ross (1982a) (all the examples in that paper are from Western Oceanic languages, and it is now evident that the reconstructions of verb phrase structure there belong not to POC but to PWO or later). Various alternative solutions are offered there to the question of how these variations arose, and one of these was that the original sequence of morphemes was not SUBJECT PROCLITIC + *-na-* + VERB as in (10.30) but

(10.31)  DISJ PRONOUN (= SUBJ) + *-na-* + SUBJ PROCLITIC + VERB

The structure in (10.30) was derived from that in (10.31) by the cliticisation of the disjunctive pronoun to the future morpheme *-na-* (or in non-future tenses to whatever else followed it) and the consequent loss of the old (and obsolescent) subject proclitic. The cliticised disjunctive pronoun became the new subject proclitic.

There are two pieces of evidence for this hypothesis. One, mooted by Ross (1982a), is that in the languages of southern New Ireland, cliticisation of disjunctive pronouns has occurred only in the three persons of the singular (e.g. *i-na vana* 'I shall go', *u-na vana* 'thou wilt go', where *i-* S:1S < *iau* D:1S and *u-* S:2S < *u* D:2S), but not fully in the plural (e.g. *diat a vana* 'they will go', where the disjunctive pronoun remains but the future marker loses *n-*). The second piece of evidence has come to my notice since the 1982a paper was written and has to do with the forms of the subject pronouns, about which a short excursus will be made.

In Ross (1982a) I suggested that two sets of subject pronominal proclitics are reflected in present-day (Western Oceanic) languages: an original set, inherited from POC, and the more recent set resulting from the cliticisation of disjunctive pronouns to the verb phrase and the loss of at least some of the original set. An examination of the reconstructed pronoun sets for lower-order proto languages which are presented with supporting data in Table 38 shows that the lower-order groups do not always agree with each other as to the forms which might be reconstructed in POC.[127] In examining these competing forms, it is useful to recognise three possible sources of subject pronominal clitics. These are:

A. The set of clitics reconstructible in PMP, all or some of which may have survived into POC.

B. Clitics created in some pre-POC period by abbreviating and cliticising disjunctive pronouns; some of these may have survived into POC.

C. Clitics created after the break-up of POC by abbreviating and cliticising disjunctive pronouns.

TABLE 38: SUBJECT PRONOMINAL CLITICS OF SELECTED OCEANIC LANGUAGES

| | 1S | 2S | 3S | 1EP | 1IP | 2P | 3P |
|---|---|---|---|---|---|---|---|
| Mussau | *a* | *u* | *e* | - | - | - | *la* |
| PAd | *\*u-* | *\*o-* | *\*i-* | *\*a-, Ø-* | *\*a-, Ø-* | *\*a-, Ø-* | *\*a-, Ø-* |
| Seimat | *ŋa* | *o* | *i* | - | - | - | - |
| Penchal | *u* | *o* | *i* | *a* | *a* | *a* | *a* |
| Lele | *u-* | *o-, a-* | *i-* | *ha-* | *ha-* | *ha-* | *ha-* |
| Ere | *u-* | *a-* | *i-, e-* | *a-, Ø-* | *a-, Ø-* | *a-, Ø-* | *a-, Ø-* |
| Lindrou | *i-* | *u-, a-* | *i-* | *a-* | *a-* | *a-* | *a-* |
| PNg-Vitiaz | *\*ŋa-* | *\*ku-* | *\*i-* | *\*ka-* | *\*ta-* | *\*ka-* | *\*ji* |
| Kove | *ŋa-* | *u-* | *i-* | *ya-* | *ta-* | *a-* | *ti-* |
| Gitua | *ŋa-* | *u-* | *i-, Ø-* | *ya-* | *ta-* | *a-* | *ti-* |
| Sio | *na-* | *ku-* | *i-, Ø-* | *ka-* | *ta-* | *ka-* | *si-* |
| Tami | *a-* | *ku-* | *Ø-* | *ka-* | *ta-* | *ka-* | *si-* |
| Mindiri | *ŋa-* | *ku-* | *Ø-* | *ka-* | *ta-* | *ka-* | *di-* |
| Gedaged | *ŋa-* | *u-* | *i-* | *a-* | *ta-* | *a-* | *di-* |
| PSCH | *\*u-* | *\*ku-* | *\*i-* | *\*ka-* | *\*ta-* | *\*ka-* | *\*di* |
| Medebur | *u-* | *ku-* | *i-* | *ka-* | *ta-* | *ku-* | *di-* |
| Manam | *u-* | *ʔu-* | *i-* | *ʔi-* | *ta-* | *ʔa-* | *di-* |
| Bam | *u-* | *ku-* | *i-* | *ki-* | *ta-* | *ʔa-* | *di-* |
| Kaiep | *u-* | *kə-* | *a-* | *mə-* | *ta-* | *mə-* | *(ra-)* |
| PHG | *\*ya-* | *\*u-* | *\*i-* | *\*(γ)a-* *\*ma-* | *\*ta-* | *\*(γ)u-* *\*mu-* | *\*ji-* |
| Numbami | *wa-* | *u-* | *i-* | *ma-* | *ta-* | *mu-* | *ti-* |
| Kaiwa | *ga-* | *gu-* | *gi-* | *a-* | *ta-* | *u-* | *i-* |
| Yabem | *ga-* | *gu-* | *gi-* | *a-* | *ta-* | *a-* | *si-* |
| Labu | *yV* | *u-* | *Ø-* | *mV-* | *lV-* | *mu-* | *sV-* |
| Wampar | *Ø-, a-* | *o-, u-* | *e-, i-* | *(Ø-, a-)* | *(Ø-, a-)* | *(o-, u-)* | *(e-, i-)* |
| PPT | *\*(y)a-* | *\*ko-, ku-* | *\*e, i-* | *\*ka-* | *\*ta-* | *\*ko-* | *\*de-, di-* |
| Arifama | *a-* | *ko-, u-* | *e-, i-* | *ka-* | *ta-* | *ka-* | *te-, i-* |
| Are | *a-* | *ke-, ku-* | *e-, i-* | *ka-* | *ta-* | *ko-* | *te-, si-* |
| Wedau | *a-* | *e-, u-* | *e-, i-* | *a-* | *ta-* | *o-* | *e-, i-* |
| Yamalele | *a-* | *u-* | *i-* | *ʔa-* | *ta-* | *wa-* | *i-* |
| Dobu | *ya-* | *ʔu-* | *ʔi-* | *ʔa-* | *ta-* | *wa-* | *si-* |
| Duau | *ya-* | *ku-* | *i-* | *ka-* | *ta-* | *wa-* | *si-* |
| Suau (Sariba) | *ya-* | *ko-* | *ye-, i-* | *ka-* | *ta-* | *kwa-* | *se-, si-* |
| Kilivila | *a-* | *ku-* | *e-, i-* | *ka-* | *ta-* | *ku-* | *e-, i-* |
| Misima | *ya-* | *u-* | *i-* | *ha-* | *ta-* | *ku-* | *hi-* |
| Sudest | *a-* | *u-* | *i-* | *ya-* | *ra-* | *yu-* | *ji-* |
| Magori | *e-* | *u-* | *i-* | *a-* | *ta-* | *o-* | *ti-* |
| Sinagoro (Saroa) | *a-* | *o-* | *e-* | *ya-* | *ta-* | *yo-* | *e-* |
| Motu | *na-* | *o-* | *e-* | *a-* | *ta-* | *o-* | *e-* |
| Bali (Vitu) | *-a, -e* | *-o, -u* | *-e, -i* | *-a* | *-a* | *-a* | *-a* |
| PWZ | *\*a* | *\*o* | *\*i* | *(\*mi)* | - | *(\*mu)* | *(\*di)* |
| Bulu | *a* | *o* | *i* | - | - | - | *ri* |
| Bola | *a* | *o* | *i* | *mi* | *si* | *mu* | *ri* |

TABLE 38: *(continued)*

| | 1S | 2S | 3S | 1EP | 1IP | 2P | 3P |
|---|---|---|---|---|---|---|---|
| PCNI | *ia | *u | *i | (*mai) | - | (*mui) | (*di) |
| Notsi | ya | u | a | - | - | - | - |
| Barok | e | u | i | **e** | **de** | **mu** | **di** |
| Konomala | ia | u | i | me | te | mə | də |
| Patpatar† | - | u | i | - | - | - | - |
| Label†† | ia | u | i | - | - | - | - |
| Minigir | ia | u | i | **mi** | **tou** | **mui** | **di** |
| Kandas, Siar | a | u | i | - | - | - | - |
| PNS | *u, gu, a | *o, (mu) | *i, e | *mi | *ta | *mu | *di, da |
| Nehan | u | o | e | mi(ŋ) | i | mu(ŋ) | ra |
| Solos | gu | mu | i, Ø | mu, i | i | mu | i, ri |
| Petats | gu | mu | e | i | i | i | i |
| Halia (Haku) | u | u | e | u | e, u | u | e |
| Torau | -gu | -u | -Ø | -mani | -da | -mu | -di |
| Mono-Alu | **ha-** | u- | i-, e- | **am-** | ta- | **emi-** | **iri-** |
| Varisi | -a | -o | i | -mu | -ta | -mu | -ri, -ra |
| Ririo | -a, -o | -o | -e | -m | -ta | -m | -r, -Ø |
| Babatana | -a, -o | -o | -i, -a | -mi | -ta | -mu | -ra, -Ø |
| PSS | *u | *o | *e | (*mi) | (*ta) | (*mu) | (*ra) |
| Bugotu | u | o | e | iti | ati | oti | e |
| Gela | u | o | - | **ai** | a | **au** | ra |
| Inakona | nu | o | ni | mi | ta | mu | a |
| Lengo | u | o | e | **ami** | atu | **amo** | ara |
| PML | *ku | *ʔo | *ʔe | *mi | *gi | *mu | *gira |
| Arosi | **au** | ʔo | a | mi, meu | gau | mou | ra |
| Sa'a | u | o | e | - | - | - | - |

† Also Tolai
†† Also Bilur and Duke of York

Notes:
1. A blank indicates that the disjunctive pronoun serves as subject.

2. A bold form is a cliticised version of the corresponding disjunctive pronoun.

3. A bracketed proto form is one which is probably not reconstructible, because the data beneath it have arisen by analogical processes since the break up of that proto-language.

4. A bracketed datum is one which has been adopted from another cognate set. Bracketed Kaiep *ra-* reflects the Proto Schouten irrealis form (see discussion in text). Bracketed Wampar forms are from the singular paradigm.

5. *g*-initial singular forms in Kaiwa and Yabem include a fossilised reflex of a tense/aspect marker *\*g* which is ignored in reconstruction.

The work of Blust (1977) and Starosta et al (1981) allows us to hypothesise Set A, a set of possible POC subject proclitics derived from the clitic pronouns of PMP. This set has the following potential POC forms:

(10.32)  Set A

**(k)u- S:1S
**mu- S:2S
**ña- S:3S

**mi- S:1EP
**ta- S:1IP
**mu-, **miu- S:2P
**ra- S:3P

The S:1S form **(k)u- is written with bracketed **(k-) because we know that the *(-k-) of the corresponding PMP/PEMP disjunctive *iaku, *aku was lost in POC *iau, *au D:1S, and the bracketing allows for analogous loss in the proclitic form.

We know that such forms, with the exception of **mi- S:1EP, occurred in PEMP, as they are reflected in Buli and East Makian of South Halmahera and in Koiwai, probably a member of the West New Guinea group. The reflexes in these languages are:

| (10.33) | Buli | E. Makian | Koiwai |
|---|---|---|---|
| S:1S | i[k]- | k- | u- |
| S:2S | m- | m- | mu- |
| S:3S | n- | n- | na- |
| S:1EP | k- | a- | a- |
| S:1IP | t- | t- | ta- |
| S:2P | f- | h- | mu- |
| S:3P | d- | l- | na- |

Apart from Buli i[k]- S:1S (< PEMP *iaku D:1S), the Buli and East Makian forms for S:2P, and the S:1EP forms in all the languages, these are clearly reflexes of Set A. The S:1EP forms suggest the reconstruction of Proto SHWNG *ka- S:1EP, and it is possible that this was also a PEMP form, which may be reflected in POC.

Collins (1983:25) shows how the Set A proclitics have been replaced in some languages of the East Central Maluku group (of CMP) by a new set derived from the disjunctive pronouns, and it is probable that this replacement process has occurred many times in the history of Central and Eastern Malayo-Polynesian languages, including those of Oceania. It has certainly occurred in the north coast languages of the West New Guinea group, where, for example, the Numfor-Biak singular forms ya-, y- S:1S, wa-, -u- S:2S and i-, -i- S:3S (hyphen-initial forms are infixes) are not derived from Set A above, but are related to their disjunctive equivalents aya, au[e], and i.

It is this process which would give rise to pronouns of both Set B and Set C, and there is no obvious criterion for distinguishing between the two sets (i.e. between pre- and post-POC cliticisation of disjunctives). The POC disjunctive forms, to which we would expect forms of either Set B or Set C to bear some similarity, are reconstructible as follows:

(10.34) *iau, *au D:1S
  *iko[e], ko[e] D:2S D:2S] D:2S]
  *ia, (?) *a D:3S

  *kami, *kai, (?) *kamami D:1EP
  *kita D:1IP
  *kamu, *kau, *kamiu D:2P
  *(k)ira D:3P

If we examine the forms in Table 38 in the light of (10.32) and (10.34), the following points may be made:

a) For S:1S:

   i) the Huon Gulf, Papuan Tip, Bali-Vitu, Willaumez, and North-West Solomonic forms, which indicate lower-order reconstructions of the form *ia-/ya-/a- cannot be derived from Set A *ku- but are readily related to POC disjunctive *iau, *au. The Proto Ngero/Vitiaz reconstruction *ŋa is related to a Proto Ngero/Vitiaz disjunctive form *ŋau.

   ii) the Admiralties, Schouten, North-West Solomonic and South-East Solomonic forms which indicate the reconstruction *u-, however, probably reflect Set A *(k)u-. (It is not clear whether PNS *gu- reflects this form or results from analogy with the possessive enclitic PNS *-gu.)

b) S:2S forms indicate the reconstruction of *ku-, *ko-, *u- and *o-. None is relatable to Set A **mu-; all are derived from *ko D:2S. However, the presence or absence of *k- in lower-order reconstructions is often not in accord with normal reflexes of POC *k-. Instead, certain local variations occur:

   i) Among the Papuan Tip languages we find the following variants of S:2S within a single language:

      (10.35) Arifama u- future, ko imperative, ku- present

         Tubetube u- imperative, ku- interrogative, irrealis

         Suau (Sariba) u- imperative, ku- irrealis, ko- interrogative

   ii) In most languages of the Manus group of the Admiralties, we find that the future marker k- (< POC *g-), which is prefixed to subject proclitics, is omitted with reflexes of PAd *o S:2S. This may indicate that the form was in fact PAd *ko S:2S (PAd initial *k- is lost in daughter-languages), and that the future marker merged with *k- before its loss, or may be related to the fact that second person proclitics are the only ones to occur in imperatives.

   If we set aside variations in the vowel, which in some modern languages (e.g. Wampar) are attributable in both second and third persons to harmony with the stem vowel, we are left with two POC forms *ko- and *o- S:2S, the difference between which is apparently connected in some way with tense/aspect/mood marking.

c) For S:3S, again setting aside vowel variation, we may reconstruct POC *i-. Clearly this is not derived from Set A *na-, and must be derived by reduction fom the disjunctive *ia. Occasional a- forms are found, and are evidently later derivations from the disjunctive *ia.

d) The fact that there is no set of plural subject proclitics in Admiralties languages, Bali-Vitu, Willaumez languages other than Bola, and most New Ireland languages, together with the difficulty of reconstructing a South-East Solomonic set, makes it likely that POC had no plural subject proclitics and that all present-day forms are the result of cliticising disjunctive forms. We cannot be sure that this is the case, since forms with the shapes *mi- S:1EP, *ta- S:1IP, *mu- S:2P and *ra- S:3P may be derived either from Set A or from the disjunctive forms *kami, *kita, *kami, and *(k)ira by the deletion of their initial syllables. The form *ka- S:1EP is derivable from PEMP *ka- (cf. discussion following 10.32) or from the disjunctive POC *kai. If, however, we assume that all four plural forms have a similar source (and this is not necessarily the case), then the S:2P forms Proto Ngero/Vitiaz, Proto Schouten *ka-, Proto Huon Gulf *(ɣ)u-, Proto Papuan Tip *ko- (all derived from the disjunctive POC *kau) and the S:3P forms of the shape *di-, *ji- (associated with PWO *idri[a]) suggest that all plural subject proclitics are the result of disjunctive cliticisation.

This discussion brings us to the unexpected conclusion that the three reconstructible singular subject proclitics in POC are not derived from one source: *(k)u- S:1S is descended from PEMP *ku-, whilst *ko-, *o- S:2S and *i- S:3S are cognate with their disjunctive equivalents POC *ko[e] and *ia. Summarising, we may reconstruct the following POC subject proclitics, with doubtful reconstructions in brackets (doubtful because we cannot tell whether they arose before or after the break-up of POC):

(10.36) POC

*(k)u, (*[y]a) S:1S
*ko-, o- S:2S
*i- S:3S

(*mi-, *ka[i]- S:1EP)
(*ta- S:1IP)
(*mu-, *miu-, *kau- S:2P)
(*ra- S:3P)

To these forms we may also add:

(10.37) PWO *dri- S:3P

related to the disjunctive PWO *idri[a] (section 10.3.1.1).

I return now to the second piece of evidence for the PWO verb phrase structure shown in (10.31). It is clear from the excursus which has just been made that the protoform POC *(k)u S:1S is older than protoforms with the shape (*[y]a) S:1S. Hence the position of PWO *-na- 'future' in relation to reflexes of POC *(k)u S:1S should provide an insight into whether the future marker preceded or followed the subject proclitic in PWO. The only group of languages to reflect the two morphemes in sequence is the Schouten chain. Most languages in the chain have two sets of subject pronominal proclitics, one 'realis' and one 'irrealis'. The realis is used for present and past tenses, the irrealis for – among other things – the future tense. These sets of proclitics are set out in Table 39.

## TABLE 39: SUBJECT PRONOMINAL CLITICS OF THE SCHOUTEN CHAIN

|  |  | 1S | 2S | 3S | 1EP | 1IP | 2P | 3P |
|---|---|---|---|---|---|---|---|---|
| PSCH | R: | *u- | *ku- | *i- | *ka- | *ta- | *ku- | *di- |
|  | I: | *nu- | *gu- | *na- | *ga- | *ta- | *ma- | *da- |
|  |  | *gu- |  |  | *ma- |  | *mu- |  |
| Medebur | R: | u- | ku- | i- | ka- | ta- | ku- | di- |
|  | I: | gu- | gi- | ga- | ma- | ta- | mu- | da- |
| Manam | R: | u- | ʔu- | i- | ʔi- | ta- | ʔa- | di- |
|  | I: | m-, n-, ŋ- | go- | ŋa- | ga- | ta- | ʔama- | da- |
| Bam | R: | u- | ku- | i- | ki- | ta- | ʔa- | di- |
|  | I: | nu- | gu- | na- | ga- | ta- | ma- | da- |
| Wogeo | R/I: | o- | ko-, Ø- | e- | ta- | ta- | ka- | da- |
| Kis | R: | u- | ku-, a- | a- | mu- | tə- | mə- | de- |
|  | I: | gu- | gu- | gu- | mu- | tə- | mu- | du- |
| Kaiep | R: | u- | kə- | a- | mə- | ta- | mə- | ra- |
|  | I: | gua- | ka- | ga- | ma- | ta- | ma- | ra- |
| Ulau-Suain | R/I: | gu- | i-U- | i- | ka- | ka- | ama- | di- |
| Ali | R: | ke-I- | we-I-, u- | ka- | ta- | ta- | a- | ra- |
|  | I: | ne-I- | we-I- | na- | ta- | ta- | a- | ra- |

*Key:*  R:   realis
 I:   irrealis
 -U-   -u- inserted or stem vowel rounded
 -I-   stem vowel raised

It is clear from the data in Table 39, despite a certain amount of analogically motivated change, that the singular irrealis forms are derived from a sequence of PWO *-na- + subject proclitic, as follows:

(10.38)  PSCH *nu- IRR.S:1S  <  PWO *na- + u- S:1S

  PSCH *gu- IRR.S:2S  <  *ŋku-  <  PWO *na- + ku- S:2S

  PSCH *na- IRR.S:3S  <  PWO *na- + Ø - S:3S

The derivation of the plural forms is less clear: PSCH *ga- IRR.S:1EP may have been formed by the same process as *gu- IRR.S:2S, or may be the result of analogy with it. The presence of *ma- IRR.S:1EP beside *ka- S:1EP and of *mu- IRR.S:2P beside *ku- S:2P suggests that forms are drawn from more than one of the potential sets discussed in the excursus above. However, *da- IRR.S:3P is more readily explicable if is recalled (a) that *di- S:3P is a late (PWO) form related to the disjunctive *idri[a] and (b) that in New Ireland languages and Mono-Alu the future marker *-na- has a plural variant *-a-. This allows the reconstruction of:

(10.39)  PSCH *da- IRR.S:3P < PWO dri- S:3S + *-a-

The inference to be drawn from the reconstructions in (10.38) and (10.39) is that at a stage ancestral to Proto Schouten – presumably PWO – two structures coexisted, one singular, the other plural:

(10.40)  Singular:

*-na- + SUBJ PROCLITIC + VERB

Plural:

SUBJ PROCLITIC + *-[n]a- + VERB

i.e. the reconstructions in (10.30) and (10.31) are both valid, but in different environments. Furthermore, the proclitic forms in the singular are older, and inherited from POC, whilst those in the plural are younger reductions of earlier disjunctive subject pronouns. This adds some support to the suggestion above that POC had no plural subject proclitics. Although in many languages (e.g. Gitua and the southern New Ireland languages) the plural form has now invaded the singular, it is clear that the morpheme sequence of (10.27) is indeed the original one and that, in diachronic perspective at least, examples (10.26) and (10.29) need to be glossed afresh. They are repeated below with both the old gloss and the new:

(10.41)  = (10.26)
Sinagoro (Saroa) (Central Papuan family, Papuan Tip cluster)

*b-a-na-iayo*
REM-S:1S-FUT-go

*ba-n-a-iayo*
REM-FUT-S:1S-go
'I shall go (sometime).'

(10.42)  = (10.29)
Varisi (Choiseul, Meso-Melanesian cluster)

| *tu* | *vae* | *g-era* | *t-o-no* | *dae* |
|------|-------|---------|----------|-------|
| CD | hit | O:2S-D:1S | FUT-S:2S-FUT | cry |

| *tu* | *vae* | *g-era* | *to-n-o* | *dae* |
|------|-------|---------|----------|-------|
| CD | hit | O:2S-D:1S | FUT-FUT-S:2S | cry |

'If I hit you, you will cry.'

In a number of the languages listed at the beginning of this section as reflecting PWO *-na- 'future marker', a process rather different from that of the Schouten languages has occurred to mask its reflex. The languages concerned are Hote, Mapos Buang, Mangga Buang, Kapin, Yabem, Labu, Wampar and their close relatives within the Huon Gulf family. The most conservative member of the Huon Gulf family is Numbami, and its irrealis paradigm follows the pattern of (10.40). We give both the realis and irrealis paradigms:

(10.43)  Numbami: 'die'

|     | Realis | Irrealis |
|-----|--------|----------|
| 1S | *wa-mande* | *n-a-mande* |
| 2S | *u-mande* | *n-u-mande* |
| 3S | *i-mande* | *n-i-mande* |

| | | |
|---|---|---|
| 1EP | *ma-mande* | *ma-na-mande* |
| 1IP | *ta-mande* | *ta-na-mande* |
| 2P | *mu-mande* | *mu-na-mande* |
| 3P | *ti-mande* | *ti-na-mande* |

A series of historical events have occurred in the development of this paradigm which were inferred by Lynch (1975). In fact they are still reflected in the chain of communalects which stretches from the coast of the Huon Gulf where Numbami is spoken over the mountain range and into the valleys of the Buang languages. The first event, reflected in Kaiwa, was the reduction of *-na-* to *-n-* (a change also occurred in the realis paradigm with the fossilisation of the tense/aspect marker *g-* in the singular forms, evidently by analogy with the *n-* of the irrealis paradigm):

(10.44) Kaiwa: 'climb up'

| | Realis | Irrealis |
|---|---|---|
| 1S | *g-a-pil* | *n-a-pil* |
| 2S | *g-u-pil* | *n-u-pil* |
| 3S | *g-i-pil* | *n-i-pil* |
| 1EP | *a-pil* | *a-n-pil* |
| 1IP | *ta-pil* | *ta-n-pil* |
| 2P | *u-pil* | *u-n-pil* |
| 3P | *i-pil* | *i-n-pil* |

A further set of events, preserved in Hote, entailed (i) the reinterpretation of the sequence *-n-* + stem-initial consonany in plural forms as a prenasalised voiced consonant, and its subsequent denasalisation (*-d-* in example 10.45); and (ii) the extension of the plural morpheme sequence to the singular, with new prefixed subject markers and reduction of *n-* + subject marker + stem-initial consolant to *n-* + stem-initial consonant (*-nd-* in example 10.45). This resulted in consonant alternations as markers of the realis/irrealis contrast, and loss of an isolable reflex of *-na-*:

(10.45) Hote: 'build'

| | Realis | Irrealis |
|---|---|---|
| 1S | *ɣa-lav* | *ɣa-ndav* |
| 2S | *ɣo-lav* | *o-ndav* |
| 3S | *ɣa-lav* | *e-ndav* |
| 1EP | *a-lav* | *a-dav* |
| 1IP | *a-lav* | *a-dav* |
| 2P | *o-lav* | *ɣo-dav* |
| 3P | *e-lav* | *e-dav* |

The final event, reflected in the Buang communalects, was the analogical levelling of the paradigm so that only the consonant alternation marks the realis/irrealis contrast:

(10.46) Mangga Buang: 'build'

|     | Realis   | Irrealis |
|-----|----------|----------|
| 1S  | a-haav   | a-daav   |
| 2S  | ga-haav  | ga-daav  |
| 3S  | haav     | daav     |
| 1EP | a-haav   | a-daav   |
| 1IP | a-haav   | a-daav   |
| 2P  | a-haav   | a-daav   |
| 3P  | ra-haav  | ra-daav  |

The consonant alternation *h:d* is of course only one of the alternations marking realis:irrealis in Mangga Buang: others include *v:b, r:j, γ:g, γ̄:ḡ*. As Lynch (1975) has shown, other Huon Gulf languages, namely Yabem and Bukawa, have alternations similar to those in Mangga Buang as the result of parallel developments in reflexes of *-na-*.

The purpose of this extended discussion has been not only to establish the most valid reconstruction of PWO verb phrases containing *-na-* 'future marker', but also to show that its reflexes are more widely distributed in the three Western Oceanic clusters than is obvious at first sight.

The claim has been made that the incorporation of this marker into the verb phrase is an exclusively shared innovation of the Western Oceanic clusters. It occurs in neither of the two neighbouring groups of languages. The typical markers of the future in the Admiralties are (in the eastern Admiralties) *k-*:

(10.47) Kele

*i-mat*
S:3S-die
'he died'

*k-i-mat*
FUT-S:3S-die
'he will die'

and (in the Admiralties in general) reflexes of POC *\*ba* 'desiderative, future':

(10.48) Seimat

| ŋa | po | nahi | hani | xuxu-k |
|----|----|------|------|--------|
| D:1S | FUT | walk | go | village-P:1S |

'I shall go to my village.'

In the South-East Solomonic family a variety of future markers are found. In the Guadalcanal-Gelic languages these include *k-* and reflexes of POC *\*ba*:

(10.49) Lengo

| a | para | ba | k-e-dea | i | leo-na |
|---|------|----|----|----|-------|
| ART | Para | FUT | TA-S:3P-go.up | PREP | inside-P:3S |

| na | ne-na | etea |
|----|-------|------|
| ART | PCL-P:3S | canoe |

'Para will get into his canoe.'

Superficially, at least, South-East Solomonic *k-* is not necessarily cognate with Eastern Admiralties *k-*, which reflects earlier *\*ŋk-* or *\*g-*. However, Pawley (1972:48) subsumes South-East Solomonic *\*k-* under the reconstruction PEO *\*(ŋ)ke* 'suppositional, purposive, prospective' and the possibility that the Eastern Admiralties morpheme *k-* is cognate deserves investigation.

Simons (1980) reconstructs a Proto Malaitan future marker *\*-i-* which intervenes between subject proclitic and verb stem, and is clearly cognate with Pawley's (1972:48) reconstruction PEO *\*i* 'future'.

As was noted above, the PWO bound morpheme *\*-na-* 'future' has cognates outside the Western Oceanic area, and it is therefore appropriate to reconstruct a POC pre-verbal morpheme *\*na*. It is probable, however, that this *\*na* was neither a member of a set of POC tense/aspect-marking morphemes nor a marker of the future.

Whilst reflexes of PWO *\*-na-* are found throughout the Western Oceanic area, its cognates elsewhere are more local in their distribution. Most of these cognates are listed by Lynch (1975) and Harrison (1983), and comprise:

(10.50) <u>Admiralties:</u>

| | | | |
|---|---|---|---|
| Aua | *n-...-ʔa* | future | |
| **<u>Micronesia:</u>** | | | |
| Kosraean | *-n, in* | irrealis dependent | (Lee 1975:306-307) |
| Kiribatese | *na* | future | (Groves et al 1985:76) |
| Marshallese | *-n* | irrealis dependent | (Harrison 1983) |
| Mokilese | *-an* | irrealis dependent | (Harrison 1983) |
| Ponapean | *-en* | irrealis dependent | (Harrison 1983) |
| **<u>Central Vanuatu:</u>** | | | |
| Aoba/Ndiundui | *na* | future | (Tryon 1973:330) |
| North Maewo | *ni, -n* | future | (Tryon 1973:330) |
| Paama | *na-* | potential | (Crowley 1982:134) |
| **<u>South Vanuatu:</u>** | | | |
| Proto-Erromangan | *\*n-* | non-past | (Lynch 1983a:203) |
| Lenakel | *na-* | intentive | (Lynch 1978d:43) |
| South-West Tanna | *na-* | intentive | (Lynch 1982c:12) |
| <u>Fijian</u> | *na* | future | (Schütz 1986:262) |

Only in Kiribatese, Aoba, Nduindui and Fijian are the bare reflexes of POC *\*na* future markers. Elsewhere they either combine with another morpheme to mark the future (Aua, North Maewo) or they have some kind of other irrealis meaning. Thus the Aua reflex always occurs with *-ʔa*:

(10.51)  *naminoa   n-au-ʔa        hofo   na      pafo  fei    wa-na*
tomorrow  FUT-S:1S-FUT  board  PREP    top   DEM    canoe-P:3S
'Tomorrow I shall board this canoe of his.'

As Harrison (1983) notes, the Micronesian reflexes other than Kiribatese normally occur only in dependent clauses. For example:

(10.52) Kosraean

> el    finsak   mʌ    eltæl   in   tʌku
> S:3S   hope   that   S:3P   IRR   come
> 'He hopes that they will come'           (Lee 1975:307)[128]

In Lenakel, *na-* is clearly not a future marker, as it must co-occur with *t-* 'future':

(10.53) *na-t-i-ak-məs*
INT-FUT-S:1E-CONCURRENT-die
'I'm about to die'           (Lynch 1978d:43)

If POC *\*na* had indeed been the future-marking member of a set of tense-marking morphemes, we would expect its reflexes to have a more consistent distribution geographically and semantically than is actually the case. Instead, the expected consistency occurs only in Western Oceanic languages, suggesting that the latter reflect a period of shared development separate from the rest of Oceania.

If POC *\*na* was not a future marker, then it is reasonable to ask what it was. Two potential sources of pre-verbal free morphemes like *\*na*, namely verbs and adverbs, were noted above. In view of its monosyllabic form, POC *\*na* was almost certainly not a verb, but some sort of adverbial particle. Harrison (1983) suggests that its origin is the same as that of POC *\*na* 'common article'. Whilst I do not agree with his inference that *\*na* was a 'sentential article' (as well as the common article), there is evidence that his insight about its formal origin may be correct.

It was observed earlier (section 4.1) that the common article *\*a/\*na* may have arisen from the middle member of a set of POC demonstratives/spatial deictics *\*e/\*ne* 'near speaker', *\*a/\*na* 'near addressee', and *\*o/\*no* 'distant from both speaker and addressee'. These deictics, at least in their *\*n-* variants, may also have served as adverbial particles indicating an event's proximity to or distance from the present. There are three pieces of evidence which support this hypothesis.

The first of these is that it is quite common in WM Oceanic languages for spatial and temporal deixis to employ the same forms: for example, Vitu *kua* 'this, now', Notsi *atalə* 'this, now', Banoni i.e. 'this, now', and Aua *eni* 'this, now'. In each case, the form serves as the spatial deictic 'this', i.e. near speaker, and as the temporal deictic 'now', i.e. temporally near. If the same forms serve as both spatial and temporal deictics in modern Oceanic languages, it is likely that they also did so in POC.

The second piece of evidence concerns Aua *n-* 'future', illustrated in example (10.51). Note that the subject pronominal prefix *au-* S:1S in that example reflects the POC disjunctive *\*[i]au* D:1S (and not POC *\*(k)u-* S:1S), and that the sequence reflected in Aua is neither of the PWO sequences set out in (10.40), but a putative POC sequence:

(10.54)  *\*na* + DISJ PRONOUN (= SUBJ) (+ SUBJ PROCLITIC) + VERB

i.e. a sequence in which POC *\*na* was a clause-initial free morpheme and not part of the verb phrase. Furthermore (also in example *auana*), *na* occurs as part of *na-minoa* 'tomorrow'. Here, *na* contrasts with *ei* 'this/these' in *ei-minoa* 'yesterday' (cf. *ei ewaya rufu* 'these big houses'), suggesting (a) that *na* was (or is) a member of a deictic set and (b) that this set was (or is) used both for spatial and temporal deixis.[129] In its temporal use, it evidently occurred clause-initially.

The third piece of evidence that the POC spatial deictics *\*ne*, *\*na*, and *\*no* also occurred as temporal deictics consists of reflexes of *\*nV* forms marking tenses other than the future in various Eastern Oceanic languages. A number of these are noted by Harrison (1983). They include:

(10.55) Micronesia:

| | | | |
|---|---|---|---|
| Kosraean | *na:* | perfective | (Lee 1975:302-303) |
| Mokilese | *ne* | perfective, | |
| Pingelapese | *en, -n* | perfective | |

North/Central Vanuatu:

| | | | |
|---|---|---|---|
| Raga | *nu, -n* | past, | |
| Toga | *na* | aorist, | |
| Motlav | *n*V | aorist, | |
| Merlav | *nu* | aorist | (all Tryon 1973:330) |
| Volow | *n*V | unmarked, | (both Codrington |
| Lakon | *-en, -n* | past | 1885:174). |

Polynesian:

| | | | |
|---|---|---|---|
| Proto Polynesian | *\*na(?a), \*ne(?e)* | past | (Pawley 1970:347) |

The puzzling question of why similar (*n*V) forms occur marking both past and prsent is answered if we infer that these forms are descended not from one POC form but from the three members of the putative POC spatial/temporal deictic set.

If the developments hypothesised here occurred, then the POC deictics \**ne*, \**na* and \**no* were used temporally but their reflexes became part of the verb phrase independently in different Oceanic languages. In at least part of the PWO dialect chain, POC \**na* was reinterpreted as a future marker, and thereby as an integral part of the verb phrase, as shown in (10.40).

### 10.3.1.4 PWO \**-aki* AND OTHER VALENCY-CHANGING MARKERS

Pawley (1973) reconstructed two POC transitive suffixes, one 'direct', the other 'remote'. The direct transitive suffix \**-i* is unambiguously reflected in certain languages of all three Western Oceanic clusters (although it appears nowhere to be a productive morpheme). However, of the two versions of the remote transitive suffix, POC \**-aki* and \**-akini*, only the former is reflected in Western Oceanic languages. If Pawley is correct in attributing POC \**-aki[ni]* to PAN \**-aken*, then this is an innovation which links the three Western Oceanic clusters and possibly also the Admiralties.

The Western Oceanic examples of \**-aki* quoted by Pawley (1973:121) are from Motu. Those below are from another Central Papuan language, Roro. I gloss reflexes of \**-aki* with AKI:

(10.56) wapira   warani   maciu   ha-har-ai-na              hau-na      ae?e
        axe      yesterday tree    S:1EP-chop-AKI-O:3S       thing-P:3S  where
        'Where is the axe with which we cut the tree yesterday?' (Joindreau 1968)

        jon    taita    e-iriri-ai-na
        John   Taita    S:3S-laugh-AKI-O:3S
        'John laughed at Taita.'

        (cf. *jon e-iriri* 'John laughed')

```
jon      atawa-na      e-ururu-ai-na
John    spouse-P:3S    S:3S-grumble-AKI-O:3S
'John grumbled about his wife.'
```

(cf. *jon e-ururu* 'John grumbled')

Harrison (1982) has written at length on POC *-aki[ni]*, and made two proposals which are relevant to our concerns here:

a) that POC *-aki[ni]* is also reconstructible as a prepositional verb which became cliticised to the verb at different times and places.

b) that the original function of POC *-aki[ni]* was to shift a refective or confective participant to (direct) object (he considers other uses of reflexes of *-aki[ni]* to be later developments);

The first of these proposals receives no support from WM Oceanic. The suffix *-aki* is reflected in all three Western Oceanic clusters (section 4.3), and appears to have been a suffix in PWO. The second proposal, on the other hand, receives a large measure of support from Western Oceanic reflexes of *-aki*: they are mostly confective, refective, or instrumental in function. Of the Roro examples above, the first is instrumental, the other two refective. The same is true of Pawley's first three Motu examples, and he adds a fourth, which is confective:

(10.57)  *e      lao-hai-a*
        S:3S    go-AKI-O:3S
        'He took it.'  (More literally 'He went-with it.')

Among Lichtenberk's Manam examples are the following, the first refective, the second instrumental:

(10.58)  *giriʔi    ne-Ø        i-maloŋasiʔi-siʔi-t-aʔ-i*
        trouble  PCL-P:3S    S:3S-whisper-RED-THC-AKI-O:3S
        'He is whispering about his trouble.'              (1983:145)

        *ʔai    u-rozoŋ-aʔ-i*
        wood  S:1S-plug-AKI-O:3S
        'I plugged the stick in.'                          (1983:238)
        (More literally: 'I plugged-with the stick.')

        (cf. *ʔati u-rozoŋ-i* 'I plugged the canoe.')

In the case of Manam, however, we must add that its reflex of *-aki* also serves as a causativiser, moving the undergoer or actor subject of an intransitive verb to undergoer object of the transitive with *-aki* and adding an actor subject:

(10.59)  *aiboaŋ* 'be stong' > *ʔaiboaŋ-aʔ-* '(s.o.) strengthen (s.t.)'

        *gege* '(s.t.) roll' > *gege-aʔ-* '(s.o.) roll (s.t.)'

        *alale* '(s.o.) walk' > *alalel-aʔ-* 'help (s.o.) to walk'    (1983:230-231)

But note that the last of these examples is open to a confective interpretation: 'walk with (s.o.)'.

The tendency for POC medial *-k-* to undergo lenition means that in some languages POC *-aki* has been reduced first to *-ai* (as in Roro above), then to *-ei* or *-e* (after which it was presumably lost). Examples of *-aki* reflexes in other Western Oceanic languages are:

(10.60) Minigir (south New Ireland, Meso-Melanesian cluster)

> *burutu* 'be afraid' > *burutu-e* 'be afraid of (s.t.)'
>
> *taŋisi* 'weep' > *taŋis-e* 'weep about (s.t.)'

(10.61) Tabar (New Ireland, Meso-Melanesian cluster)

> *matau* 'be afraid' > *matav-e* 'be afraid of (s.t.)'

(10.62) Sewa Bay (Dobu-Duau, Papuan Tip cluster)

> *subuli* 'be afraid' > *subul-ei* 'be afraid of (s.t.)'
>
> *tauya* 'go' > *tauy-ei* 'take (s.t.) away' (= 'go with (s.t.)')

(10.63) Keapara (Hula) (Central Papuan, Papuan Tip cluster)

> *ko* 'shout' > *ko-ayi* 'shout about (s.t.)'
>
> *mari* 'sing' > *mari-ayi* 'sing about (s.t.)'
>
> *veai* 'boast' > *veai-ayi* 'boast about (s.t.)'
>
> *veni* 'give to (s.o.)' > *veni-ayi* 'sell (s.o.)'

In the Lavongai-Nalik group (New Ireland), reflexes of *-aki* have a detransitivising function described for Kara by Schlie (1984). The history and nature of this function needs further investigation, but it gives rise to pairs like the following:

(10.64) Kara (Schlie 1984)

> *fiit* 'blow (s.t.)' > *fiit-ai* 'blow'
>
> *lis-an* 'take (s.o.) with one' > *lis-ai* 'take with one'
>
> *fi-n-* 'ask (s.o.)' > *fi-ai* 'ask'

(10.65) Tigak (Beaumont 1979:93)

> *paloŋ-an-* 'hear (s.o.)' > *paloŋ-ai* 'hear'
>
> *akauŋ-an-* 'praise (s.o.)' > *akauŋ-ai* 'give praise'

(10.66) Lavongai (Stamm f/c.)

> *kel* 'dig' > *kel-kel-ai* 'dig holes (for house posts)'
>
> *pala* 'bind (s.t.)' > *pal-ai* 'bind'
>
> *tak* 'pull (s.t.)' > *tak-ai* 'give a pull'

It is noteworthy that as soon as we cross the border from Western Oceania to Central-Eastern Oceania in the Solomon Islands, we find languages whose reflexes of POC *-aki[ni]* differ from those of Western Oceanic in all three of the features we have mentioned here. In Lengo (Guadalcanal) (i) we find many reflexes of the variant *-akini*; (ii) some of these appear to be separable from the verb (not as reflexes of *akini* but of *kini*) and used as a prepositional verb; and (iii) the uses of *-akini* go far beyond the confective, refective, or instrumental of Western Oceanic. The following example illustrates (i) and (ii):

(10.67)  *e-pusi-aɣini-a*        *na*    *rave*
          S:3S-chop-AKI-O:3S   ART  axe
          'He chopped it with an axe.'

          *e-pusi-a*        *na*    *ɣai*    *ɣini-a*     *na*    *rave*
          S:3S-chop-O:3S   ART  tree   PREPV-O:3S   ART  axe
          'He chopped the tree with an axe.'

However, as well as this instrumental example, we find cases of Lengo *-aɣini* which are difficult to characterise semantically:

(10.68)  *e-rodo-ð-aɣini-a*        *i*     *pono*
          S:3S-night-THC-AKI-O:3S   PREP   bush
          *He was still in the bush when it got dark*

          *e-labe-ð-aɣini-a*        *na*    *gari*
          S:3S-weak-THC-AKI-O:3S   ART  child
          'He is too weak to challenge a little boy.'

It is also difficult to relate Keesing's (1985:40-41) Kwaio examples (he describes *-aʔi*, *-eʔe-ni* as having an intensifying function) to the functions of *\*-aki* reflexes in languages of the Western Oceanic clusters. These facts suggest that there is quite a sharp genetic dividing line between the North-West Solomonic cluster (of Western Oceania) and the South-East Solomonic family (of Central-Eastern Oceania).

The instrumental, confective and refective functions served by reflexes of POC *\*-aki* in Western Oceanic languages may be characterised as 'valency-changing'. As well as the apparent loss of the variant *\*-akini*, the Western Oceanic clusters share a feature not observed in Central-Eastern Oceanic languages, namely the capture of prepositional verbs as valency-changing enclitics to the verb phrase. As I show below, there are indications that some Admiralties languages have undergone similar change, and this feature probably cannot therefore be claimed as an exclusively shared innovation of the Western Oceanic clusters. It could also be argued that some of the cases touched on below are instances of independent parallel innovation rather than of shared innovation. These questions need further investigation, but I offer my findings here because there seems to be no parallel phenomenon in Central-Eastern Oceania.

Three prepositional verbs seem to have undergone 'capture' as valency-changing enclitics:

a)  *\*ni-*
    instrumental, confective, refective

b)  *\*(k)ani-*
    instrumental, refective

c)  *\*pani-*
    benefactive

Clear cases of captured POC *\*ni-* are found only in the Meso-Melanesian cluster: in Nakanai (Willaumez family) and in Mono-Alu, the Choiseul languages, Roviana, and (as a fossil only) Maringe of the North-West Solomonic chain. Less clear are instances of *-ni* as a variant of transitive *-i* in languages of the Are-Taupota chain of the Papuan Tip cluster (e.g. Wedau *vi-peu-ni* CS-fall-TR 'drop (s.t.)' < *peu* 'fall' and its Tawala equivalent *wi-peu-ni*). These may be a semantically bleached fossil of *\*-ni-* capture: more data are needed to determine this.

Of the clear cases, the Roviana reflex of *ni- was described in section 7.5.4, and the Maringe fossil is encapsulated in the second person singular object enclitic -niyo, from earlier *-ni + yo O:2S. Other Meso-Melanesian examples are given below. The instrumental and refective uses of reflexes of *-ni (glossed -NI) are similar to those of reflexes of *-aki (note (i) that Nakanai -le is a clitic which *follows* the object suffix, but its capture is evidented by its separation from the instrumental noun phrase la bua; and (ii) that Ririo -in is derived from *-ni by regular metathesis):

(10.69) Nakanai (Maututu)

>| e | sarere | abi-a-le | e | garua | la | bua |
>|---|---|---|---|---|---|---|
>| ART | Sarere | present-O:3S-NI | ART | Garua | ART | areca |

> 'Sarere presented Garua with some areca nut.'

(10.70) Ririo (Laycock n.d.)

>| ra | k-o | löt-in | boʔ | lɔt |
>|---|---|---|---|---|
>| D:1S | TA-S:1S | cut-NI | pig | knife |

> 'I cut the pig with a knife.'

> (cf. ra k-o löt boʔ 'I cut the pig')

>| zita | ma-ta | papad-in | boʔ | sa | li |
>|---|---|---|---|---|---|
>| D:1EP | TA-S:1EP | talk-NI | pig | S:3S | die |

> 'We talked about the pig that died.'

> (cf. zita ma-ta papad 'we conversed')

(10.71) Sengga

>| öe | sa | kobele-ni | keikere-a |
>|---|---|---|---|
>| D:3S | S:3S | break-NI | tooth-P:3S |

> 'He broke it with his teeth.'

> (cf. öe sa kobele puru 'he broke the stick')

(10.72) Mono-Alu

kahuru 'get angry' > kahuru-ŋ 'get angry with (s.o.)'

ela 'sing' > ela-ŋ 'sing to (s.o.)'

Varisi

sadaka 'appear' > va-sadaka-ni 'show to (s.o.)' (va- < POC *pa- causative)

Sengga

isi 'be afraid' > isi-ni 'be afraid of (s.o.)'

Pawley (1973:122) takes -ni in the New Georgia and Choiseul languages to be a reduction of *-akini. This interpretation seems improbable since (i) a prepositional verb POC *ni- is reconstructible (section 4.5.4); (ii) no other reflexes of the variant *-akini are known in WM languages; and (iii) the expected reflex of *-akini in these phonologically quite conservative languages would be **-ayini or **-aini in Varisi and Sengga, and **-ayini in Roviana.

Cases of the capture of *(k)ani- 'instrumental, refective' have been found in New Ireland languages (Tigak, Kara, Tabar, Lihir, Barok, Tangga, and Tolai) and in one Papuan Tip language, Misima. More research is needed to establish its actual distribution. Examples are:

(10.73) Tigak

piras 'be angry' > piras-an- 'be angry with (s.o.)'

viakon 'be afraid' > viakon-an- 'be afraid of (s.o.)'

Kara

pit 'hit (s.o.)' > pit-an 'hit with (s.t.)'

Tabar

ve-sas 'quarrel' > ve-sas-an 'quarrel over (s.t.)' (ve- < POC *pa[R]i- reciprocal)

Lihir

kiet 'spy' > kit-an- 'check up on (s.o.)'

cap 'be open' > cap-an- 'open (s.t.)'

peckiec 'hold on tightly' > peckic-an- 'hold onto (s.t.) tightly'

Barok

bubut 'be afraid' > bubut-in- 'be afraid of (s.o.)'

Tangga

sos 'play' > sos-ŋe- 'play with (s.o.)'

rur 'laugh' > rur-ŋe- 'laugh at (s.o.)'

faim do 'work' > faim-ŋe- 'do work on (s.t.)'

Tolai

mait 'be sick' > mait-ane 'have pain in (an organ)'

kankan 'be angry' > kankanu-ane 'be angry with (s.o.)'

Misima

loakun 'be afraid' > loakun-an- 'be afraid of (s.o.)'

Four languages have been found in which reflexes of *pani- 'benefactive' occur as a captured benefactive enclitic. Examples from three of these, Kairiru, Manam, and Wogeo, were given in examples 4.46 to 4.48. The fourth language is Varisi, at the opposite end of the Western Oceanic area:

(10.74) Varisi (Scheffler n.d.)

era     g-a        vae-ne    pale   sika   era
D:1S    TA-S:1S    hit-BEN   bird   dog    D:1S
'I killed a bird for my dog.'

compare:

era     g-a        vae-iyo
D:1S    TA-S:1S   hit-O:2S
'I hit you.'

aro    m-o        be-besi-n-ava
D:2S    TA-S:2S   RD-draw.water-BEN-O:1S
'You draw water for me.'

compare:

ia     ma-ra   be-besi
D:3S   TA-S:3   RD-draw.water
'He should draw water.'

It would be foolhardy to argue that all the cases of prepositional-verb capture above are attributable to a single innovation or set of innovations rather than to parallel developments. But it is hard to avoid the conclusion that there is a connection between the occurrence of these innovations in languages of the three Western Oceanic clusters and the absence (loss ?) of the variant POC *-akini (as opposed to *-aki). The connection would appear to be that loss of *-akini and subsequent phonological reductions of *-aki (> -ayi > -ai > -e > -∅) created a need for new valency-changing morphemes which was fulfilled by prepositional-verb capture. What is very clear is that in this area of morphology, the boundary between Western and Central-Eastern Oceania is rather sharp.

As a postscript it should be pointed out that Smythe's (n.d.a and n.d.b) data on Seimat and Kele in the Admiralties include examples of similar phemonena which are difficult to interpret without similar information from related languages.

In Seimat, Smythe records the enclitic -ini/-eni refective, confective, allative:

(10.75)   mal 'laugh' > mal-ini 'laugh at'
          lua 'go' > lua-ini 'go to, reach (somewhere)'
          soa 'agree' > so-ini 'agree with (s.o.)'
          muna 'hide' > mun-eni 'hide (s.t.)'

This may reflect POC *-akini or a capturing of the prepositional verb POC *kini-. In neither case is there an exact Western Oceanic parallel.

Two other Seimat enclitics seem to be captured prepositional verbs. The first is -ke confective, which looks superficially like a refflex of POC *-aki, but almost certainly is not since (i) POC *k is lost in Seimat; (ii) Seimat k reflects POC *r, *dr, and (iii) Smythe relates it to a verb uke 'carry' which also serves as an instrumental prepositional verb. Examples are:

(10.76)  i    kiliwa-ke             saminu-k
        D:3S  run.away-CONFECTIVE   spear-P:1S
        'He ran away with my spear.'

       (cf. kiliwau 'run away')

      i    nahi-ke          ŋolapuŋ   teta-k    hani   xuxu-n
      D:3S  go-CONFECTIVE   axe        PREP-P:1S  go.to  village-P:3S
      'He went with my axe to his village.'

compare:

*ŋa    nahi    hani    xuxu-k*
D:1S   go      go.to   village-P:1S
'I went to my village.'

The other enclitic, *-ne,* of which only one example is given, looks formally and semantically like a captured version of *\*pani-* benefactive: Smythe gives *kaka-ne* 'speak to (s.o.)' beside *kaka* 'speak about (s.t.)'.

The Kele enclitic is *\*-an,* and Smythe's examples suggest that it reflects *\*(k)ani-* instrumental, refective:

(10.77)  *demt-e* 'ask (s.o.)' > *damt-an* 'ask about (s.t.)'

        *tewan-e* 'think about (s.t.)' > *tawan-an* 'think of, remember (s.t.)'

        *teheŋu-i* 'hear (s.t.)' > *teheŋu-an* 'remember (s.t.)'

        *tepenow* 'teach (s.o.)' > *tepenuw-an* 'teach about (s.t.)'


## 10.3.2  THE EXTERNAL RELATIONSHIPS OF WESTERN OCEANIC

In section 10.3.1 above I proposed that the three of the four WM clusters, North New Guinea, the Papuan Tip and Meso-Melanesian, constitute a grouping which I have dubbed Western Oceanic. My purpose in this section is to examine evidence concerning the external relationships of this grouping to provide a context for a description of its genesis and its internal relationships.

Sharp divisions can be drawn between Western Oceanic and the Admiralties on the one hand and between Western Oceanic and South-East Solomonic on the other on the basis of differing innovations involving POC *\*R:*

a)  in all languages of the Papuan Tip and Meso-Melanesian clusters of Western Oceanic, POC *\*R* has merged with *\*r,* it has also done so in most languages of the North New Guinea cluster of Western Oceanic (I return to the exceptions in section 10.3.3 below);

b)  in the Admiralties, POC *\*R* is lost before high vowels is reflected as zero or an approximant (*[h], [y],* or *[w]*) before non-high vowels, whilst POC *\*r* is retained as *r* or *l* and POC *\*l* as *l*;

c)  in the South-East Solomonic family, POC *\*R* has merged with POC *\*l.*

We know that the language from which all three groups are most immediately descended – and this is assumed to be POC – must have had the three contrasting consonants *\*R, \*r,* and *\*l.* I suggested at the beginning of chapter 3 that the most likely homeland area for POC was the area from the Vitiaz Strait to the Willaumez Peninsula of northern New Britain. This suggestion was based partly on the heterogeneity of the languages of the area. This area is today occupied by languages belonging to the Meso-Melanesian and North New Guinea clusters (i.e. Western Oceanic languages), most of which have now merged POC *\*R* with *\*r.* It follows from this – if the choice of this area as the POC homeland is correct – that the ancestors of the Admiralties and South-East Solomonic languages must have departed before the merger of *\*R* and *\*r* (and the innovations exclusively shared by Western Oceanic languages) began.[130] In other words, at least two groups of people – some of whose descendants spoke Proto Admiralty and Proto South-East Solomonic respectively – departed from the homeland area before the occurrence of the innovations which characterise Western Oceanic

languages. However, this interpretation entails the proposition that the diffusion of Western Oceanic which resulted eventually in the North New Guinea, Papuan Tip, and Meso-Melanesian clusters did not occur until after the departure of the ancestors of Proto Admiralty and Proto South-East Solomonic speakers, i.e. that, in relation to the break-up of POC, the diffusion of Western Oceanic was a late event.

This reconstruction of linguistic prehistory has certain consequences. In the case of the Admiralties they are fairly simple, in the case of South-East Solomonic somewhat more complex.

A glance at Map 1 is sufficient to indicate that the most probable migratory route from the homeland area to the Admiralties is through New Ireland and Mussau. However, the distances between the Admiralties and other islands are sufficient to suggest that, once geographic separation occurred, Proto Admiralty and its descendants would have developed without much external linguistic influence. The innovations which are exclusively shared by the Admiralties languages are adequate confirmation of this. The likelihood of a Mussau connection is certainly not excluded by the data: Mussau is clearly not a Meso-Melanesian language, is quite different from its New Ireland neighbours to the south-east, and has some features in common with the Admiralties languages (Chapter 9). If the migration which resulted in the separation of Proto Admiralty from POC left any settlers in its wake on New Ireland, we have no linguistic evidence of this today.

The case of South-East Solomonic is more complex because of the far greater geographical distance which separates the languages of the South-East Solomonic family from the putative POC homeland. Before this is discussed further, however, the relationship of the South-East Solomonic languages to Oceanic languages further east must be briefly considered. Above I referred to a group of people, some of whose descendants spoke Proto South-East Solomonic. I am not seeking to imply that the South-East Solomonic family is a first-order subgroup of POC. Pawley (1972) saw reasons for grouping it with languages of north and central Vanuatu and the central Pacific in an Eastern Oceanic grouping. Lynch and Tryon (1985) have suggested that his (1977) withdrawal of the South-East Solomonic languages from that grouping was precipitate, and that a larger grouping comprising all the languages of Central-Eastern Oceania is possible. Thus 'a group of people, some of whose descendants spoke Proto South-East Solomonic' above may be read as possibly referring to the group whose earlier descendants spoke Proto Central Eastern Oceanic or Proto Eastern Oceanic.

Although I have made no detailed study of the South-East Solomonic family, certain facts concerning its relationship with the North-West Solomonic chain are clear:

a) the languages of the South-East Solomonic family are lexically far less diverse than the languages of the North-West Solomonic chain; that is, a larger lexicon can be reconstructed with confidence for Proto South-East Solomonic than for Proto North-West Solomonic;

b) on present reconstruction of POC, the languages of the South-East Solomonic family, and especially those of its Guadalcanal-Gelic subgroup, are more conservative in lexicon and phonology than those of the North-West Solomonic chain;

c) the two groups of languages share no phonological innovations except the merger of POC *d and *dr, which has occurred over such large areas of

d) Oceania as to provide no insight into linguistic prehistory;

e) the South-East Solomonic languages share none of the morphological innovations which characterise Western Oceanic languages;

f) there are several morphosyntactic features which some languages of the North-West Solomonic chain do share with languages of the South-East Solomonic family and perhaps with languages further east.

Points (a) and (b) assert the conservatism of the South-East Solomonic languages in comparison with those of the North-West Solomonic chain, implying that they have been disturbed by little external linguistic influence since their separation from POC. It does not necessarily follow from these points that the ancestors of Proto South-East Solomonic speakers departed early from the POC homeland, but they are certainly not inconsistent with this suggestion. These points *do* imply that the ancestors of Proto South-East Solomonic speakers spent little or no time in reach of the linguistic influence of non-AN speakers (who on their present distribution occupied at least parts of New Britain, New Ireland, Bougainville, and the western Solomon Islands), whereas speakers of some North-West Solomonic languages live in close proximity to non-AN speakers. I have suggested (section 7.5.2) that features of Mono-Alu and Torau are attributable to non-AN influence; Lincoln (1976b) suggests that this is also true of Piva.

Points (c) and (d) suggest that the North-West Solomonic and South-East Solomonic languages do indeed belong to different first-order subgroups of POC. Point (e) therefore comes as something of a shock, as it implies that some kind of a relationship does exist. The shared morphosyntactic features are:

A. VSO basic clause order, with preposing of the topic.

B. The use of former possessive noun phrase structures in the verb phrase.

Do these shared features mean that we are wrong (i) to include the North-West Solomonic languages in the Meso-Melanesian cluster and (ii) to assert that there is a clear genetic division between North-West and South-East Solomonic? I believe not. Points (c) and (d) stand. What is noteworthy is that shared features A and B are syntactic – not morphological or phonological – features, and are therefore readily subject to borrowing (section 1.6). It is also noteworthy that A and B are precisely those syntactic features which are reconstructed as PNS innovations. A and B therefore suggest the hypothesis that PNS acquired these features – probably through bilingualism – from languages with which it came into contact. The interesting point is that the non-AN languages of Bougainville (where the most solid block of non-AN languages survives) are not VSO but SOV. This leaves the possibility that the early Meso-Melanesian communalects on Bougainville and in the western Solomon Islands came into contact with speakers of VSO AN languages related to those of the present-day South-East Solomonic family.

It was proposed above that the ancestors of Proto South-East Solomonic speakers left the POC homeland at a relatively early date, before the changes which are characteristic of Western Oceanic languages and before the diffusion of Western Oceanic languages. It is possible – but very unlikely – that the ancestors of Proto South-East Solomonic speakers migrated to the central Solomons leaving no settlements along their route. It is far more likely that settlements were left by this early movement of population, and that the later, Meso-Melanesian, arrivals came into contact with them. Languages resulting from the earlier Oceanic intrusion are no longer found west of Bugotu and Guadalcanal. But if the two movements of Oceanic-speakers are posited, together with contact between the two Oceanic groups in the North-West Solomonic area, then we explain simultaneously both the similarities in A and B above and the sharp dividing line between North-West Solomonic and South-East Solomonic. The later arrivals came into continuing contact with the descendants of the earlier Oceanic intruders, and through bilingualism acquired some of the linguistic features of the language(s) of the earlier

settlers before the latter were displaced by the language(s) of the newcomers. However, the second movement of population progressed no further than New Georgia and Santa Ysabel, leaving the linguistic inheritance of the first Oceanic population intact in the south-eastern Solomon Islands and creating the present-day dividing line.

This hypothesis depends on the truth of point (e) above and the validity of the shared features A and B. With regard to A, the probable VSO and topic-first structure of PNS was demonstrated in Chapter 7. Simons (1980) provides evidence that these features are reconstructible for Proto Eastern Oceanic, and shows clearly that they are features of the present-day grammars of South-East Solomonic languages. The reconstruction of B, the use of the former possessive noun phrase structure in the verb phrase was the subject of Ross (1982b), and I showed in chapter 7 that this structure also occurs in Roviana and Maringe and is therefore reconstructible in PNS. A fragment of example (7.88) is repeated by way of illustration:

(10.78) Maringe

| iara | ei-tei | no-gu | ka | nabrou |
|------|--------|-------|-----|--------|
| D:1S | RD-walk | PCL-P:1S | PREP | road |

'I was walking along the road.'

The essential feature of this structure is that the verb acts as if it were the head of an alienable possessive noun phrase and the subject as if it were the possessor. Similar verb phrases are found in South-East Solomonic languages:

(10.79) Bugotu

| tai-taviti | ni-gua | kori | haŋana |
|------------|--------|------|--------|
| RD-walk | PCL-P:1S | PREP | road |

'I was walking along the road.'

The Maringe and Bugotu examples here are chosen for their transparency. It happens that these languages are geographically adjacent, but it is improbable that this is the reason for the similarity between these examples, as structures of this kind are found as far north-west as Buka (Ross 1982b) and at least as far south-east as Malaita:

(10.80) To'aba'ita (Lichtenberk 1984:10)

| kini | kai | teo | ʔa-na | fafo-na | ŋa | kaufa |
|------|-----|-----|-------|---------|-----|-------|
| woman | TA.S:3S | lie | PCL-P:3S | topside-P:3S | ART | mat |

'The woman is lying on the mat.'

Note that what I have here glossed as a possessive classifier no longer serves that function in To'aba'ita, where the possessor follows the alienable possessum in simple juxtaposition. However, ʔa- reflects the alimentary possessive classifier POC *ka-.

The piece of linguistic prehistory which has just been reconstructed has an interesting implication. If the languages of the South-East Solomonic family are indeed conservative, and representative of an earlier stage of Oceanic than the languages of the Meso-Melanesian cluster, then it is possible that the unmarked clause structure of POC was VSO (as Simons 1980 suggests), and not SVO as I have assumed here, following Pawley and Reid (1980). Theory supports this possibility. It was observed in section 1.6.2 that languages with clause structures other than SVO are likely to have other common orders, including SVO, as variants, whereas languages with SVO clause order are unlikely to have other common variants. Hence it is more probable that a VSO language (like POC ?) will become an

SVO language (like those of the Admiralties cluster and the three Western Oceanic clusters) than vice versa. If this is so, then the VS structure of 'inactive' intransitive clauses in Tolai and Bola is a retention, not an innovation, and is perhaps the mechanism which enabled PNS to revert to VSO order. This, however, is speculation.

### 10.3.3 THE GENESIS OF WESTERN OCEANIC

If the reconstruction of the diffusion of early Oceanic languages in section 10.3.2 is correct, then the Western Oceanic grouping is not a first-order subgroup of the Oceanic family in the sense in which this term is often understood. Whereas, for example, the Admiralties cluster is descended from a language which became geographically separated from other early Oceanic communalects and underwent a unique set of innovations which are reflected in its daughter-languages, Western Oceanic languages are descended from the stay-at-home communalects of POC. The Admiralties cluster forms a subgroup by virtue of its separation from its relatives; the Western Oceanic grouping forms a subgroup only because the ancestors of other Oceanic groups separated *from it*. It is convenient to extend the term 'Proto Oceanic' chronologically to include the communalects which remained in the homeland after the early separations had taken place, and to use the label 'late Proto Oceanic' for the communalects which remained after speakers of the ancestor-languages of (at least) the Admiralties and South-East Solomonic groups had become separated from the homeland. The languages of the three Western Oceanic clusters result from the diffusion of late POC.

It can be assumed that during the period between the arrival of Pre-POC in the Vitiaz Strait/Willaumez Peninsula area and the early POC period, i.e. the period of the first separations from it, POC had diffused into a chain of communalects which remained in contact with each other through trade and kinship. Exactly how far this chain stretched is a matter of speculation, but if the trading networks which existed at European contact (e.g. in the Vitiaz Strait; cf. Harding 1967) are an indicator and social contact was to be of sufficient regularity to maintain linguistic unity, it is unlikely that the POC dialect chain covered an area greater than the flat triangle whose apex is formed by the French Islands (where the Bali-Vitu communalects are now spoken) and whose base stretches from the islands of the Vitiaz Strait in the west along the north coast of New Britain to Lolobao Island (today the home of Meramera) in the east.[131] Settlements beyond the limits of such an area would probably not have had social contact with sufficient regularity to maintain the unity of the language, and dialect differentiation would have become language differentiation.

Whilst the archaeological record shows that obsidian from the Willaumez Peninsula had by 1000 B.C. found its way to Ambitle Island (in the Feni Islands, present-day home of the Tangga language), to Gawa in the Reefs Islands, and to New Caledonia (Ambrose and Green 1972; Shutler 1978), the chain of trading links which these finds imply in no way presupposes the maintenance of linguistic unity (as the linguistic heterogeneity of the Kula trade network in the island of the Papuan Tip region confirms). These links were probably the result of population movements out of the homeland area, and the most which can be said about them linguistically is that they probably spoke Oceanic languages.

A factor which possibly contributed as much as distance to the separation of early Oceanic populations and to resulting linguistic diversification is the the geology of the proposed POC triangle and the area around it. It is likely that volcanic eruptions were at times of sufficient violence to bring about the long-term separation of settlements. In the middle of the triangle, forming the head of the Willaumez Peninsula, is the Dakataua caldera, a continuing locus of volcanic activity. In the nearby

area occupied by the Nakanai people are the volcano behind Cape Hoskins[132] and Mount Ulawun ('The Father'), one of the most active volcanoes in PNG (Cooke 1981b). Settlement of Vitu Island and, more recently, the separation of the Bulu and Bola languages are associated in oral history with volcanic eruptions (Specht 1980), and the oral accounts make vulcanological sense (Branch 1967). It is rather unlikely that this association of population movements and volcanic events in the area has occurred only once or twice. A little further away, but an almost certain determinant of linguistic history, is the caldera which today is Rabaul harbour. The caldera was formed in a massive eruption around 1500 B.C. (Walker et al 1981; Almond 1981). A second major eruption occurred around 800 A.D. We can be confident that at least the second eruption affected the linguistic history of the area, since Willaumez obsidian and Lapita pottery, presumably associated with Oceanic speakers, has been found on Watom Island near Rabaul dating from about 500 B.C. (Key 1968) beneath a layer of ash associated with the second eruption; above the ash is found obsidian, but no pottery, indicating that the present Tolai-speaking inhabitants are not the descendants of the earlier Oceanic-speaking population (Specht 1968). Tolai oral tradition also records their occupation of the area after the eruption (Salisbury 1972).

The point of the discussion above is not to reconstruct specific events in the early history of POC, but to suggest that information available from other disciplines makes it reasonably likely that separation of populations from the homeland did occur, and that it is far less likely that POC 'was spoken over a large area, probably extending from New Britain and the adjacent coast of New Guinea as far east as San Cristobal in the Solomon Islands' (Pawley 1981:273-274). While, as the reconstruction of events in section 10.3.2 shows, I agree with Pawley about the area over which early Oceanic populations spread, my estimate of the speed at which early linguistic separation and diversification occurred differs from his. As Pawley says (1981:278), his inference that POC 'was spoken over a large area, extending from the Bismarck Archipelago to the Southeast Solomons, is based chiefly on the geographic distribution of subgroups within Oceanic'. The counter-inference I make here is that linguistic separation of the ancestors of Proto Admiralty and Proto South-East Solomonic from the homeland dialect chain occurred quite early after these population movements and that late POC (the homeland dialect chain) then underwent innovations not shared by the earlier departures. This inference is, of course, based on the view of WM Oceanic subgrouping presented in the earlier chapters of this work according to which WM Oceanic languages belong to far fewer, larger groups that those envisaged by Pawley.

There are several pieces of linguistic evidence that late POC diversified into the ancestor languages of the three Western Oceanic clusters by dialect differentiation rather than by separation. Two pieces of evidence indicate in general terms that the process was one of dialect differentiation, and four small fragments point to the locus of this differentiation.

The first of the two pieces of evidence is the behaviour of the merger of POC *$R$ with *$r$. Since this merger occurs over most of the area occupied by WM languages, but not in the adjacent Admiralties and South-East Solomonic groups, I take it as evidence for the unity of the three Western Oceanic clusters in accordance with the principle enunciated in section 1.6.3. However, the merger has failed to occur or to be completed in three areas. These are

a) the Schouten chain: in Proto Schouten, POC *$r$ merged initially with *$d$ and *$dr$ but medially with *$R$;

b) the Bariai chain of the Ngero family, where POC *$r$ has merged with *$l$ and POC *$R$ retains a separate reflex;

c) the Buang chain of the Huon Gulf faily, where, as far as can be ascertained from the limited evidence, POC *ʀ word-finally has merged with *r and in other environments has merged with POC *w and some reflexes of *k and *q.

The three areas in which the merger failed to occur are all parts of the North New Guinea cluster. The fact that the merger is incomplete would require under a standard family-tree model that we dissociate the Western Oceanic grouping from the merger of *r and *ʀ and either (i) ignore the merger; or (ii) adopt a different subgrouping from that proposed in this work (e.g. by excluding the three areas from the North New Guinea cluster and treating them as first-order Oceanic subgroups); or (iii) posit independent parallel innovation in the areas in which the merger has occurred. None of these solutions is satisfactory, since the merger of *r and *ʀ is a fact of most Western Oceanic languages (which are found to be associated with each other by independent criteria) that requires recognition. Its use as a higher-order subgrouping criterion as in (ii) would run counter to other evidence, whilst the assumption of independent parallel innovation ignores the contiguity of the groups of languages in which it occurs.

To recognise that the merger occurs throughout most, but not all, of the North New Guinea cluster, and throughout the Papuan Tip and Meso-Melanesian clusters, requires us to set the standard family-tree model aside and to reconstruct the merger of *r and *ʀ in relation to a dialect chain. The distribution of the merger suggests that it occurred at about the time that the late POC dialect chain extended beyond the limits of the triangle and started to become a chain of languages. It was completed in those parts of the chain which were ancestral to the Papuan Tip and Meso-Melanesian clusters, but did not spread through all that part of the chain which became the North New Guinea network. The ancestor of the Schouten chain appears to have become separated from the rest of this network at quite an early date. This dating is supported by its retention of the early sequence of PWO *-na- future marker + early subject proclitic forms (section 10.3.1.3). If the merger of POC *r and *ʀ had occurred at all in that part of the network from which Proto Schouten separated, then it had affected only medial consonants. From the remaining North New Guinea network two (or more) communalects, ancestral to Proto Ngero and Proto Huon Gulf, became semi-independent, leaving behind the dialects which I have labelled Proto Vitiaz. The merger spread to all dialects of the Vitiaz network, and later into the Tuam chain of the Ngero family, but the Bariai chain remained beyond its reach. Similarly it spread into the northernmost dialects of the Huon Gulf family and then southwards, but did not reach the southern coast of the Huon Gulf before the penetration of the mountains immediately inland of that coast by ancestors of Buang-speakers.

The scenario I have just described — and on which at least minor variations could readily be devised — accounts for the distribution of the WM merger of POC *r and *ʀ more convincingly that the family-tree model allows. At the same time, however, it requires that the early history of Western Oceanic is viewed in terms of dialect differentiation rather than as a series of separations.

The second piece of evidence that the early diversification of Western Oceanic occurred by dialect differentiation is the presence of reflexes of POC *(k)ira D:3P in two languages of the Central Papuan family of the Papuan Tip cluster, namely Keapara and Sinagoro, and in Choiseul (section 10.3.1.1). Everywhere else in the Western Oceanic grouping, the third person plural disjunctive pronoun is a reflex of the innovative PWO *idri[a]. It is possible to seek an explanation of the Choiseul reflexes in the kind of borrowing from earlier Oceanic languages which resulted in the syntactic innovations of the North-West Solomonic group (section 10.3.2), but if my theory of what is readily borrowable (section 1.6) is correct, then this kind of morphological borrowing is unlikely. A more likely explanation of the reflexes of POC *(k)ira D:3P is that the innovation of *idri[a]

occurred in the late POC dialect chain, perhaps as an emphatic form of the pronoun used alongside the unmarked form *(k)ira D:3P, and that it became demarked throughout most of the chain. At the time that the chain spread beyond the triangle and started to differentiate into languages ancestral to the three Western Oceanic clusters, both pronouns were used side by side. The demarking of *idri[a] continued, and it replaced *(k)ira in most communalects of the networks ancestral to the three clusters, but reflexes of *(k)ira survived in just two areas.

I turn now to those pieces of evidence which indicate the locus of the dialect differentiation of late POC. Each is only a fragment of morphological evidence, and two of the four concern only the North New Guinea and Meso-Melanesian clusters.

If the argument that the Western Oceanic clusters arose from a dialect chain is correct, then it is possible that a point or an area may be found at which isoglosses intersect two or all three of the clusters. Such an area would probably be within the POC triangle. Just such an area of intersection is found, and it consists of Bali-Vitu and the Willaumez family which, for the reasons given in Chapter 8, I have attributed to the Meso-Melanesian cluster and have taken to be its point of origin, but which also share certain morphological features with a few languages of the North New Guinea cluster and/or the Papuan Tip cluster. Of the four fragments, two appear to have been local innovations in part of the late POC chain, whilst two are retentions which have been lost elsewhere in the chain.

The two local innovations both concern attributive adjectives. I have suggested (section 5.5.1.1) that POC evidently had two categories of adjectives: a small class of 'true' adjectives and an open class of stative verbs which could be used adjectivally. Of the two local innovations, one concerns 'true' adjectives, the other stative verbs.

In part of the late POC chain, one means of indicating plural number in the noun phrase was the reduplication of a 'true' adjective. This reduplication is reflected in a number of languages of the North New Guinea cluster:

(10.81)  Kove (Ngero family)

    *luma    pa-pau*
    house   RD-new
    'new houses'

(10.82)  Kilenge (residual Vitiaz)

    *na-γaune    kapor-por-ia*
    ART-dog    small-RD-P:3P
    'small dogs'

(10.83)  Gedaged (Bel family)

    *ab       uyan-uyan*
    house   RD-big
    'big houses'

(10.84)  Rauto (Lamogai chain, S.W. New Britain network)

    *itar    taŋan-ŋan*
    house   new-RD
    'new houses'

(10.85) Apalik (Arawe chain, S.W. New Britain network)

> evin    teŋen-ŋen
> house   new-RD
> 'new houses'

This reduplication is also found in Bali-Vitu and among the Willaumez languages:

(10.86) Bali

> a       walu    rumaka    vaɣoru-ɣoru
> ART     P       house     new-RD
> 'new houses'

(10.87) Meramera

> luma    al-alaba
> house   RD-new
> 'new houses'

To the best of my knowledge this innovation is found only in languages of the North New Guinea cluster and in the Bali-Vitu/Willaumez area, and nowhere else in WM.

As sections 5.5.1.1 and 8.5.2.4 show, one way of using a stative verb attributively in early Oceanic was to nominalise the verb and to treat the described noun as the possessor of the nominalisation. In a number of languages of the North New Guinea cluster (section 5.5.1.1) the reflex of the POC nominalising suffix *-(a)ŋa was used in this context. The Mangap example (5.113) is repeated here:

(10.88) ruumu    popo-ŋa-na
        house    new-NOM-P:3S
        'the new house'

> ruumu    popo-ŋa-n
> house    new-NOM-P:3P
> 'the new houses'
> (More literally: 'the newness of the house(s)')

However, what appears to be a reflex of the same innovation occurs in Bali: 'appears to be', because in the Bali reflexes available to me, -ŋa occurs on predicates, and not on attributes:

(10.89) a       lima-ma    a      molumolua-ŋa
        ART     arm-P:3S   ART    dirty-NOM
        'Your arm is dirty.'

> a       kirei    ni     t-e        tarutigilima-ŋa
> ART     basket   DEM    TA-S:3S    be.hidden-NOM
> 'The basket is hidden.'

Thus the North New Guinea cluster use of POC *-(a)ŋa with stative verbs used adjectivally appears to overlap into Bali.

The two retentions both concern prefixes used to form causatives. Pawley (1973:128) reconstructs POC *paka- as the prefix forming causative transitives from intransitives with undergoer subjects, as seen in its Manam reflex *aʔa-:

(10.90) *matoli* 'be thick' > *aʔa-matoli* 'thicken (s.t.)'

    *goaza* 'be clean' > *aʔa-goaza* 'clean (s.t.)'

    *ʔawa* 'know' > *aʔa-ʔawa* 'instruct'

However, although there are numerous reflexes of *\*paka-* in Eastern Oceanic languages, there are only three other unambiguous reflexes in the WM region, namely Bulu, Bola (Willaumez family) *vaka-* and Sinagoro (Central Papuan family) *vaɣa-*. In all other WM languages which reflect such a morpheme, the POC morpheme which they reflect is *\*pa-*. Admittedly, many languages lose medial POC *\*-k-* entirely or sporadically, but even in those languages which always retain a reflex, this morpheme is reflected without an intervocalic consonant: we find Bali-Vitu, Roviana, Keapara (Aroma) *va-* (for exp *\*\*vaɣa-*) and Maringe *fa-* (for exp *\*\*faɣa-*).

Although it appears economic to treat POC *\*pa-* as a reduction of *\*paka-*, non-Oceanic evidence suggests a different solution, and this is that POC inherited both morphemes. If we consider western AN evidence, it seems that PAN *\*pa-* formed causative verbs the pivot of which was the undergoer:

(10.91) Tagalog

    *pa-luto* 's.t. caused to be cooked'        (Schachter and Otanes 1972:105)

    Hiligaynon

    *pa-hulam* 'be caused to be borrowed'        (Wolfenden 1971:92)

    Palaweño

    *pə-surat* 'be caused to write'        (Revel-Macdonald 1979:236)

    Ivatan

    *pa-rahmet* 'become heavy'        (Reid 1966:44)

    Indonesian

    *pə-suruh* 'one who is ordered'        (Dardjowidjojo 1967)

PAN *\*ka-* apparently marked the inchoative,[133] and *\*pa-ka-* a causative inchoative which in the forms *paka-* and its variant *maka-* has undergone semantic shifts in various western AN languages.[134] In POC, however, the inchoative element seems to have become lost and there was no apparent difference in function between POC *\*pa-* and POC *\*paka-*. Throughout most of the late POC dialect chain, *\*paka-* seems to have been ousted by *\*pa-*, and the surviving reflexes of *\*paka-* in Bulu, Bola, Manam and Sinagoro are relics of the period before the ouster. It is noteworthy that Manam and Sinagoro are both languages which I have noted above as the repository of a relic.

The second retention concerns the POC causative prefix *\*pi-*, which to my knowledge has not been reconstructed previously. Its reconstruction is based on reflexes in non-Oceanic AN languages and two relic areas in WM. It appears from Amis (Formosa; Chen 1985) that PAN *\*pi-* may have formed a pair with *\*pa-*. Both formed causatives, but the pivot of a *\*pa-*verb was its undergoer, of a *\*pi-*verb its actor. *\*pi-* and its variant *\*mi-* (< *\*-um-* + *\*pi-*) are reflected sporadically in non-Oceanic AN languages:

(10.92)  Amis

      *mi-ala* 'rescue (s.o.)' (cf. *ma-ala* 'be rescued')

      Palaweño

      *pi-təgər* 'that which strengthens',
      *pi-laŋu* 'that which makes alcoholic'      (Revel-Macdonald 1979:174)

      Javanese

      *pi-kukoh* 'deed' (= 'document')
      (literally 'that which mades sturdy')      (Suharno 1982:23)

      Merina

      *mi-vérina* 'come back'      (Dahl 1986)

POC *\*pi-* appears not to have differed in function from *\*pa-* and is reflected in Nakanai (Willaumez family) (Johnston 1980:136-137) and in languages of the Are-Taupota chain (Papuan Tip cluster):

(10.93)  Nakanai

      *sae* 'climb up' > *vi-sae-a* 'load (s.t. into a vehicle)', 'help (s.o.) into a raised position'

      *sivo* 'climb down' > *vi-sivo-a* 'unload (s.t. from a vehicle)', 'help (s.o.) down from a raised position'

      *mahuli* 'be alive' > *vi-mahuli-a* 'heal (s.o.)'

      Are

      *bonua* 'full' > *bi-bonua* 'fill (s.t.)'

      *kanu* 'spittle' > *bi-kanu* 'spit'

      Wedau

      *peu* 'fall' > *vi-peu-ni* 'drop (s.t.)'

      Tawala

      *peu* 'fall' > *wi-peu-ni* 'drop (s.t.)'

Note that in Nakanai *vi-* and *va-* both function as causative prefixes with no apparent phonological or semantic conditioning to determine which is used.

    The significant point about these four features is that in each case, one or more of the languages involved lies in the Bali-Vitu/Willaumez area of the Meso-Melanesian cluster. In the first two cases, languages of that area share a morphological innovation with languages of the North New Guinea cluster, but the innovation is not shared by other Meso-Melanesian languages. In the latter two, languages of that area share a morphological relic with languages of the North New Guinea and/or Papuan Tip cluster. Whilst this is scanty evidence, it suggests that the languages of the Bali-Vitu/Willaumez area are the diachronic continuation of that point in the late POC dialect chain at which isoglosses characteristic of the dialects ancestral to the three Western Oceanic clusters intersected with each other.

## 10.4 POSTSCRIPT: A WIDER PERSPECTIVE

The scenario which I have presented in this final chapter sees the development of a POC dialect chain in the north-west New Britain area, followed by population movements from this area to the Admiralties and also into a region including at least the south-eastern islands of the Solomons and an unknown area to the north-west of it in Bougainville and perhaps New Ireland. On the Eastern or Central-Eastern Oceanic hypothesis, the settlement of the south-eastern Solomons was only a step in a process of colonisation which finally included the rest of Oceania. These movements from New Britain were followed by the diversification of 'stay-at-home' late POC into the North New Guinea, Papuan Tip and Meso-Melanesian linkages, with the last-named overlapping into the area of earlier settlement.

Lynch and Tryon (1985) have put together a set of fifteen innovations which characterise the languages of Central-Eastern Oceania. If, however, it is true that the settlement of the south-eastern Solomons and beyond represents an earlier wave of settlement than the settlements ancestral to Western Oceanic languages, then at least some of the features which characterise the languages of Central-Eastern Oceania might well be features of POC which were lost in most or all of the late POC dialect chain. And in this case we might expect to find reflexes of some of these features in the Admiralties and/or Mussau.

A somewhat cursory search[135] reveals Admiralties/Mussau reflexes of three of these features. A search of Western Oceanic data, however, also reveals reflexes of two of these, but only in a small number of languages. These features perhaps fall into the same category as POC *paka- causative: that is, they may be features which are of POC antiquity, and which were retained by populations which left the POC triangle at an early date, but disappeared across most of the late POC dialect chain.

The three features are:

a)  *pia 'where?', a metathesised form of POC *pai;

b)  *-(k, q)i construct suffix to possessed nouns when the possessor is a noun;

c)  *ka- instrumental noun derivative.

Mussau ea, Seimat ia 'where?' reflect POC *pia. So do scattered members of the North-West Solomonic family: Nehan ia, Solos, Petats i-ia, Taiof i-fia, Mono-Alu hi-na, and perhaps Nduke o-via.

Kele appears to reflect the construct suffix on the so-called 'free form' tama-i 'father' (Smythe n.d.b.), but not when the possessor is present (tama-n pihin 'the woman's father'). Arifama of the Are-Taupota chain also reflects it (gababura tama-i 'Gababura's father'), but no other Papuan Tip reflex has been found.

Whether an instrumental noun derivative reflecting POC *kai- should be treated as cognate with PCEO *ka- is debatable. This seems to be the source of Mussau ai- (ai-tui-tui 'a hammer' < tui 'hammer (s.t.)').

In Chapter 2 four questions were posed which are raised by the debate in Pawley (1981) and Lynch (1981). These were:

a)  Is there a dimension to the diversity of WM Oceanic languages which is better explained as a function of contact with speakers of other languages than as a function of time alone?

b)  How many discrete groupings of Oceanic languages can be identified in WM?

c) Is there a specific area in WM from which its Oceanic languages can be shown to have dispersed? And how did such dispersal occur?

d) Is there a group of languages represented in WM of which the Eastern or Central-Eastern Oceanic languages form a subgroup?

Answers to these questions in the light of this work are, I hope, obvious. I have found contact with speakers of non-AN languages a necessary inference in explaining features peculiar to various groups of WM languages, and have noted (section 10.3.2) the qualitative differences among the languages of North-West Solomonic chain, the diversity of which is at least in part attributable to contact with non-AN languages, and the South-East Solomonic family, which shows no sign of such contact.

The answer to question (b) depends on one's interpretation of the term 'discrete genetic grouping', but my answer to (b), (c), and (d) is summarised in the first paragraph of this section. Contrary to the assumptions with which I started the research reported here, there is no group of languages represented in WM of which the Eastern or Central-Eastern Oceanic languages form a subgroup, because the latter appear to be descended from early departures from the POC triangle.

A LISTING OF LANGUAGES AND INFORMANTS

The first four sections of this appendix are a listing of all WM Oceanic languages referred to in this work. The fifth section lists the two South-East Solomonic languages for which informants were consulted. Languages are arranged alphabetically within each section or subsection. Against each language are shown the name(s) of the informant(s) and their home village(s). A blank in the second column indicates that no informant was consulted. Sources other than informants are shown in Appendix B.

## A.1 NORTH NEW GUINEA CLUSTER

SCHOUTEN FAMILY

| | | |
|---|---|---|
| Ali | Henry Apo | Ali Island |
| | Bernardine Wailau | Ali Island |
| | Jerome Maiwan | Ali Island |
| | Brody Akoi | Ali Island |
| Bam | Clement Mauri | Rabanub |
| | Hans Adeg | Rabanub |
| Kaiep | Leo Waibon | Kaiep |
| | Julie Yaom | Kaiep |
| Kaiep (Terebu) | | |
| Kairiru | Michael Mom | Serasin |
| | Moses Manwau | Koragur |
| | Jack Morok | Koragur |
| Kis | Andrew Kaiap | Kis |
| | Benny Kamagai | Kis |
| Manam | William Sagem | Kuluguma |
| | Kunera Kaimagun | Waia |
| | Gabriel Kabarapung | Kuluguma |
| Medebur | Kilope Bador | Medebur |
| | Cornelius Bogomos | Medebur |
| Sepa | | |
| Sera | Ignas Sallee | Sera |
| | Anton Sivutu | Sera |
| | Job Tamoko | Sera |

| Sissano | Salaw Monane | Malol |
| | Rose Sarim | Malol |
| | Alphonse Saya | Arop |
| | Everard Hemo | *not recorded* |
| Tumleo | Jajuar Wasa | Yakoi |
| Ulau-Suain | Bonny Kawat | Suain No 2 |
| | Clifford Glaney | Suain No 2 |
| Wogeo | Lazarus Bureng | Koil Island |
| | Conny Mar | Wogeo Island |
| | Mathew Kalabai | Wogeo Island |

## BEL FAMILY

| Bilibil | Batsheba Mangan | Bilibil |
| | Nipa Aisak | Bilibil |
| | Reiben Hon | Bilibil |
| | Nakun Langong | Bilibil |
| | Jocelyn Pipoi | Bilibil |
| Biliau | Sibilai Kumormai | Teterai |
| | Karl Kumormai | Teterai |
| | Jasing Sibongai | Teterai |
| | Laki Tongi | Yamai |
| | Yak Namaleu | Galek |
| Gedaged | Michael Fan | Gedaged Island |
| | Judy Keleino | Madang town |
| Ham (= Dami) | Uya Tagog | Bur |
| | Kadab Kunam | Bur |
| | Siur Salib | Barum |
| Matukar | Nagod Wadau | Matukar |
| | Rara Didei | Matukar |
| | Gi Bus | Surumarang |
| Mindiri | *not recorded* | *not recorded* |
| Takia | Mait Kilil | Rigen |
| | Tangor Gaul | Katom |
| | Kadam Pangkai | Dumad |
| Takia (Megiar) | Anastasia Sai | Megiar |
| | Sepkain Bog | Megiar |
| Wab | | |

## NGERO FAMILY AND VITIAZ STRAITS AREA

| Bariai (= Kabana) | Anton Moroka | Bambak |
| | Gerard Kumboli | Bambak |
| Barim | | |
| Gitua | Thomas Pussy | Gitua |
| | Ambae Gwakoro | Gitua |
| Kilenge | Camillus Ngasele | Ongaea |
| Kove | James Ravakai | Moputu |

|               | Pius Ante          | Kapo              |
|---------------|--------------------|-------------------|
| Lukep         | Kaitip Maramolo    | Bok, Long Island  |
|               | Gimar Kieaka       | Bok, Long Island  |
|               | Kaisen Kami        | Kaut, Long Island |
| Lusi (= Kaliai) |                  |                   |
| Malai         | Aikung Yana        | *not recorded*    |
| Malalamai     | Kelly Awola        | Malalamai         |
|               | James Duwut        | Malalamai         |
|               | Walang Kultu       | Malalamai         |
| Malasanga     | Monica Akae        | Kiari Mangap      |
|               | Rith Nialou Nou    | Birik             |
|               | Reety Nalong       | Yangla            |
| Maleu         | Joseph Kuri        | Anepmete          |
|               | Hubert Ngako       | Anepmete          |
| Roinji        | Kelu Tokno         | Roinji            |
| Sio           | Ngayala Girinde    | Sio               |
|               | Boas Kota          | Sio               |
|               | Naku Manipi        | Malalamai         |
| Tami          | James Yakin        | Malasiga          |
| Tuam-Mutu     |                    |                   |

MENGEN FAMILY

|                   | Joseph Pauli        | Tagul       |
|-------------------|---------------------|-------------|
| Maeng (= Orford)  | Leo Kesngeingmak    | Tagul       |
|                   | Mathew Kopnuo       | Korpun      |
| Mamusi (Kakuna)   | Paul Matipunu       | Malumal     |
|                   | Bernard Kangi       | Malumal     |
|                   | Peno Kapipau        | Lekempuna   |
| Poeng (= Mengen)  | Scholastica Kononrea | Poro       |
|                   | Killa Pulkapo       | Pomio       |
| Uvol              | William Rumit       | Uvol        |
|                   | Matthew Kelkel      | Pilimatana  |
|                   | Susan Teio          | Maso        |

SOUTH-WEST NEW BRITAIN NETWORK

|                   | Peter Chanel        | A Viklo Island  |
|-------------------|---------------------|-----------------|
| Aiklep            | Andrew Mangai       | A Viklo Island  |
| Akolet            | Alois Miping        | A Nato Island   |
|                   | Joe Leplo           | A Nato Island   |
|                   | Apos Pele           | A Nato Island   |
| Amara (= Longa)   |                     |                 |
| Apalik            | Tony Luvongit       | A Bugi Island   |
|                   | Joseph Lekong       | A Bugi Island   |
| Aria              | Michael Udu         | Bolo            |
| Arove (= Arawe)   | George Aukis        | Pililo Island   |
|                   | Paul Aivia          | Pailikmete      |

| | Michael Moleng | Kumbon |
|---|---|---|
| Atui | Fabian Vilang | A Tui |
| Atui (Lesing) | John Aiom | A Mio |
| Avau | John Menengkit | A Ringring |
| | Kletus Yawi | A Ringring |
| Bebeli (= Kapore) | Joseph Neki | Banaule |
| Gimi | | |
| Kaulong | Gerard Vilaio | Papsa |
| | John Ailas | Lahuring |
| Lamogai (Rauto) | John Akau | Wako |
| | Philip Kamuno | Wako |
| Mangseng | | |
| Miu | | |
| Mok (= Mouk) | | |
| Psohoh (Aigon) (= Bao) | Justice Kalambrek | Zebu |
| Sengseng | | |

HUON GULF FAMILY

| Adzera | Terry Isan | Ngasawiasang |
|---|---|---|
| Bukawa | Taelabuo Timai | Bukawa |
| Dangal (= South Watut) | Nasengom Yawas | Dangal |
| Duwet (= Guwot) | | |
| Hote (Misim) | Eliut Kekabing | *not recorded* |
| Kaiwa (= Iwal) | Jacob Geobnayam | *not recorded* |
| Kapin | Giamiti Max | Kapin No 1 |
| | Tom Max | Kapin No 1 |
| | Roy Baleng | Kapin No 1 |
| Kela | John Elaisha | Kela |
| | Malum Tangabi | Kela |
| | Aobie Oleph | Kela |
| | Semi Wenis | Lababia |
| | Baim Nadup | Lababia |
| | Stanley Cleophas | Kela |
| Labu (= Hapa) | Maria Toseli | Labu-Miti |
| | Kulumu Gitala | Labu-Miti |
| | Lesa Meale | Labu-Miti |
| Mangga Buang | Ngatetep Giusu | Bayemato |
| | Elia Katapsa | Bayemato |
| | Tien Nganue | Bayemato |
| Mapos Buang | Gengis Kamsa | Belate |
| Maralango | | |
| Mumeng (Patep) | | |
| Musom | | |
| Numbami (= Siboma, Sipoma) | Alisa Tiga | Siboma |
| | Simon Sawanga | Siboma |
| | Elisha Kelamu | Siboma |

| | | |
|---|---|---|
| Silisili (= Middle Watut) | | |
| Sirak (= Nafi) | | |
| Sirasira (= Sarasira) | | |
| Sukurum | Simut Sirugaian | Lumdinan |
| Vehes | | |
| Wampar | Jane Solomon | Gabsongkeng |
| Yabem | Gêwê Sadoko | Ngasingalatu |
| | Posawam Geamata | Kwalansam |
| Yalu (= Aribwaungg) | Julie Tangapi | Yalu |

## A.2 PAPUAN TIP CLUSTER

### CENTRAL PAPUAN FAMILY

| | | |
|---|---|---|
| Bina | *(extinct)* | |
| Doura | | |
| Gabadi | Kelly Ovia | Pinu |
| | Vincent Ure | Pinu |
| Keapara (Hula) | Vele Tuaru | Hula |
| | Henry Paul | Hula |
| Keapara (Maopa) | Renagi Kali | Kelekapana |
| | Noah Pune | Gavuone |
| Kuni | Barbabas Maua | Bakoiudu |
| Lala (= Nara, Pokau) | Shem Garena | Oroi |
| Magori | | |
| Mekeo (East) | Antoinette Ake | Aipeama |
| | Bernardine Apini | Veifa'a |
| Mekeo (West) | | |
| Motu | Sarah Haoda | Hanuabada |
| | Bonny Boha | Lealea |
| Ouma | *(extinct)* | |
| Roro | Odette Oa | Kivori |
| | Taita Aisi | Kivori |
| | Margaret Ai | Biotou |
| | Monica Aitsi | Rapa |
| Sinagoro (Balawaia) | | |
| Sinagoro (Saroa) | Iaku Roge | Kemaea |
| Sinagoro (Taboro) | Furia Arigi | Boregana |
| Yoba | *(extinct)* | |

### LANGUAGES IN MILNE BAY AND ORO PROVINCES

| | | |
|---|---|---|
| Anuki | | |
| Are (= Mukawa) | Flora Midiwabu | Kirikirikina |
| Arifama-Meniafia | Justin Gevoya | Berebona |
| Boianaki (= Boanaki) | | |
| Bohutu (= Buhutu) | | |

| | | |
|---|---|---|
| Bosilewa | | |
| Budibud | | |
| Bunama | | |
| Bwaidoga (Iduna) | Ivegagana Lalaoia | Belebele |
| Dawawa | | |
| Diodio | John Manasa | Diodio |
| Dobu | Genevieve Mwasolei | Nade |
| | Avelyn Matthew | Ubuya |
| Doga | | |
| Duau | Fred Malesa | Kasikasi |
| Fagululu | | |
| Garuwahi | | |
| Gumasi (= Gumawana) | | |
| Kakabai (= Igora) | | |
| Kalokalo | Jacob James | Kalokalo |
| | Emma Nason | Kalokalo |
| | Jean Dimaluwa | Kalokalo |
| Kilivila | Stanilaus Motolova | Mutawa |
| | Wesley Ben | Gumlavava |
| Kukuya (= Minaveha) | | |
| Kurada (= 'Auhelawa) | | |
| Maisin | Peter Bendo | Marua |
| Misima | Olive Fifita | Matawona, Panapompom Island |
| | Israel Sabbath | Liak, Misima Island |
| Molima | Philemon Geidilo | Ukeiokeio |
| Muyuw | David Gabuina | Kaurai |
| Nimoa | | |
| Paiwa (= Gapapaiwa) | | |
| Sewa Bay | Philomena Gayugayuyu | Gesiwe |
| Suau (Daui) | Sileli Donia | Isudau |
| Suau (Kwato) | Nuegu Billy | Maiwala |
| | Lino Beruwaia | Kwato Mission |
| Suau (Sariba) | Rona Nadile | Sawasawaga |
| Sudest | Peninnah Pwadawa | Varavarae |
| | Thomas Michael | Varavarae |
| Taupota | Annette Lawrence | Yaneyanene |
| Tawala (=Tavara, Kehelala) | Miriam Dagoela | Kebegiuli |
| | Sebastian Isaac | Lelehudi |
| Tubetube | Edward Malona | Ware Island |
| | Makan Sale | Ware Island |
| Ubir | Paula Beggo | Naukwate |
| Wagawaga | | |
| Wedau | Florence Tereakina | Wedau |
| | Sheila Tauno | Wedau |
| | Agatha Ganubela | Wedau |
| Yamalele | | |

## A.3 MESO-MELANESIAN CLUSTER

### BALI-VITU AND THE WILLAUMEZ FAMILY

| | | |
|---|---|---|
| Bali-Vitu (Bali) | Barbara Gili | Ketinarave |
| Bali-Vitu (Vitu) | Dolorosa Ire | Balangore No 2 |
| | Sylvester Nagiau | Balangore No 1 |
| Bola (= Bakovi) | Joseph Reme | Waganakai |
| | John Pake | *not recorded* |
| Bola (Harua) (= Xarua) | Joseph Nguturubu | Mai |
| | Katie Ule | Mai |
| | Sabina Bakea | Mai |
| Bulu | Joseph Mageto | Patanga |
| | Michael Bailey | Bulu-Muri |
| Meramera (= Melamela) | Philip Tabuso | Poipoi, Lolobao Island |
| Nakanai (Bileki) | Eremas Kautu | Rikau |
| Nakanai (Maututu) | Garua Peni | Ewasse |
| | Sarere Ave | Ewasse |

### NEW IRELAND

| | | |
|---|---|---|
| Barok | Benson Laup | Kanam |
| | Tabitha Tamanas | Kolonoboi |
| Bilur (= Birar) | Oripa Simon | Marmar |
| | Ovin Lipirin | Kamar |
| Duke of York (= Ramuaina) | Kongkong Jack | Mioko |
| | Graham Buka | Waira |
| | Joseph Tobung | Nakukur |
| Kandas | Tamsuri Malaibe | Semalu |
| Kara (East) | Martin Mareto | Lemakot |
| | Christine Nongkas | Fangalava |
| Kara (West) | Pakanang Manase | Panamecho |
| Konomala | Paul Rikien | Weilo |
| Lamasong | Benson Berom | Lamasong |
| Lihir | Elma Kiapwas | Lihir Island |
| | Veronica Tombeh | Masahet Island |
| Madak | Gertruth Dori | Lasiki |
| | Clara Namurum | Kaluan |
| | Elsah William | Malom |
| Minigir | Junias Pulu | Lungalunga |
| | Pipil Pisai | Lungalunga |
| | David Kolis | Lungalunga |
| Nalik | Alfred Mamun | Fisoa |
| | Napi Tahabai | Bol |
| Notsi | Susannah Lolo Kuba | Losu |
| | Elpat Enok | Liba |
| Patpatar | John Wilson | Namatanai |
| | Esrom Subul | Punam |

|  | Tikai Paie | Kabanut |
| Siar | Ben Yona | Bakok |
|  | Beka Aisak | Lambom |
| Sursurunga | Nethy Tulo | Hitekedan |
|  | Elsie Markuas Kinavai | Hilolon |
| Tabar (= Madara) | Dinah Tobem | Simberi Island |
|  | Lucy Maris | Simberi Island |
|  | Monica Simbang | Rakupo, Tabar Island |
| Tangga | Christine Pambui | Boeng Island |
|  | Maurus Maru | Boeng Island |
| Tiang | Margaret Tames | Piliva |
|  | John Wesley | Karia |
| Tigak | Doris Tanapopo Iamo | Omo |
| Tolai | Ellenor Eremas | *not recorded* |
|  | Dulcie Penny | *not recorded* |
|  | Nerrie Emmanuel | *not recorded* |
|  | Ailai Valaunia | Rapitok |
| Tolai (Nodup) | Patricia Maden | Nodup |
| Tomoip (=Tumuip) | Raphael Liavan | Kaukum |
|  | Martin Marlow | Kaukum |
| Lavongai (= Tungak, Tungag) | Evodia Konilio | Meteran |
|  | Posikai Sirimbat | Tsoilik |

NORTH-WEST SOLOMONIC

| Babatana | Levi Davo | Susuka |
| Banoni | Sr Mary Patricia | Mariga |
|  | James Torawa | Mariga |
| Blablanga |  |  |
| Ghove |  |  |
| Hahon |  |  |
| Halia (Haku) | Samu Sasama | Lemanmanu |
|  | Aline Masina | Lontis |
|  | Elyne Tavi | Lontis |
|  | Ruth Kengai | Lontis |
| Halia (Hanahan) | Joanita Kiria | Gogohe |
|  | Bernadine Sakura | Gogohe |
| Halia (Selau) | Josephine Wariu | Baniata |
|  | Helen Tapune | Siara |
| Hoava |  |  |
| Kia |  |  |
| Kokota |  |  |
| Laghu |  |  |
| Lungga |  |  |
| Maringe | Susanne Gasepelo | Tataba |
| Mono-Alu (Alu) | Sebastian Morui | Alean |
| Nduke |  |  |

| Nehan | Andrew Belanias | Yachibol |
|---|---|---|
| Papapana | | |
| Petats | Dinah Teit | Petats Island |
| | Mary Koisan | Pororan Island |
| Piva | | |
| Ririo | | |
| Roviana | Esther Gina | Rarumana |
| | Salome Palmer | |
| | Miri Tuke | |
| Sengga | Moses Biliki | Ghaghara |
| Solos | John Tsihakou | Nova |
| | Helen Hosian | Hapan |
| Taiof | Rose Sisip | Kokoteni |
| | Josephine Tosan | Jupuno |
| Teop | Ezekiel Ivihi | Takani |
| | Rachel Pahienavai | Suagu |
| Tinputz | Chanel Suston | Tsisiko |
| | Wendy Sivoe | Vatoe |
| | Lucy Siptuvuh | Teley |
| Torau | Rose Magasa | Rorovana |
| Uruava | *(extinct)* | |
| Vaghua | | |
| Vangunu | | |
| Varisi | | |

## A.4 ADMIRALTIES AND ST MATTHIAS GROUP

| Andra-Hus | Kiwak Pateh | Andra |
|---|---|---|
| | John Sikman | Andra |
| | Lonot Sireh | Andra |
| | Michael Pagih | Andra |
| Aua | Paose Tamelo | Tesina |
| | Florice Anton | Dora |
| | Diana Lami | Dora |
| Baluan-Pam | | |
| Bipi | Lopon Pokupak | Matahai |
| Bohuai | Mathew Chapok | Pohowa No 2 |
| Ere | Joel Poyou | Londru |
| Hermit | *(nearing extinction)* | |
| Kaniet | *(extinct)* | |
| Kele | Tamet Kaheu | Buyang |
| | Michael Kanas | Tingou |
| Koro | Philip Lulu | Naringel |
| Kurti | Cathy Pinahai | Liap |
| | Mark Solon | Sou |

|  |  |  |
|---|---|---|
|  | Ko'ou So'on | Mundrou |
|  | Lelei Ndrasal | Derimbat |
| Leipon |  |  |
| Lele | Joshua Pobulunou | Bulihat |
| Lenkau | Kalueh Pasar | Lenkau |
|  | Michael Palek | Lenkau |
| Levei-Tulu |  |  |
| Likum |  |  |
| Lindrou (= Nyindrou) | Poli Wada | Lessau |
|  | Saba-Ndras Soson | Nyada |
| Loniu | Hikiso'u David | Loniu |
|  | Kerry Paket | Loniu |
| Lou | Paul Leveil | Baon |
| Mokoreng (= Mokerang) | Raymond Lokowah | Mokoreng |
|  | John Popolu | Mokoreng |
| Mondropolon | Agatha Poek | Kokou |
| Mussau | Dethias Moses | Musau Island |
|  | Micah Tamas and famiiy | Musau Island |
| Nali | Nancy John | Bulihan |
| Nauna |  |  |
| Pak-Tong | Jacob Matthew | Mulira, Pak Island |
|  | Seliun Samuel | Tandual, Pak Island |
| Penchal | John Lapeap | Pulendran |
| Ponam | Louise Kawei | Ponam |
|  | Gaspar Sorea | Ponam |
| Seimat | Melvin John | Luf Island |
| Sori-Harengan | Ben Basso | Harengan |
|  | Sinono Waia | Harengan |
| Tench |  |  |
| Titan | Mary Tauanlogo | Rambutyo Island |
| Wuvulu |  |  |

## A.5 South-East Solomonic

|  |  |  |
|---|---|---|
| Bugotu | Susanne Gasepelo | Tataba |
| Lengo | Mitylene Tagha | Binu |
|  | Eric Thoqole | Balo |

## APPENDIX B

## DATA SOURCES OTHER THAN INFORMANTS

This list includes only those languages for which sources other than informants were consulted. A full listing of WM Oceanic languages is given in Appendix A. The first four sections list sources for languages of the four WM Oceanic clusters discussed in this work, section B.5 lists sources for Jayapura Bay languages, B.6 for South-East Solomonic languages, and B.7 and B.8 list sources for non-Oceanic Austronesian languages. Languages are arranged alphabetically within sections and subsections.

SIL indicates that the data is from the files at the Summer Institute of Linguistics, Papua New Guinea branch or (in the case of Irian Jaya languages) Indonesia branch.


### B.1 NORTH NEW GUINEA CLUSTER

SCHOUTEN FAMILY

| | |
|---|---|
| Ali | Laycock n.d. |
| Kaiep (Terebu) | Laycock n.d. |
| Kairiru | Wivell 1981a, 1981b |
| Manam | Böhm 1975; Lichtenberk 1983; Turner 1986 |
| Tumleo | Schultze 1911 |

BEL FAMILY

| | |
|---|---|
| Biliau | Lincoln 1976e; G. Simons 1977b; L. Simons 1977; Simons and Simons 1977 |
| Gedaged | Dempwolff n.d.; Mager 1952 |
| Ham (= Dami) | Lincoln 1976e; Elliott 1979 |
| Matukar | Kaspruś 1945 |
| Megiar | |
| Mindiri | Lincoln 1976e |
| Takia | Hubers n.d.; Rehberg and Tuominen 1978 |
| Wab | Lincoln 1976e |

NGERO FAMILY AND VITIAZ STRAITS LANGUAGES

| | |
|---|---|
| Bariai (= Kabana) | Friederici 1912; Goulden 1982 |
| Gitua | Lincoln 1976e, n.d. |
| Lusi (= Kaliai) | Counts 1969; Thurston 1982; Goulden 1982 |

| | |
|---|---|
| Lukep | Lincoln 1976e |
| Malalamai | Lincoln 1976e |
| Malasanga | Lincoln 1976e |
| Mangap | Hooley 1971 |
| Nenaya | Lincoln 1976e |
| Roinji | Lincoln 1976e |
| Sio | Wagner 1944; Lincoln 1976e |
| Tami | Bamler 1900 |
| Mutu | Hooley 1971; Lilley n.d. |
| Tuam | Hooley 1971 |

MENGEN FAMILY

| | |
|---|---|
| Maeng (= Orford) | Müller 1907 |
| Poeng (= Mengen) | Daniel Rath p.c. |
| Poeng (Bush Mengen) | SIL |
| Mamusi | SIL |

SOUTH-WEST NEW BRITAIN NETWORK

| | |
|---|---|
| Amara (= Longa) | Thurston 1984 |
| Kaulong | Throop n.d. |
| Lamogai | SIL |
| Mangseng | Coombs n.d. |
| Mok (= Mouk) | SIL |
| Psohoh (= Bao) | Johnston 1981 |
| Sengseng | SIL |

HUON GULF FAMILY

| | |
|---|---|
| Adzera | S. Holzknecht 1986a; K.G. Holzknecht n.d. |
| Bukawa | Capell 1949 |
| Dangal (= South Watut) | Hooley 1971 |
| Duwet (= Guwot) | Hooley 1971 |
| Hote | Hooley 1971 |
| Hote (Misim) | Muzzey 1978, 1979 |
| Hote (Yamap) | Hooley 1971 |
| Kaiwa (= Iwal) | Hooley 1971; Davidson and Davidson 1975, 1976 |
| Kapin | Hooley 1970, 1971 |
| Kela | Hooley 1971; Collier and Collier 1975 |
| Labu (= Hapa) | Siegel 1984 |
| Mangga Buang | Healey 1967a, 1967b; Hardwick and Healey 1967; Hooley 1970, 1971 |
| Mapos Buang | Hooley 1970, 1971 |
| Maralango (= South Watut) | Hooley 1971 |
| Mumeng (Patep) | Hooley 1970, 1971; Adams and Lauck 1975; Lauck 1976, 1980 |
| Mumeng (other dialects) | Hooley 1970, 1971 |
| Musom | Hooley 1971 |

| | |
|---|---|
| Numbami (= Siboma, Sipoma) | Hooley 1971; Bradshaw 1978c |
| Piu | Hooley 1970, 1971 |
| Silisili (= Middle Watut) | Fischer 1963; Hooley 1971 |
| Sirak (= Nafi) | Hooley 1971 |
| Sirasira (= Sarasira) | Hooley 1971 |
| Sukurum | Hooley 1971 |
| Tami | Bamler 1900 |
| Vehes | Hooley 1970, 1971 |
| Wampar | Hooley 1971 |
| Wampur | Hooley 1971 |
| Yabem | Dempwolff 1939; Zahn 1940; Capell 1949; Streicher 1982 |

## B.2 PAPUAN TIP CLUSTER

### CENTRAL PAPUAN FAMILY

| | |
|---|---|
| Bina | Dutton 1976, n.d. |
| Doura | Dutton n.d. |
| Gabadi | Timoteo 1897; Strong 1912 |
| Keapara (Hula) | Short 1935 |
| Keapara (Maopa) | Craig 1977 |
| Kuni | Egidi 1907, 1913a, 1913b |
| Lala (= Nara) | Lanyon-Orgill 1945; Clunn and Kolia 1977 |
| Magori | Dutton 1976, 1980a, 1980b, 1982, n.d. |
| Mekeo (East) | Hau'ofa 1981 |
| Mekeo (West) | Jones n.d. |
| Motu | Lister-Turner and Clark 1954a, 1954b; Taylor 1970a, 1970b |
| Ouma | Dutton 1976, 1980c, 1982, n.d. |
| Roro | Joindreau 1968; Petrie 1980 |
| Sinagoro (Balawaia) | Kolia 1975; Ansell 1976 |
| Yoba | Dutton 1976, n.d. |

### LANGUAGES IN THE MILNE BAY AND ORO PROVINCES

In addition to the sources below, data from Capell (1943) and Lithgow (1976) are occasionally used.

| | |
|---|---|
| Anuki | Cochran 1978; SIL |
| Are (= Mukawa) | Giblin n.d., Paisawa et al 1975 |
| Arifama-Meniafia | Wakefield 1975, n.d. |
| Boianaki (= Boanaki) | Dutton n.d.; Cochran 1978; SIL |
| Bohutu (= Buhutu) | SIL |
| Bosilewa | SIL |
| Budibud | SIL |
| Bunama | SIL |
| Bwaidoga | Jenness and Ballantyne 1928; Young 1978 |
| Bwaidoga (Iduna) | Huckett 1974, 1976 |
| Dawawa | Dutton n.d.; SIL |

| | |
|---|---|
| Diodio | SIL |
| Dobu | Dixon 1928; Arnold 1931; Grant 1953; Cochran 1978; Lithgow 1984 |
| Doga | Dutton n.d. |
| Duau | Cochran 1978; SIL |
| Fagululu | SIL |
| Garuwahi | SIL |
| Gumasi (= Gumawana) | SIL |
| Kakabai (= Igora) | SIL |
| Kalokalo | SIL |
| Kilivila | Twomey n.d.a; SIL |
| Kukuya (= Minaveha) | SIL |
| Kurada (= 'Auhelawa) | SIL |
| Maisin (Kosirava) | Dutton n.d. |
| Maisin (Marua) | Ross 1984 |
| Misima | Fellows 1894; Ray 1937-39; Callister et al 1983; Bartlett n.d. |
| Molima | Cochran 1978 |
| Muyuw | Lithgow and Lithgow 1974 |
| Nimoa | Twomey n.d.c.; SIL |
| Paiwa (= Gapapaiwa) | Giblin n.d. |
| Suau | Cochran 1978 |
| Sudest | Armstrong 1923; Ray 1937-39; Twomey n.d.b. |
| Taupota | Egloff n.d. |
| Tawala (= Tavara, Kehelala) | Ezard 1978, 1979, 1980; Cochran 1978 |
| Ubir | [Author unknown] n.d.; Dutton n.d. |
| Wagawaga | SIL |
| Yamalele | Beaumont and Beaumont 1975; Beaumont 1982 |

## B.3 MESO-MELANESIAN CLUSTER

### WILLAUMEZ FAMILY

| | |
|---|---|
| Bola (= Bakovi) | Bosco 1979 |
| Nakanai | Johnston 1980; Chowning n.d. |

### NEW IRELAND

| | |
|---|---|
| Kara | Schlie 1984 |
| Label | Peekel 1930 |
| Lamasong | Clay 1977 |
| Lihir | Neuhaus 1954 |
| Madak | Lee and Lee 1976, Lee 1978 |
| Patpatar | Peekel 1909, 1930 |
| Sursurunga | Hutchisson and Hutchisson 1975 |
| Tangga | Maurer 1966; Bell 1977 |
| Tigak | Beaumont 1979 |
| Tolai | Franklin et al 1974; Parkinson n.d.; Mosel 1984 |
| Lavongai(= Tungak, Tungag) | Beaumont and Beaumont f/c.; Stamm f/c. |

## NORTH-WEST SOLOMONIC

| | |
|---|---|
| Babatana | Tryon and Hackman 1983; Hackman n.d. |
| Banoni | Lincoln 1976a |
| Blablanga | Tryon and Hackman 1983; Hackman n.d. |
| Ghove | Tryon and Hackman 1983; Hackman n.d. |
| Hahon | SIL |
| Halia (Hanahan) | Allen and Allen 1965, Allen 1971, Allen 1978 |
| Hoava | Tryon and Hackman 1983; Hackman n.d. |
| Kia | Bosma 1981; Tryon and Hackman 1983; Hackman n.d. |
| Kokota | Tryon and Hackman 1983; Hackman n.d. |
| Laghu | Tryon and Hackman 1983; Hackman n.d. |
| Lungga | Tryon and Hackman 1983; Hackman n.d. |
| Maringe | Bosma 1980, 1981; White et al, 1988; Tryon and Hackman 1983; Hackman n.d. |
| Mono-Alu (Mono) | Wheeler 1913a, 1913b, 1926; Fagan 1986 |
| Nduke | Tryon and Hackman 1983; Hackman n.d. |
| Nehan | Todd 1978b |
| Papapana | SIL |
| Petats | Blackwood 1935, Allen and Beaso 1975 |
| Piva | Lincoln 1976b |
| Ririo | Tryon and Hackman 1983; Hackman n.d.; Laycock n.d. |
| Roviana | Waterhouse 1949; Todd 1978a |
| Sengga | Tryon and Hackman 1983; Hackman n.d. |
| Teop | Carter 1952, Snyder and Snyder, n.d., Snyder 1981 |
| Tinputz | Hostetler and Hostetler 1975 |
| Torau | Rausch 1912 |
| Uruava | Rausch 1912 |
| Vaghua | Tryon and Hackman 1983; Hackman n.d. |
| Vangunu | Tryon and Hackman 1983; Hackman n.d. |
| Varisi | Tryon and Hackman 1983; Hackman n.d.; Scheffler n.d. |

## B.4 ADMIRALTIES CLUSTER AND ST MATTHIAS GROUP

| | |
|---|---|
| Andra-Hus | Smythe 1975 |
| Aua | Hambruch 1908; Smythe 1975 |
| Baluan-Pam | Smythe 1975 |
| Bipi | Smythe 1975; Blust 1978a |
| Ere | Blust 1978a |
| Hermit | Smythe 1975 (Lup) |
| Kaniet | Smythe 1975 |
| Kele | Smythe n.d.b.; Smythe 1975 (Bujang); Blust 1978a |
| Kurti | Blust 1978a |
| Leipon | Smythe 1975 (Pitilu); Blust 1978a, n.d. |
| Levei-Tulu | Blust n.d.; Smythe 1975 |

| | |
|---|---|
| Likum | Blust n.d. |
| Lindrou (= Nyindrou) | Smythe 1975 (Njada); Blust 1978a |
| Loniu | Blust 1978a |
| Mokoreng (= Mokerang) | Smythe 1975 |
| Mussau | Blust 1984 |
| Nali | Smythe 1975 (Jiriw) |
| Nauna | Blust 1978a, n.d. |
| Pak-Tong | Smythe 1975; Blust 1978a |
| Penchal | Blust 1978a |
| Ponam | Smythe 1975 |
| Seimat | Smythe n.d.a; Smythe 1975 |
| Sori-Harengan | Smythe 1975 (Sori); Blust 1978a (Sori) |
| Tench | Lithgow and Claassen 1968 |
| Titan | Smythe 1975 (Mbunai); Blust 1978a |
| Wuvulu | Hambruch 1908 |

## B.5 JAYAPURA BAY

| | |
|---|---|
| Kayupulau | SIL |
| Ormu | SIL |

## B.6 SOUTH-EAST SOLOMONIC

Tryon and Hackman (1983) served as a lexical source for all the languages listed below. Language names are in accordance with Tryon and Hackman (1983).

| | |
|---|---|
| 'Are'are | Geerts 1970 |
| Arosi | Capell 1971b; Fox 1978 |
| Bauro | |
| Birao | |
| Bugotu | Ivens 1933, 1940 |
| Dori'o | |
| Faghani | |
| Gela | Ivens 1937; Fox 1955 |
| Kahua | |
| Kwai | |
| Kwaio | Keesing 1975, 1985 |
| Kwara'ae | Deck 1934 |
| Langalanga | |
| Lau | Ivens 1921; Fox 1974 |
| Lengo | Simons 1977a |
| Logu | Ivens 1934a |
| Malango | |
| North Malaita (= To'aba'ita) | Lichtenberk 1984 |
| Oroha | |
| South Malaita ( = Sa'a) | Ivens 1911, 1918, 1929 |

| Talise | Capell 1930; Crowley 1986 |
| West Guadalcanal | Bouillon 1915; Ivens 1934b |

## B.7 SOUTH HALMAHERA/WEST NEW GUINEA

| Ambai | Silzer 1983 |
| Buli | Maan 1951 |
| East Makian | Collins 1982; Adriani and Kruijt 1914:302-9. |
| Koiwai | Walker n.d. |
| Numfor | Hasselt 1905 |
| Wandamen | Flaming n.d.a, n.d.b; Ongkodharma n.d.a, n.d.b; Silzer 1983; Cowan 1955 |
| Waropen | Held 1942 |

## B.8 CENTRAL MALAYO-POLYNESIAN

| Buru | Hendriks 1897; Stresemann 1918 |
| Paulohi | Stresemann 1918 |
| Roti | Jonker 1915 |
| Saleman | Tauern 1928-30 |
| Taliabo | Fortgens 1921 |
| Yamdena | Drabbe 1926 |

# NOTES

1. I have chosen not to follow the convention whereby 'proto' is hyphenated with the following word (as in 'proto-language', 'Proto-Oceanic'), since in this work its application would result in sequences like 'Proto-North Huon Gulf', where 'Proto-' is hyphenated with 'North', and yet applies to the whole noun phrase 'North Huon Gulf'. This anomaly is soluble either by inserting hyphens throughout ('Proto-North-Huon-Gulf') or by their omission (Proto North Huon Gulf). I have chosen the latter as more consistent with English hyphenating convention and aesthetically more acceptable.

2. Dempwolff refrained from comment on this matter. The easternmost non-Oceanic language of the Indonesian archipelago to which he refers is Paulohi (on the Moluccan island of Seram; 1937:122-123), whilst his westernmost Oceanic language is Gedaged (1937:164) on the north coast of New Guinea at almost 146°E.

3. Pinning down the location of the non-Oceanic/Oceanic boundary on the north coast of New Guinea proceeded gradually as data became available. Grace (1955) placed the boundary somewhere near the political border between what are now respectively the Irian Jaya provice of Indonesia and the independent state of Papua New Guinea (i.e. about 141°E.). Milke (1958, 1965) erred in placing it west of Numfor (in Cenderawasih Bay, about 134°E.) – a curious error, since in his 1965 paper he cites Dyen (1965), who correctly drew the boundary somewhere east of Numfor (= Biak), recognising that the latter failed to reflect at least one criterial Oceanic innovation. Hence Grace (1968:72-73) knew that the boundary lay somewhere on the north coast of Irian Jaya. In his 1971a paper he showed that the Sarmi coast languages were Oceanic, and it followed from this that the boundary lay to their west, but east of Numfor. Blust (1978b) showed that Numfor was a member of a West New Guinea group of non-Oceanic languages, thereby placing the boundary at about 138°E.

In a mimeographed summary of Oceanic subgrouping, Grace (1971b) included another Irian Jaya coastal group, situated in and around Jayapura Bay, among the Oceanic languages. He does not provide the gounds for its inclusion, but from my analysis of the sparse data available it appears to have undergone the phonological innovations definitive of Oceanic.

4. The nature of this boundary is discussed in section 10.3.2.

5. I have chosen not to use the traditional slash to separate non-cognate from cognate elements, as there are cases where this is ambiguous. Thus if Taiof *fua/n* were cited as a reflex of POC *\*rua* 'two', it would be far from clear that the element reflecting *\*rua* is Taiof '-n', not *fua-*. Its citation as *(fua)n* avoids this ambiguity.

6. Pawley and Green (1985), whose paper came to my attention when the present work was nearing completion, distinguish between two models of the formation of linguistic subgroups: the 'network-breaking' model and the 'radiation' model. These correspond to my characterisations of linguistic diversification by dialect differentiation and by separation.

7. Surveys and classifications of WM Oceanic languages which entail some use of lexicostatistics include: for the Madang Province, Z'graggen (1975b); for the Morobe Province, Hooley (1971) and Lincoln (1976d); for the Milne Bay Province, Lithgow (1976) and, for the Louisiade archipelago only, Henderson and Henderson (1974); for New Britain, Chowning (1969) and Johnston ed. (1980); for the Admiralty Islands, Schooling and Schooling (1980); for New Ireland, Lithgow and Claassen (1968) and Beaumont (1972); for the North Solomons Province of PNG, Lincoln (1976c); and for the Solomon Islands, Tryon and Hackman (1983). Classifications based on the comparative method include: for the Suauic network of the Milne Bay Province, Cooper (1975); for the Central Province, Pawley (1975); for the Kimbe region of New Britain, Goodenough (1961a, 1961b) and Johnston (1982); for the Admiralty Islands, much of the material in Blust (1978); for New Ireland, Ross (1982a); for the North Solomons Province of PNG, Ross (1982b, 1986); and for the Solomon Islands, Tryon and Hackman (1983). The findings of most of the publications up to 1976 are summarised or repeated in Wurm (1976).

8. The membership of Tubetube in the Suauic network has also been confirmed by Martha McIntyre (p.c.) on non-linguistic grounds. The problem of classification which this language has presented is also discussed by Chowning (1986).

9. The term 'borrow' is somewhat infelicitous when it is applied to syntactic innovations, since it implies that a 'borrowed' syntactic structure is added to the borrowing language's grammar in a manner similar to that in which a borrowed lexical item is added to the borrowing language's lexicon. Usually, however, a 'borrowed' syntactic structure alternates with, and then replaces, an existing structure, and it is conceptually more appropriate to view this process as a change – albeit a contact-induced change – in the 'borrowing' language rather than as a 'loan' between languages. However, the conventional use of 'borrow' is retained here for the sake of readability.

10. Whilst phonemes are not often borrowed, phonotactic borrowing (speaking with a 'foreign accent') can result in wholsesale restructuring of allophonic systems, as has happened through the influence of non-Austronesian Kuot (or a deceased relative) on AN Madak and Lamasong of New Ireland (Ross 1981c).

11. The conditions which lead to the operation of conversion formulae are not entirely clear, but they clearly involve (i) bilingualism, (ii) sufficient similarity between languages for speakers to infer conversion for:nulae, and (iii) sufficient time for speakers to make these inferences. Where the languages are less closely related and/or contact occurs as a result of sudden social upheaval, the conditions for the establishment of conversion formulae are probably not met.

12. A well documented case of change in syntactic typology due to borrowed innovations is provided by Amharic of Ethiopia, a Semitic language which has borrowed from a Cushitic source (Leslau 1945).

13. I owe a methodological debt to the work at the University of Hawaii reported by Bender and Wang (1985), which indicated how the computer might be used as an aid in the analysis of sound correspondences. I am also grateful to Jacques Guy, who introduced me to Simula, the programming language in which I wrote the programmes employed in the computer-aided analysis of sound correspondences for this work.

14. Bailey (1980:152-153) and Mühlhäusler (1985) both question whether natural changes can ever give rise to a new language. If they cannot, it is argued, then all new languages are 'mixed' languages. This position is not adopted here, because I suspect that language differentiation sufficient to produce a family of related languages (rather than dialects) may occur without the intervention of unnatural change – but this suspicion needs investigation.

15. There is one reported case of a natural change from SVO to SOV, namely Chinese (Li and Thompson 1974), but Tai (1976) offers evidence that this case too may have resulted from language contact.

16. Note that I do not wish to say that bound morphemes and phonemes are not borrowable (that is clearly not true), but that they are far less likely to be borrowed, and that, at least in the case of phonemes, borrowing is more likely if the innovation is one which conforms to the natural potential of the system.

17. The following categorisation is based on my extension of Foley, discussed and illustrated in Ross (1983a). My use of the term 'context-sensitive' differs from Stampe's, since he apparently holds that some changes apply simultaneously to all the members of a class (his context-free changes) whilst others occur only in certain environments (his context-sensitive changes). Since I find Foley's assumption that no change applies simultaneously to all members of a class holds in my experience, I have found it convenient to use the terms as they are defined in the text.

18. The fact that the second member to undergo weakening is the labial, rather the alveolar, runs contrary to the theories referred to here. Foley, in particular, would predict that if weakenings occur in the sequence velar-labial-alveolar, then strengthenings should occur in the opposite sequence, beginning with the alveolar – but in fact it is the labial which strengthens first. Some revision of his theory is needed to take account of this fact, whose range does not seem to be limited to WM Oceanic.

19. I have supplemented Tryon and Hackman's data from Crowley (1982), Fox (1955, 1974, 1978), Geerts (1970), Ivens (1929), Keesing (1975) and Simons (1977a).

20. The PSV reconstructions used here are based on Lynch's data and reconstructions, but written in the orthography of the present work. Hence I am responsible for any errors of interpretation or transcription.

21. In later works (Pawley 1972, Blust 1981a), Grace's *$\eta p$ and *$\eta m$ have been rewritten *$pw$ and *$mw$. Whilst this better captures the putative velarisation of these proto phonemes, Grace's *$\eta p$ might better have been rewritten *$mpw$, as it was intended to be a nasal-grade proto phoneme (Grace p.c.).

22. I am indebted to John Lynch for drawing my attention to this point.

23. Dempwolff wrote, 'Für den Zweig der Ursprache, auf den die melanesischen Sprachen zurückgehen, wird hier die Hypothese aufgestellt, dass alle anlautenden und inlautenden Verschlusslaute und ihre homorganen Nasalverbindungen neben einander gebraucht sind, und dass erst in den Einzelsprachen bald die Entsprechung für den Verschlusslaut, bald die Entsprechung für seine Nasalverbindung erstarrt ist.'

24. The maximum number of language groups is ten because the Schouten, Bel, Ngero and residual Vitiaz groups were treated as a single New Guinea north coast group: they always agree with each other in respect of consonant grade. The ten groups are thus St Matthias, New Guinea north

coast, Huon Gulf, Papuan Tip, Bali-Vitu, Willaumez, Lavongai/Nalik, other New Ireland, North-West Solomonic and South-East Solomonic.

25. The same phenomenon is found in the languages of south Vanuatu (Lynch 1986).

26. Sources of examples are, for Sundanese, Hardjadibrata (1985); for Hiligaynon, Wolfenden (1971); for Toba Batak, van der Tuuk (1971), and for Malay, Adelaar (1985).

27. The fourth reflex of Pre-POC *[ma]ndindiŋ referred to in Table 8 is Mussau makariŋe, probably from Pre-POC *maka-dindiŋ (Blust 1984a), with loss of *-di- (Mussau -r- reflects Pre-POC *-nd-).

28. SHWNG data are drawn from Stokhof ed. (1980).

29. I am grateful to Robert Blust for turning my attention in this direction.

30. I have chosen to use the term 'laminal' as this is the feature which the four POC/Post-POC segments *s, *z, *c, *j probably had in common. The term 'palatal' has become common in the literature, but I question whether *s was ever a palatal in the languages with which this work is concerned.

31. Geraghty (1986) has also tentatively suggested that PAN *z/Z may have survived as a separate phoneme in POC, merging with POC *c as Proto Central Pacific *z, and merging with POC *s in the rest of Oceania. Tables 13 and 14 do not take account of this suggestion, as WM Oceanic appears to offer no evidence on it.

32. Note that PAN *Zalan is one of the forms where, Geraghty (1986) suggests, PAN *z/Z may be separately reflected in PCPa. It is just possible that the correspondence set in this example reflects this segment.

33. The Central Papuan reflexes Gabadi ga, Mekeo ana '(tree) branch' reflect PPT *(j,d)aŋa, presumably < POC *jaŋa 'forked' < PAN *N-saŋa.

34. Whilst it might be argued that the process as applied to *s is strictly voicing, rather than lenition, I shall retain the term 'lenition' in order to emphasise the parallel between the processes applying to PAN *p/b, *k/g, and *s/c/z/Z, set out in Table 15.

35. Note that Blust's 'correlative paradox' (1978a:84-91) is not in fact concerned with the *s crossover problem. Blust draws attention to the statistically significant correspondence between Gedaged s, Fijian s and Samoan s and between Gedaged Ø, Fijian c and Samoan Ø, noted by Milke (1961) and to the correspondences between Wogeo s and PEAd *s and between Wogeo j and PEad *c. He writes, 'We are confronted with what might be called a 'correlative paradox': two genetically diverse collections of languages (...) each showing relatively high internal consistency with respect to the reconstruction of *s/ns, conflict with each other' (1978:86). The solution to the paradox lies in the fact that the Gedaged-Fijian-Samoan correspondence reflects the fortis and lenis grades of POC *s (cf. section 3.6.2.2), whereas the Wogeo-PEAd correspondence reflects the POC *s/*j contrast (cf. section 3.6.1).

36. Milke's concern was to show that PAN *s/c/z/Z/j had merged in the languages of his corpus, and that his putative contrast between s and z was derivable neither from a PAN phonemic contrast nor from a PAN oral-/nasal-grade contrast. He was more concerned with these mergers as evidence for POC than with the origins of the putative contrast for which he could offer no explanation.

37. There are cases where PEO items reconstructible with a velarised labial have a non-velarised WM cognate, but this is not in itself sufficient evidence to set up a POC reconstruction with a velarised proto phoneme. Thus we find

POC *b(w)aŋoʀ 'nasal mucus' >

PSCH *baŋuʀ(V-) > Ali pañur, Tumleo paŋur, Sissano pakur, Sera pokur

PSS *bwaŋo- > Lau, Dori'o gwaŋo-, 'Are'are pano-, S. Malaita pwaŋo-, Arosi bwaŋo-

Vanuatu (Maewo, Aoba): Baetora, Lolomatui bwaŋo-, Wailengi gwaŋo-, Ngwatua, Lolsiwoi gwoŋo- all 'nose' (Tryon 1976:175)

but in our present state of knowledge this is barely sufficient to justify reconstructing *bw- in this item in POC.

38. Note also the following two sets, reflected in two geographically separated WM groups:

? POC *bwaga 'sea', 'salt water' >

Bel: Takia beig 'sea'

PSCH *bwa(k,g)a > Wogeo boka 'sea', Bam buok 'salt'

PPT *bwaga > Are, Wedau, Tawala boga, Kakabai bwaga , Dobu bwaga-bwaga

? POC *bwasi 'stagnant (?) water' >

PPT *bwazi > Dobu, Duau bwasi 'water', Sewa Bay basi- 'coconut milk', Kilivila bwesi 'urinate', Muyuw bweis 'urinate', Misima (tal)bwasi 'high water', Nimoa bwayi 'water', Sudest bwa 'water'

PSCH *bwazi 'swamp' > Kaiep buai, Terebu bwei

39. It is tempting to suppose that the items listed in example (3.131) reflect POC *bage 'wing', which together with a variant *bage is widely reflected in the North New Guinea cluster with the meanings 'wing', 'arm' and 'shoulder'. However, Kove reflects POC *bage with the regular form vaye-vaye- 'wing', confirming that Kove voe- 'armpit' indeed has a separate origin in POC. Similarly Bughotu reflects POC *bage as bayi- 'wing', whilst bai(alige) 'armpit' probably reflects POC *bwae.

40. I recognise that there are many languages which do not fit exactly into Type A or Type B. However, there are few (other than SOV languages, which are specifically excluded) which do not conform fairly closely to one of the two types. The CMP languages examined were as follows (sources are listed in Appendix B): from the Timor group, Roti; from the West Central Maluku group, Taliabo (Sula Islands) and Buru; from the East Central Maluku group, Paulohi and Saleman (on Seram), together with Collins' (1983) account of the group's prehistory; and from the South-East Maluku group, Yamdena. The SHWNG languages examined were: from the South Halmahera group, Buli and East Makian; from the West New Guinea group, Koiwai, Numfor-Biak, Ambai, Wandamen-Windesi and Waropen.

41. I am inclined to believe that, since evidence from the North New Guinea cluster shows its languages to be innovators, they are also the innovators in this case, and that POC had a postposed possessor. However, this assumption runs counter to a theoretical proposition: according to Greenberg's (1966a) work and Hawkins' (1979, 1980, 1982) analysis thereof, languages with a

preposed possessor and a postposed adjective are very rare. Since these two features occur in Type A languages, and the theory predicts that they will co-occur only rarely, we might infer that the Type A languages of CMP, SHWNG, and the Oceanic languages of the North New Guinea cluster are the result of a single innovation, rather than of multiple independent parallel innovations. This would imply that POC had a preposed possessor. The assumption that the possessor was postposed, as it is in most Western Malayo-Polynesian languages, entails the inference that Proto CEMP was a Type B language whose CMP and SHWNG descendants – like their North New Guinea relatives – have been used in situations where bilingualism in a non-AN language prevailed, causing parallel morphosyntactic changes in the various branches of the CEMP grouping.

42. Kairiru *pai* future is probably not a reflex of putative POC *ba* future, but a borrowing from Tok Pisin which is used in apparently free alternation with the older Kairiru future marker *ap*.

43. I exclude from this discussion POC *ni* (Pawley 1973:142; Blust 1977; Hooper 1985), as its function is to connect an attributive noun to the head noun within a noun phrase rather than to mark an oblique role.

44. Pawley illustrates this property of *ta-* but does not place *ta-* in a separate morpheme class. He labels the suffixes 'object pronominal suffixes' (1973:149), but in the light both of his reconstructions (in his 1972 work) and of present knowledge they are clearly possessive pronominal suffixes.

45. I adopt the terms confective and refective from Harrison (1982), who in turn borrows them from Arms (1974). A confective participant is typically a concomitant, occasionally an instrument, with a verb of motion (e.g. *the coconuts* in *he came with the coconuts*). A refective participant is 'typically a stimulus (source, cause, reason or beneficiary)' (Harrison 1982:189-190), usually with a verb expressing a psychological state or action (e.g. *John* in *He thought about John*).

46. Lichtenberk (1986) interprets Kwaio *fa-*, To'aba'ita *fa-/fe-* (both taking possessive pronominal enclitics), Kwara'ae *fua*, and Sa'a *huni* as reflexes of POC *pani*. If he is correct, the number of languages reflecting *pani-* and *(k)ani-* side by side is substantially increased. However, he derives Sa'a *huni*, with its cognates in Arosi and some 'Are'are communalects, from a form *puni*, a putative local innovation reflecting POC *pani-*. Since apparent cognates of *puni* occur in Mussau *un-* benefactive prepositional *verb* and Kurti (Admiralties) *hun-* benefactive preposition, it is possible that the source of some of the South-East Solomonic forms is a POC *puni-*.

47. Deck (1934:19) apparently interprets *nia* after a verb as an alternant to -a O:3S, because *nia* is the disjunctive third person singular form, but his interpretation needs investigation. If *ʔatoŋi* is transitive, as he claims, we should find **ʔatoŋi-a*.

48. The preposition *a-* has possible reflexes in the Admiralties and in Poeng.

49. The object enclitic *-i* O:3S is itself the result of resegmentation, since it is derived from the POC transitive marker *-i* (Lichtenberk 1983:35-36).

50. The surveys are: for the Sepik Provinces, Laycock (1973); for the Madang Province, Z'graggen (1975b); for the Morobe Province, Hooley (1970), Lincoln (1976e), and McElhanon (1984); and for New Britain, Chowning (1969) and Johnston, ed. (1980).

51. At the time of writing, Susanne Holzknecht is reconstructing the prehistory of the languages of the Markham Valley. This will become the most thorough piece of comparative work available on a group of North New Guinea languages.

52. Sepa, on the mainland near Manam Island, and apparently settled from there, is probably closely related to Manam, but no adequate data are available to me to establish this.

53. POC *[d]ranum 'water' is one of the few items which seems to have existed with both initial oral- and initial nasal-grade doublets in POC. It is taken to be oral grade in PSCH because it is oral grade in other languages of the North New Guinea cluster.

54. I have followed Bradshaw (1978c) in naming this language Numbami rather than Sipoma.

55. I have treated Hote, Misim and Yamap as dialects of a single language on the basis of comments by Muzzey (1979) and by my informant.

56. Languages of the Huon Gulf family are today in contact with seven different groups of Trans-New Guinea phylum languages: the eastern Huon, Western Huon, Wantoat and Gusap-Mot families of the Huon-Finisterre stock, the Eastern family of the East New Guinea Highlands stock, the Angan stock-level family, and the Goilalan family of the Central and South-Eastern stock (Wurm and Hattori 1981).

57. Movements known of with some degree of certainty are: (i) the migration of some of the Bukawa to villages south of the Markham during a drought sometime between 1750 and 1775 (Hogbin 1951:27); (ii) complex movements involving the Wampar and other Lower Markham groups in the second half of the nineteenth century (Sack 1976:56-60, 100; Holzknecht 1986b).

58. It is evident that Yabem po? 'stone' does not manifest a lenis reflex of the POC initial voiceless stop, nor do in the following examples Yabem, Bukawa ki 'axe', Yabem ka 'tree'. Since lenition of initial consonants is consistently and well attested throughout the rest of the Huon Gulf family, two alternative hypotheses offer themselves: (i) the North Huon Gulf chain, of which Yabem and Bukawa are members, does not belong to the Huon Gulf family; or (ii) Yabem and Bukawa have been influenced by a Vitiaz Strait neighbour where lenition has not occurred. Yabem is closely related to Bukawa, and a little less closely related to Kela. Kela undergoes lenition where other Huon Gulf languages do so; Bukawa fails to do so occasionally; Yabem fails to do so somewhat more frequently. This situation suggests that the second hypothesis (external influence) is more probable than the first (non-membership in the Huon Gulf family.)

59. Table 22 does *not* show reflexes resulting from voicing through obstruent harmony: For example, Table 22 shows Yabem t as the reflex of POC *t. This is true where obstruent harmony did not occur: for example, in Yabem -tup 'grow' < PNHG *tup < POC *tubu. But POC *t became Yabem d where obstruent harmony applied, as in Yabem dibù- grandparent'< PNHG *dùbù- < POC *tubuq.

60. This account of obstruent harmony and tonogenesis is essentially similar to Bradshaw's, but differs from his on two points. Firstly, Bradshaw suggests that it was unpredictable for an etymon containing both a voiced and a voiceless consonant whether obstruent harmony would result in both obstruents becoming voiced or both becoming voiceless, whereas according to the account given here, both obstruents became voiced. The examples he gives of voiced consonants becoming voiceless have alternative explanations. For example, POC *tubu 'grow' became Pre-PNHG *tup before obstruent harmony occurred: hence Yabem tup' grow' is not a counter-example. One counter-example remains unexplained, namely Yabem kasup 'spit', for expected **gàsùp, from Pre-PNHG

*kajup (cf. Numbami kanzuwa), where *j is expected to trigger obstruent harmony resulting in voicing of *k. Possibly subsequent regular devoicing of PNHG *-j- to Yabem -s- has also caused devoicing of **g- to k-.

The second point of difference between Bradshaw's and my accounts is that Bradshaw believed that POC *k, as a voiceless obstruent, resulted in Yabem high tone. However, both high- and low-tone reflexes of POC *k are found, and the low-tone here reflects lenis PHG *ɣ. For example:

| POC | | PHG | Yabem |
|-----|-----|-----|-----|
| *kuluʀ | 'breadfruit' | *ɣuluʀ | ù↗ |
| *kani | 'eat' | *ɣani | èŋ |
| *qeno | 'lie' | *ɣeno | ì↗ |

This is in keeping with Bradshaw's basic assertion that voicing and tone are related and with his observation that the pre-Yabem reflex of POC *p (Yabem Ø) must have been voiced as it caused low tone: it is clear from section 3.5.1.2 of the present work that this voiced reflex was lenis PHG *v. However, what is puzzling is that in certain cases where PHG *ɣ is reconstructible, Yabem has high tone,

61. Map 6 is based on Johnston, ed. (1980) rather than on Wurm and Hattori (1981), as the former represents more recent survey work.

62. Chowning herself draws attention to 'a particularly interesting correspondence' involving Gitua lawak/ Kove lauai 'spider', Gitua nanak/ Kove nanai 'pus', Gitua watak/ Kove watai 'know', and Gitua rak/ Kove hai 'south-east wind'. She suggests that the final -k/-i in the words for 'spider' and 'pus' reflects POC *-q (< POC *lawaq, *nanaq) but is suspicious of Gitua rak. The difficulty here is not one of irregularity, but that insufficient data are available. The terms for 'south-east wind' are derived from POC *ʀaqi (> Tuam, Mutu rag, Vitu rayi, Bulu layi).

63. The origin of the fortis/lenis contrast in the Ngero languages lies in the contrast between word-initial and word-medial environments (section 3.5.1.1). Zero and -g- are the initial and medial reflexes respectively of POC *q.

64. I am grateful to Rick Goulden for providing me with a copy of his M.A. dissertation (Goulden 1982), which originally drew my attention to this matter.

65. This etymon has previously been reconstructed as POC *mwao 'taro' , but WM Oceanic reflexes in languages which do not lose POC *-p- in this environment indicate the latter's presence: Bulu, Bola, Nakanai, Meramera mavo, Dawawa mavu, Kuni mabo, Motu maho.

66. The language names Atui, Avau, Akolet, Apalik, Aiklep and Arove, all incorporate the personal article a and are more properly a Tui, a Vau, a Kolet etc.

67. I am grateful to Susanne Holzknecht, who drew my attention to the Wampar reflexes of *ne-.

68. Reflexes of *paqu 'new' apparently also occur in Sobei fe-fou and Anus fo-fou (Grace 1971a) of the Sarmi coast of Irian Jaya.

69. Lynch (1978b) pointed out that the phoneme /ɣ/ in Sinagoro was not an accretion but a reflex of POC *k, *q and *ŋ, and Ross (1979a) found the same to be true of the Keapara communalects. Hence POC *k and *q were not lost in Proto Central Papuan, as Pawley (1975) had suggested. Lynch (1980) reassessed the phonological evidence concerning the internal subgrouping of the Central Papuan family by deducing the sequence of phonological changes, and this was repeated in

more detail in Lynch (1983b). Lynch (1983b) was to have been the phonological component, Ross (1983b) the morphosyntactic component of a monograph on the prehistory of the Central Papuan family, but events in the lives of both writers have prevented its completion. The sound correspondences in Table 30 owe much to Lynch's work, as well as to Pawley's before him, and the genetic tree in Figure 9 represents – with much detail omitted – the position we had reached in 1983.

70. The name 'Papuan Tip' was adopted from Lithgow (1976), who in turn derived it from Dyen (1965). In retrospect, it was an unfortunate choice on my part, in that whilst it denotes the rough area of the dispersion centre for this group of languages, its use by Lithgow certainly did not include the languages of Central Papua. However, any confusion caused by these two usages would only be compounded by a further change of name, since 'Papuan Tip' has been used in the literature in my sense, i.e. including the Central Papuan family, since my 1979 paper (cf. Lynch 1981; Johnston 1982).

71. For brief descriptions of the Kula ring and lists of the numerous references to it, see Brookfield with Hart (1971:324-327) and Allen (1977a:387-388, 396).

72. Sources attesting trade among the AN-speaking communities of the Central Province include Seligman (1910:204, 313-314) and Hau'ofa (1981:17) for Mekeo/Roro, Seligman (1910:205, 229, 373-374) for Roro/Lala/Motu, Oram (1982a) for Roro/Motu, Oram (1982b) for Gabadi/Motu, Allen (1977b, 1977c) and Oram (1968, 1982b) for Motu/Keapara, Oram (1969) for Keapara/Sinagoro, and Dutton (1982) for Keapara/Ouma.

73. This attribution of conservatism to the Sinagoro/Keapara network (and especially to some Sinagoro communalects) is based on Lynch's and Ross's reconstruction of Proto Central Papuan, whereby, among other features, Sinagoro/Keapara communalects are the only ones in the Central Papuan family to retain Proto Central Papuan *ɣ (< POC *k, *q, and *ŋ).

74. A number of sources imply that the Oceanic-speakers of Central Papua, many of whom depended at European contact on the sea for their livelihood, had originally settled as agriculturalists on the coastal hinterland, and were only pushed down to the coast itself by the expansion of non-AN speakers from inland. The oral histories reported by Ilagi (1975) and Rageau (1976) for the Keapara tell of inland origins; Allen (1977c) and Bulmer (1971, 1979) report evidence that AN-speakers once occupied an area stretching inland from what is now Port Moresby; and Dutton (1978, 1982) reconstructs such a history for the Ouma. Perhaps related to this is the fact that the etymon POC *ikan/PPT *iyan 'fish' is lost in all Central Papuan languages, whilst reflexes of POC *paʀi(q) 'stingray' in example (3.65) are clearly borrowings.

75. Chowning (1986) refers briefly to Tubetube, where indirect inheritance has masked its identity as a Suauic communalect, although it clearly retains a Suauic grammar. In the case of Tubetube, the external linguistic influence has resulted from its key position in the Kula ring.

76. Tryon and Hackman (1983:57) also note reflexes of *rane 'day' for POC **rani in Choiseul, New Georgia, and Ysabel. I return to this in section 7.4.6.

77. There is also a minor reinterpretation which lies outside the scope of this work. Ross (1982b and 1986) accepted Lincoln's (1976b) attribution of Solos to the Buka subgroup of the Nehan/north Bougainville grouping, although its differences from the Petats/Halia chain were recognised. However, it is probable that Solos separated from the rest of the Nehan/north Bougainville network first, as it has not undergone certain morphosyntactic innovations shared by the other languages of the

group. Differences in verbal morphology are touched on in Ross (1982b:22-23), and the differences between the Solos noun phrase and those of its neighbours are briefly described in section 8.7.1.2.

78. Solos, Petats, Taiof and Tinputz lose final vowels. Nehan, Halia (Haku and Selau), Hahon and Teop retain *a* and *o* (Nehan only before a following word-initial consonant) but lose *i* and *u*. Ririo appears to lose them because it has metathesised final PNS *-CV in many environments, but reflexes are still detectable (e.g. *ren* 'day' < PNS *rani*).

79. The languages of Tanna (South Vanuatu) also show unexpected *-ŋ- (Lynch 1978c:775, fn. 35) in reflexes of POC *qacan, but there are no grounds to believe that this is other than an independent parallel innovation.

80. The terms actor and undergoer are defined by Foley and Van Valin (1984:29).

81. Fagan (1986) presents an analysis of Wheeler's (1926) Mono-Alu texts. He shows that Mono-Alu has two sets of clause orders. The first includes SUBJ PRED and SOV. The second consists of clause orders with the marker *ga*: PRED *ga* SUBJ, SV *ga* O, and certain other permutations. Fagan (1986:100-108) points out that *ga* is an absolutive case marker; it precedes the subject of an intransitive verb or the object of a transitive one, when these follow the verb. From my own analysis of a text from Wheeler (1913a) it seems to me that the first set of clause orders is the unmarked set, whilst *ga* marks topics (newly introduced referents). This distribution of *ga* is similar to that of Roviana *si* (section 7.5.4) in that it marks the absolutive case, but dissimilar in that *ga* marks a topic in topicalised clause order, whereas Roviana *si* marks the pragmatic pivot in unmarked clause order. My data from modern Alu indicate that the clause orders in Wheeler's data continue unchanged, but *ga* has extended its functions and occurs before some verb phrases under unknown conditions. An NP preceded by *ga* may also occur in a relative clause, indicating that it is not necessarily the topic of a relative clause that is relativised in Alu. In this respect it differs from most North-West Solomonic languages.

82. This means that the interpretation of Banoni (and Mono-Alu) topicalisation in Ross (1982b:10) is incorrect, although the assertion made there that Banoni is a TVX language stands, as does the argument of that paper.

83. The requirement does not apply in Taiof or Tinputz (Ross 1982b:27-29). There are also cases of SV relative clauses in my Babatana data, possibly due to influence from English.

84. I have borrowed some of the terminology of this sketch from Foley and Van Valin (1984, 1985), since they provide a framework which allows the description of certain syntactic features of these languages more readily than other frameworks do.

85. The 'subject' in an ergative language with an antipassive, like Dyirbal, is also the pragmatic pivot, despite the fact that in some circumstances the accusatively selected English subject is the actor, whereas the ergatively selected subject in Dyirbal is the undergoer.

86. Mosel (1984:148-149) draws attention to the fundamental difference between the syntactic encoding of roles in Tolai and English and to the importance of the [ACTOR +] PREDICATE [+ UNDERGOER] clause order in Tolai (page 280). Her comments on 'inactive' VS clauses suggest that their undergoer subject is perhaps not a pivot, i.e. that they are pivotless and that only the actor is semantic pivot in Tolai. Like other semantic pivot languages described by Foley and Van Valin (1985:322-323), Tolai has a 'backgrounding passive' (Mosel's [1984:141] *di* construction) which suppresses the actor subject (semantic pivot) but leaves the undergoer behind the verb, i.e. does not raise it to subject/pivot status. However, the significance of the concept of pivot for Tolai and its

application are dependent on identifying syntactic processes to which the notion of pivot is central (Foley and Van Valin 1984:120), and on cursory examination I have found none except the coreference of the subject pronominal proclitic, and in the case of post-verbal (undergoer) subjects, agreement is not obligatory.

87. Unfortunately my data contain no cases of pronoun topics which are not subjects: I would expect these also to be expressed by the full disjunctive pronoun.

88. Foley and Van Valin (1985:326) refer to one language in which the pragmatic pivot seems to behave similarly to its north Bougainville equivalent. This is Lango, a Nilo-Saharan language of East Africa.

89. Todd 1978b provides texts, but none of these is narrative and it is not possible to determine from them whether the pragmatic pivot controls deletion in co-ordinate clauses.

90. White et al (f/c.) call *si* a subject marker, and it is clear that the question of the distinction between subject and topic in Maringe needs further investigation. However, the examples of non-subject topics which I have presented cannot be interpreted as subjects.

91. It is tempting to interpret the sequence *seke-na sa siki* hit-P:3S ART dog in example (7.76) as a passive on the Nehan model. However, two facts speak against this. The first is that the relativised constituent in all other relative clauses is the AbsNP, and to interpret the verb here as other than antipassive is to infer that this constraint is broken. The second is that *sa siki the dog* is not necessarily an AbsNP, since, as we have noted, *sa* does not always mark an AbsNP. It is not clear what the relationship of *sa siki* is to the verb here, but my informant found the addition of a *si* phrase with a pronoun unacceptable in *doyoria rau sa tie sapu seke-gu **[si rau]* 'I saw the man who hit me'; since *si rau* is always absolutive, we may conclude that *sa siki* is not an AbsNP here. Foley and Van Valin (1985:338) comment on an asymmetry in their typology of passives and antipassives, namely that they have found no foregrounding antipassives in which the undergoer remains a core argument: it is possible that Roviana fills this gap.

92. Todd (1978a:1037ff.) has a number of examples of this kind of clause structure, which she appears to interpret as unmarked structures. My informants were unhappy with them and insisted on replacing them with clauses of the unmarked structure in (7.79). I suspect that their unwillingness to accept these examples was related more to the fact that they are highly marked – and therefore not equivalent to their English translations – rather than that they are ungrammatical *per se*.

93. It is noteworthy that Todd's (1978b) Nehan texts contain numerous examples of a left-dislocated *ta*-marked noun phrase which precedes the topic and functions somewhat like the topic in east Asian 'topic-prominent' languages, e.g. the *wa* topic in Japanese. These *ta*-marked noun phrases seem to represent the beginnings of a new topicalisation strategy as the Nehan topic is progressively reinterpreted as a pragmatic pivot (see section 7.5.3.2).

94. Loss of *y-* occurred either before, or more probably as part of, the process which resulted in reanalysis of *r-* as part of the pronoun. I have presented in Ross (1986) the reasons why independent parallel innovation is very unlikely.

95. The Nehan personal noun ligature -ŋ- is also reflected in the form *ta-ŋ*, assumed by the non-pivot noun phrase marker *ta-* (see section 7.5.3.2) before personal names.

96. The possessive classifier *sa-* has been replaced by *a-* in Torau: *a-gu-na ruma* PCL-P:1S-S house 'my house'.

97. The failure of the two pronoun forms, one inclusive, the other exclusive, to agree is unexplained. The passage is from a recorded narrative.

98. I am not particularly happy with the neologism 'Meso-Melanesian'. It was chosen because the term 'Central Melanesian' has been used (by Greenberg 1971:816-819) for a group of non-AN languages, and other geographic terms which appropriately label the area are hard to find, as it consists of part of the Bismarck Archipelago and part of the Solomons chain, but by no means the whole of either. Originally (in an unpublished part of Ross 1986) I used the term 'Bali-Maringe', which consists of the languages at the two ends of the chain, but this met with the objection that no one recognised these names (or that the first more readily applied to Bali in Indonesia). Hence 'Meso-Melanesian'.

99. I came upon Bilur in 1974 during a linguistic survey which my students were conducting as part of their studies at Kerevat Senior High School, and obtained a wordlist in 1977. Crowley (1980) also collected a wordlist from Birar in his survey of the Gazelle Peninsula, and I was able to collect morphosyntactic data during a visit in 1981.

100. Trade between the Bulu and Bali-Vitu is probably quite recent. The oral traditions of both the Bola (= Bakovi) and the Vitu agree on a colonisation of Vitu Island from (Bola-speaking) Volupai village on the west coast of the Willaumez Peninsula (Specht 1980; Rhoads and Specht 1980). Other than the fact that Vitu is the less conservative of the two dialects of Bali-Vitu, this does not accord with the linguistic evidence. The Bola regard the area immediately inland of the southern part of the Willaumez Peninsula as the *Urheimat* of the Willaumez tribes (Baki 1975), and it is reasonable to infer that the Vitu dialect is the result of the adoption of the Bali-Vitu language by the newcomers from Volupai.

101. See, for example, Chowning (1976:368), Johnston (1982:90).

102. The verb *ma[i]* 'come from' is reconstructible in POC. The verb *ua* 'go to' is reconstructible in a proto language of lower order than POC (i.e. PWO; see Chapter 10) on the basis of the Meso-Melanesian forms given in section 8.4.2.2 and of the North New Guinea reflexes Medebur, Ali, Tumleo, Sissano, Sera *wa* 'go' and Matukar -*wa* 'away' (verbal clitic), and the Peripheral Papuan Tip reflexes Dobu -*wa* 'away' (verbal enclitic), Kilivila *wa* 'go away to', Sudest *wa* 'go away' and Muyuw -*w* 'go to (you)'. The western Admiralties forms Aua -*wau*, Seimat -*wa*, both 'away from speaker' (verbal clitics) are probably also cognate, but the final -*u* of the Aua form also suggests cognacy with PEO *[w]atu* 'away, hence' (postverbal directional particle) (Pawley 1972), implying that *ua* may be a reduced form of putative POC *watu* or *uatu*.

103. Bali displays a preference for the sequence construction in:

γau    taloγu    na    rumake-ni    k-a        mai
D:1S   leave     ART   house-DEM    SEQ-S:1S   come
'I left that house and came.' (= 'I have come from that house.')

104. It is tempting to regard this as cognate with POC *tani-* ablative prepositional verb, but the form of the reconstruction here is insecure and the medial consonant appears to be *-ŋ-,

105. In this section I will follow Hooper (1985) in writing POC *qi* for the possessive preposition, although I assume that it is the same morpheme as that which I reconstructed as *(q)i* in section 4.5.1.

106. Superficially the PNI innovations in the use of POC *qi* are reminiscent of those in Fijian. As Hooper (1985:156) notes, reflexes of POC *qi* indicating non-specific/generic possession of inalienable nouns occur as fossilised survivals in Fijian. Fijian *i* also marks the proper name possessor of an inalienable noun (e.g. *na ulu i Cakobau* 'Cakobau's head'), but it does not occur with other specific possessors and never acquires a possessive pronominal suffix (Schütz 1986:445-463). If PNI and Fijian reflexes of POC *qi* with the proper name possessor of an inalienable noun were a common retention from POC, we would expect to find reflexes scattered across Oceania, but there are none in WM, and the only other known reflex is in Lifu (Loyalty Islands) (Hooper 1985:144). If the PNI and Fijian reflexes indicated a shared innovation, then we would expect to find other more or elss exclusively shared PNI and Fijian innovations, but these do not occur. Hence I agree with Hooper (1985:158) that it is 'wisest to attribute the similarity to parallel development'.

107. A semantically similar nominalisation occurs in Lihir, but, synchronically at least, the structure is that of ordinary inalienable possession, e.g.

> a      peti-en      a      liom
> ART   good-P:3S   ART   house
> 'the good house' (more literally 'the house's goodness')

108. I am indebted to Dean Moore for this example.

109. Bracketed final vowels of Nehan items are part of the underlying form of the word, but are deleted both in citation forms and phrase-finally.

110. Todd (1978b) recognises the two classes of nouns in Nehan, but does not attempt to characterise them semantically. She does not record the use of *a* with a mass noun, but this appears to have a fairly low functional load.

111. Todd describes the use of *-r* in WH- questions (1978b:1211), in relative clauses (1978b:1208-1209), and with postposed subjects (1978b:1188).

112. Subgrouping detail at this level is beyond the scope of this work. However, Pak shares some innovations with the east Manus communalects, and especially with the Los Negros communalects Mokoreng (= Mokerang) and Loniu, and other innovations with the South-East Admiralties network, especially with Lenkau. I have tentatively interpreted this as indicating that Pak originally belonged to the Manus network but has in more recent times been in closer contact with Lenkau. Obviously more research is needed here.

113. This map is based on an updated version of the Schoolings' survey map, kindly supplied by the PNG branch of the Summer Institute of Linguistics.

114. The diagram is modelled in style on Tryon's (1976:80) for the North/Central Vanuatu grouping, which appears to have the same kind of history of shifting relationships as the Manus network.

115. As far as I can ascertain, the article *ateva* (which contains the root *-teva* 'one') occurs with countable, *atea* with mass, nouns. Initial *a-* becomes *e-* after a preceding high vowel.

116. Cliticisation of *na* is not uncommon. It has been recorded in Kilenge and the Pasismanua languages of the North New Guinea cluster and in Paamese of central Vanuatu (Crowley 1982, 1985).

117. A process similar to Admiralties secondary nasal grade is reported by Geraghty 1983:74-96) in certain eastern Fijian dialects. However, this process, which Geraghty calls 'apical prenasalisation', differs in certain respects from Admiralties secondary nasal grade and is clearly an independent innovation. Eastern Fijian apical prenasalisation results not from *coalescence* of POC *na* common article with the noun-initial consonant, but from assimilation of the noun-initial consonant to *na*. Furthermore, eastern Fijian apical prenasalisation affects reflexes only of POC *t, *r, and *s (not of *p or *k).

118. The fact that reflexes of *iai* occur as a postposition in North New Guinea languages which are not SOV raises the question of whether some or all of them have passed through an SOV stage. I see no other evidence to suppose this, but the matter needs further research.

119. It is possible to argue that *-na-* should more properly be glossed irrealis (rather than future), but this is not relevant to the matter under discussion here.

120. Grace (1969) quotes POC *sira* 'they' (*sida* in his orthography) from Capell (1943). However, Capell has taken the reconstruction from Dempwolff (1938), and the Papuan Tip data which he associates with it (Sudest [various dialects] *ie, -ðe, (n)ji*, Misima *heria, hi*, Nimoa *si*) do not appear to reflect **sira*. Sudest *(n)ji*, Misima *heria*, at least, reflect forms containing POC/PWO *-dria*.

121. There are three Central Papuan reflexes, namely Doura, Lala *-ta* and Gabadi *-da* which look superficially like reflexes of POC *-dra* rather than *-dri[a]*. However, since POC *dr* is otherwise reflected as Gabadi *d* only in the neighbourhood of *i* (its reflex elsewhere is Gabadi *g*), I take Gabadi *-da* to represent a reduction of pre-Gabadi *-dia*, reflecting POC *-dri[a]*. There is no evidence one way or the other as to whether Doura, Lala *-ta* are the result of a similar reduction.

122. The consonant of both these forms reflects POC *-r-* rather than *-dr-*. This may be due to analogy with the corresponding disjunctive forms Proto South Vanuatu *iLi*, Rotuman *iri(sa)*.

123. The South Halmahera forms have the 'correct' consonant. The relevant correspondences are PEMP *d* > Buli, East Makian *l*, whilst PEMP *nd* > Buli *d-, -r-*, East Makian *-d-*.

124. Buli and East Makian have *si* D:3P, and the West New Guinea languages reflect a protoform *si*. The existence of alternant forms *sil* and *sile* in Buli indicate that these are all reflexes of PMP *siDa*.

125. It is worth noting that one factor contributing to the presence of three apparent items for 'one' is that some (or all?) of the word-initial reflexes of POC *kai* in 10.21 possibly do not carry the meaning 'one' (in several cases this is carried by a reflex of POC *sa* 'one') but reflect a numeral classifying morpheme derived from POC *kayu* 'tree'. Numeral classifiers are reconstructible in POC, and this is one of the most commonly reflected in languages which have lost classifiers as a functional morpheme-class.

126. A listing of the actual reflexes of PWO *-na-* themselves is not offered because in many cases incorporation into the verb phrase has rendered the reflex incapable of isolation.

127. Proto Malaitan forms in Table 38 are cited from Simons (1980).

128. This example is glossed by Lee 'I hope that they will come', but *el* appears to be third, not first, person here.

129. As is illustrated in example 10.51, Aua *na* also functions as a preposition. It could therefore be argued that the *na-* of *na-minoa* 'tomorrow' is a preposition. However, this would not account for the contrast *na-minoa* 'tomorrow'/*ei-minoa* 'yesterday'. It is more probable that prepositional *na* also has its origin in \**na* spatial deictic.

130. The facts that POC \**c* remained a separate phoneme in PAd, and that PAd developed no reflexes of PWO \**idria* D:3P also point to an early separation of PAd from other WM Oceanic languages.

131. Lilley (1986) suggests that the Vitiaz Strait trading network described by Harding (1967) is less than four hundred years old. However, on archaeological evidence he proposes that there were two earlier networks involving the islands in the Vitiaz Strait. The first of these was in operation between about 800 and 500 B.C., and involved trade in Lapita pottery and talasea obsidian, but no contact with the Huon Peninsula. Evidence for th second dates from between 400 and 900 A.D. It connected the islands with both New Britain and the Huon Peninsula and was perhaps associated with the dispersion of speakers of what I have called the Vitiaz linkage (see Chapter 5). The most recent (Harding's) network may be associated with the dispersion of Proto Ngero speakers. The important point here, however, is that none of these networks spanned an area larger than the proposed POC triangle.

132. The present Mount Pago behind Cape Hoskins dates only from this century, having replaced Mount Pyramid which collapsed in 1911 (Cooke 1981a).

133. For example, Rukai (Formosa) *ka-oðiŋay* 'become delirious' (Starosta 1974), Samar-Leyte (Philippines) *nag-ka-hádlǝk* 'become afraid' (Zorc 1977:144).

134. See Revel-Macdonald 1979:172-173 for Palaweño; Schachter and Otanes 1972:308, 331 for Tagalog; Sneddon 1978:97, 105-6 for Proto Minahasan.

135. The search for these features in the Admiralties and Mussau was cursory not only in the sense that it was conducted quickly but also in the sense that when I collected and analysed my data, I was not looking for these features. Thus whilst I would very probably have found any Admiralties reflex of Lynch and Tryon's PCEO \**ma* preverbal particle marking realis/past/non-future, it is unlikely that I would uncover any reflex of PCEO \**ŋke* preverbal marking conditional.

# BIBLIOGRAPHY

ABBREVIATIONS

*BSOAS*        *Bulletin of the School of Oriental and African Studies.* University of London.

*BKI*        *Bijdragen van het Koninklijk Instituut: Bijdragen tot de Taal-, Land- en Volkenkunde.* Leiden.

*JPS*        *Journal of the Polynesian Society.* Auckland.

*OL*        *Oceanic Linguistics.* Honolulu: University of Hawaii.

*PL*        *Pacific Linguistics.* Department of Linguistics, Research School of Pacific Studies, Australian National University, Canberra

SIL        Summer Institute of Linguistics.

*WPAALMS*        *Working Papers in Anthropology, Archaeology, Linguistics, Maori Studies.* Department of Anthropology, University of Auckland.

*WPLUH*        *University of Hawaii Working Papers in Linguistics*, Department of Linguistics, University of Hawaii, Honolulu.

*WPNGL*        *Workpapers in Papua New Guinea languages.* Ukarumpa: Summer Institute of Linguistics.

*ZAOS*        *Zeitschrift für afrikanische und ozeanische Sprachen.* Berlin.

*ZES*        *Zeitschrift für Eingeborenen-Sprachen.* Berlin


REFERENCES

ADAMS, Karen and Linda LAUCK
    1975    A tentative phonemic statement of Patep. *WPNGL* 13:71-128.

ADELAAR, K.A.
    1985    *Proto-Malayic: the reconstruction of its phonology and parts of its lexicon and morphology.* (Doctoral dissertation, University of Leiden.) Ablasserdam: Kanters.

ADRIANI, N. and A.C. KRUIJT
    1914    *De Bare'e-sprekende Toradja's van Midden-Celebes,* vol.3. Batavia: Landsdrukkerij.

AITCHISON, Jean
    1981    *Language change: progress or decay?* London: Fontana.

ALLEN, Gerald (Jerry)
  1971   Tense/aspect and conjunction in Halia narratives. *OL* 10/1:63-77.
  1978   Halia verb morphology: from morpheme to discourse. M.A. dissertation, University of Texas at Arlington.

ALLEN, Jerry and Janice ALLEN
  1965   *Halia language course.* Port Moresby: Department of Information and Extension Services.

ALLEN, Jerry and Matthew BEASO
  1975   Petats phonemes and orthography. *WPNGL* 13:45-70.

ALLEN, Jerry and Conrad HURD
  1963   Unpublished Bougainville survey word lists on file at SIL, Ukarumpa.

ALLEN, Jim
  1977a  Sea traffic, trade and expanding horizons. In Allen et al, eds 1977:387-417.
  1977b  Management of resources in prehistoric coastal Papua. In Winslow, ed. 1977:35-44.
  1977c  Fishing for wallabies: trade as a mechanism of social interaction, integration and elaboration on the Central Papuan coast. In Friedman and Rowlands, eds 1977:419-455.

ALLEN, Jim, Jack GOLSON and Rhys JONES eds
  1977   *Sunda and Sahul: prehistoric studies in southeast Asia, Melanesia and Australia.* London: Academic Press.

ALMOND, R.A.
  1981   Aeromagnetic survey of the Rabaul caldera. In Johnson, ed. 1981:195-200.

AMBROSE, W.R.
  1978   The loneliness of the long distance trader in Melanesia. *Mankind* 11:326-333.

AMBROSE, W.R. and R.C. GREEN
  1972   First millenium BC transport of obsidian from New Britain to the Solomon Islands. *Nature* 237:231.

ANDERSON, James M.
  1973   *Structural aspects of language change.* London: Longman.

ANSELL, Robyn
  1976   Sinagoro historical phonology and its implications. Paper read to the 10th Congress of the Linguistic Society of Papua New Guinea, Port Moresby.

ARLOTTO, Anthony
  1972   *Introduction to historical linguistics.* Boston: Houghton Mifflin.

ARMS, David G.
  1974   Whence the Fijian transitive endings? *OL* 12:503-558.

ARMSTRONG, W.E.
  1923   Report on anthropology of South-Eastern Division (excluding Woodlark Is.), Engineer Group, Bosilai, East Cape, Normanby Is. (South Coast), Fergusson Island (Morima). *Papua Annual Report for the Year 1921-22:* 26-39.

ARNOLD, John K.
  1931   *A grammar of the language of Edugaura.* Port Moresby: Government Printer.

BAILEY, Charles-James N.
  1980    Old and new views on language history and language relationships.   In Lüdtke, ed. 1980:139-183.

BAILEY, Charles-James N. and Roy HARRIS
  1985    *Developmental mechanisms of language.* Oxford: Pergamon Press.

BAKI, A.
  1975    The Bakovi people of West New Britain. *Oral History* 3/9:91-92.

BALL, E.E. and R.W. JOHNSON
  1981    Volcanic history of Long Island. In Johnson, ed. 1981:133-147.

BAMLER, G
  1900    Bemerkungen zur Grammatik der Tami-Sprache. *ZAOS* 5:198-253.

BARTLETT, H.K.
  n.d.    A vocabulary of the language of Paneati and Misima - Papua.  TS.  Noumea: South Pacific Commission microfilm.

BEAUMONT, Clive H.
  1972    New Ireland languages: a review. *PL*, A-35:1-41.
  1979    *The Tigak language of New Ireland. PL*, B-58.

BEAUMONT, Clive H. ed.
  f/c.    *Lavongai materials. PL*, series D.

BEAUMONT, Clive H. and Daisy J.M. BEAUMONT
  f/c.    Lavongai to English wordlist and English to Lavongai index. In Beaumont, ed., f/c.

BEAUMONT, John
  1982    English-Iamalele and Iamalele-English dictionary. Computer printout. SIL, Ukarumpa.

BEAUMONT, John and Margaret BEAUMONT
  1975    Iamalele clause types and structure. *WPNGL* 12:81-152.

BELL, F.L.S.
  1977    *Tanga-English English-Tanga dictionary.*  Oceania Linguistic Monographs 21. University of Sydney.

BELLWOOD, Peter
  1978    *Man's conquest of the Pacific.* Auckland: Collins.

BENDER, Byron W. AND Judith W. WANG
  1985    The status of Proto-Micronesian. In Pawley and Carrington, eds 1985:53-92.

BIGGS, Bruce G.
  1965    Direct and indirect inheritance in Rotuman. *Lingua* 14:383-415.

BIGGS, Bruce, D.S. WALSH and Jocelyn WAQA
  1970    *Proto-Polynesian reconstructions with English to Proto-Polynesian finder list. WPAALMS.*

BLACKWOOD, Beatrice
  1935    *Both sides of Buka Passage.* Oxford: Clarendon Press.

430

BLONG, R.J.
1982    The time of darkness. Canberra: Australian National University Press.

BLUST, Robert A.
1972    Proto-Oceanic addenda with cognates in non-Oceanic Austronesian languages: a preliminary list. *WPLUH* 4/1:1-43.
1976    A third palatal reflex in Polynesian languages. *JPS* 85:339-358.
1977    The Proto-Austronesian pronouns and Austronesian subgrouping: a preliminary report. *WPLUH* 9/2:1-15.
1978a   The Proto-Oceanic palatals. *JPS* Monograph No 43. Auckland.
1978b   Eastern Malayo-Polynesian: a subgrouping argument. In Wurm and Carrington, eds 1978:181-234.
1981a   Some remarks on labiovelar correspondences in Oceanic languages. In Hollyman and Pawley, eds 1981:229-254.
1981b   Variation in retention rate among Austronesian languages. Paper presented at the Third International Conference on Austronesian Linguistics, Bali, Indonesia.
1982    The linguistic value of the Wallace Line. *BKI* 138:231-250.
1984a   A Mussau vocabulary, with phonological notes. *PL*, A-69:159-208.
1984b   Malaita-Micronesian: an Eastern Oceanic subgroup? *JPS* 93:99-140.
1984c   More on the position of the languages of Eastern Indonesia. *OL* 22-23:1-28.
1984d   Austronesian etymologies II. *OL* 22-23:29-149.
n.d.    Unpublished wordlists of Admiralties languages.

BÖHM, Karl
1975    *Das Leben einiger Inselvölker Neuguineas. Beobachtungen eines Missionars auf den Vulkaninseln Manam, Boesa, Biem und Ubrub.* St Augustin: Anthropos-Institut.

BOSCO, John
1979    A Bola grammar. TS. SIL, Ukarumpa.

BOSMA, David
1980    Letasi cheke Maringe (An alphabet for Maringe). Mimeo. Solomon Islands Translation Advisory Group, Honiara.
1981    Standardised alphabets for Santa Isabel languages. Mimeo. Solomon Islands Translation Advisory Group, Honiara.

BOUILLON, P.
1915    Etude sur le dialecte de Sugu (Guadalcanal, Solomon Is.). *Anthropos* 10:758-780.

BRADSHAW, Joel
1978a   Notes on subgrouping in the Huon Gulf area. *WPLUH* 10/1:49-83.
1978b   Tonogenesis in Jabêm. *WPLUH* 10/1:125-140.
1978c   The development of an extra series of obstruents in Numbami. *OL* 17:39-76.
1982    Word order change in Papua New Guinea Austronesian languages. Ph.D. dissertation, University of Hawaii.
1985    Assessing the typological evidence for New Guinea Oceanic. In Pawley and Carrington, eds 1985:19-30.

BRANCH, C.D.
1967    Volcanic activity at Lake Dakataua caldera, New Britain. *Bureau of Mineral Resources, Geology and Geophysics, Australia, Report 107*:20-25.

BROOKFIELD, H.C. with Doreen HART
1971    *Melanesia: a geographical interpretation of an island world.*  London: Methuen.

BUGENHAGEN, Robert D.
1985    A journey through Mangap-Mbula possession.  Paper presented to the nineteenth annual conference of the Linguistic Society of Papua New Guinea, Goroka.

BULMER, Susan
1971    Prehistoric settlement patterns and pottery in the Port Moresby area.  *Journal of the Papua and New Guinea Society* 5/2:29-92.
1979    Prehistoric ecology and economy in the Port Moresby region.  *New Zealand Journal of Archaeology* 1:5-27.
1982    West of Bootless Inlet: archaeological evidence for prehistoric trade in the Port Moresby area and the origins of the *hiri*.  In Dutton, ed. 1982:117-130.

CALLISTER, Sandra et al
1983    *Baba ana talisi ana buki: Misima dictionary.*  SIL, Ukarumpa.

CAPELL, Arthur
1930    The language of Inakona, Guadalcanar, Solomon Islands.  *JPS* 39:113-136.
1943    *The linguistic position of South-Eastern Papua.*  Sydney: Australasian Medical Publishing Company.
1949    Two tonal languages of New Guinea.  *BSOAS* 13:184-199.
1962    Oceanic linguistics today.  *Current Anthropology* 3:371-396.
1967    A lost tribe in New Ireland.  *Mankind* 6:499-509.
1969a   *A survey of New Guinea languages.*  Sydney: Sydney University Press.
1969b   *Grammar and vocabulary of the language of Sonsorol-Tobi.*  Oceania Linguistic Monographs 12.
1971a   The Austronesian languages of Australian New Guinea.  In Sebeok, ed. 1971:240-340.
1971b   *Arosi grammar.*  PL, B-20.
1976a   General picture of Austronesian languages, New Guinea area.  In Wurm, ed. 1976:5-52.
1976b   Austronesian and Papuan 'mixed' languages: general remarks.  In Wurm, ed. 1976:527-579.

CAPELL, Arthur and J.W. LAYARD
1980    *Materials in Atchin, Malekula: grammar, vocabulary and texts.*  PL, D-20.

CARLE, Rainer, M. HEINSCHKE, P. W. PINK, C. ROST and K. STADTLANDER eds
1982    *Gava': studies in Austronesian languages and cultures dedicated to Hans Kähler.*  Veröffentlichungen des Seminars für Indonesische und Südseesprachen der Universität Hamburg 17.  Berlin: Dietrich Reimer.

CARTER, G.G.
1952    Some grammatical notes on the Teop dialect.  *JPS* 61:230-242.

CATFORD, J.C.
1974    'Natural' sound changes: some questions of directionality in diachronic phonetics.  In A. Bruck et al, eds *Papers from the Parasession on natural phonology:* 21-29.  Chicago: Chicago Linguistic Society.

CHAPIN, Paul G.
1974    Proto-Polynesian *ai*.  Mimeo.

CHARPENTIER, Jean-Michel

1979 *La langue de Port-Sandwich (Nouvelles-Hébrides)*. Paris: SELAF.

CHEN, Matthew Y. and William S.-Y. WANG

1975 Sound change: actuation and implementation. *Language* 51:255-281.

CHEN, Teresa M.

1985 *Verbal constructions and verbal classification in Nataoran-Amis*. *PL*, C-85.

CHIPPING, Amy L. and J.A. LLOYD, eds

1977 *Phonologies from six village living experiences*. SIL, Ukarumpa.

CHOWNING, Ann

1969 The Austronesian languages of New Britain. *PL*, A-21:17-45.

1973 Milke's 'New Guinea cluster': the evidence from northwest New Britain. *OL* 12:189-243.

1976 Austronesian languages: New Britain. In Wurm, ed. 1976:365-386.

1978 Comparative grammars of five New Britain languages. In Wurm and Carrington, eds 1978:1129-1157.

1985 Rapid lexical change and aberrant Melanesian languages: Sengseng and its neighbours. In Pawley and Carrington, eds 1985:169-198.

1986 Refugees, traders and other wanderers: the linguistic effects of population mixing in Melanesia. In Geraghty, Carrington and Wurm, eds 1986b:407-434.

n.d. West Nakanai dictionary. TS.

CLARK, Ross

1973 Transitivity and case in eastern Oceanic languages. *OL* 12:559-606.

CLAY, Brenda Johnson

1977 *Pinikindu: maternal nurture, paternal substance*. Chicago: University of Chicago Press.

CLUNN, S.P. and J.A. KOLIA

1977 *A Lala grammar sketch and vocabulary*. Port Moresby: Institute of Papua New Guinea Studies.

COCHRAN, Anne M.

1978 A comparative study of Milne Bay phonology. In Wurm and Carrington, eds 1978: 851-866.

CODRINGTON, Robert H.

1885 *The Melanesian languages*. Oxford: Oxford University Press.

COLLIER, Ken and Margaret COLLIER

1975 A tentative phonemic statement of the Apoze dialect, Kela language. *WPNGL* 13:129-162.

COLLINS, James T.

1982 A short vocabulary of East Makian. In Voorhoeve, ed. 1982:99-128.

1983 *The historical relationships of the languages of Central Maluku, Indonesia*. *PL*, D-47.

COMRIE, Bernard

1981 *Language universals and linguistic typology*. Oxford: Blackwell.

COOKE, R.J.S.
    1981a    Eruptions at Pago volcano 1911-1933. In Johnson, ed. 1981:135-146.
    1981b    Notes on the activity of Ulawun volcano, 1700-1958: results of a literature search. In Johnson, ed. 1981:147-151.
    1981c    Eruptive history of the volcano at Ritter Island. In Johnson, ed. 1981:115-123.

COOKE, R.J.S. and R.W. JOHNSON
    1981    Bam volcano; morphology, geology, and reported eruptive history. In Johnson, ed. 1981:13-21.

COOMBS, Martin
    n.d.    Mangsing grammar notes. Computer printout. SIL, Ukarumpa.

COOPER, Russell E.
    1975    Coastal Suau: a preliminary study of internal relationships. In Dutton, ed. 1975:227-278.

COUNTS, David R.
    1969    *A grammar of Kaliai-Kove*. OL Special Publications 6. Honolulu: University of Hawaii Press.

COWAN, H.K.J.
    1955    Notes on Windesi grammar. *Oceania* 26:42-58.

CRAIG, Margaret
    1977    Aroma morphology. B.A. Hons. thesis, University of Papua New Guinea, Waigani.

CROTHERS, John
    1978    Typology and universals of vowel systems. In Greenberg et al, eds 1978b:93-152.

CROWLEY, Susan Smith
    1986    *Tolo dictionary*. *PL*, C-91.

CROWLEY, Terry
    1980    Gazelle Peninsula and Duke of Yorks Vocabulary Survey. MS. University of Papua New Guinea.
    1982    *The Paamese language of Vanuatu*. *PL*, B-87.
    1985    Common noun phrase marking in Proto-Oceanic. *OL* 24:135-193.

DAHL, Otto Christian
    1986    Focus in Malagasy and Proto-Austronesian. In Geraghty, Carrington and Wurm, eds 1986a:21-42.

DARDJOWIDJOJO, Soenjono
    1967    The role of overt markers in some Indonesian and Javanese passive sentences. *OL* 13:371-389.

DAVIDSON, Ian and Doris DAVIDSON
    1975    Iwal phonemics, Siassi language family, Morobe District. TS. SIL, Ukarumpa.
    1976    Essentials for translation No.3: Iwal language. TS. SIL, Ukarumpa.

DECK, Norman C.
    1934    *A grammar of the language spoken by the Kwara'ae people of Mala, British Solomon Islands*. Reprint no. 5 from *JPS* 42, 43. New Plymouth: Thomas Avery.

434

DEMPWOLFF, Otto

1920    *Die Lautentsprechungen der indonesischen Lippenlaute in einigen anderen austronesischen Südseesprachen.* Beihefte zur ZES 2. Berlin: Dietrich Reimer.

1927    Das austronesische Sprachgut in den melanesischen Sprachen. *Folia Ethnoglossica* 3:32-43.

1934    *Vergleichende Lautlehre des austronesischen Wortschatzes.* Band 1: *Induktiver Aufbau einer indonesischen Ursprache.* Beihefte zur ZES 15. Berlin: Dietrich Reimer.

1937    *Vergleichende Lautlehre des austronesischen Wortschatzes.* Band 2: *Deduktive Anwendung des Urindonesischen auf austronesische Einzelsprachen.* Beihefte zur ZES 17. Berlin: Dietrich Reimer.

1938    *Vergleichende Lautlehre des austronesischen Wortschatzes.* Band 3: *Austronesisches Wörterverzeichnis.* Beihefte zur ZES 19. Berlin: Dietrich Reimer.

1939    *Grammatik der Jabêm-Sprache auf Neuguinea.* Hamburg: Friederichsen, de Gruyter.

n.d.    Grammar of the Graged language. Mimeo. Lutheran Mission Narer, Karker I.

DENOON, Donald J. and Roderic LACEY, eds

1980    *Oral tradition in Melanesia.* Port Moresby: University of Papua New Guinea and Institute of Papua New Guinea Studies.

DIXON, J.W.

1928    *English-Dobu dictionary.* Salamo: Methodist Mission Press.

DRABBE, P.

1926    *Spraakkunst der Jamdeensche taal.* *Verhandelingen van het Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen* 67/2.

DUTTON, T.E.

1970    Notes on the languages of the Rigo area of the Central District of Papua. In Wurm and Laycock, eds 1970:879-983.

1971    Languages of south-east Papua: a preliminary report. *PL*, A-28: 1-46.

1973    *A checklist of languages and present-day villages of central and south-east mainland Papua. PL*, B-24.

1976    Magori and similar languages of south-east Papua. In Wurm, ed. 1976:581-636.

1978    Language and trade in central and south-east Papua. *Mankind* 11:341-353.

1980a   A Magori vocabulary. TS. Australian National University.

1980b   Magori grammar notes. TS. Australian National University.

1980c   An Ouma vocabulary. TS. Australian National University.

1982    Borrowing in Austronesian and non-Austronesian languages of coastal south-east mainland Papua New Guinea. In Halim, Carrington and Wurm, eds 1982a:109-177.

n.d.    Unpublished wordlists, languages of South-east Papua.

DUTTON, T.E., ed.

1975    *Studies in languages of central and south-east Papua. PL*, C-29.

1982    *The hiri in history: further aspects of long-distance Motu trade in central Papua.* Pacific Research Monograph No.8. Canberra: Australian National University.

DYEN, Isidore

1965    A lexicostatistical classification of the Austronesian languages. International Journal of American Linguistics Memoir 19. Baltimore: Waverly Press.

EGIDI, V.M.
 1907    La tribù di Tauata. *Anthropos* 2:1009-1021.
 1913a   Mythes et légendes des Kuni, British New-Guinea. *Anthropos* 8:978-1009.
 1913b   La religione e le conoscenze naturali dei Kuni (Nuova Guinea Inglese). *Anthropos* 8:202-217.

EGLOFF, Brian
 n.d.    Unpublished wordlists, languages of the D'Entrecasteaux Archipelago.

ELBERT, Samuel H.
 1974    *Puluwat grammar. PL*, B-29.

ELKINS, Richard E.
 1967    Major grammatical patterns of Western Bukidnon Manobo.  Ph.D. dissertation, University of Hawaii, Honolulu.

ELLIOTT, George.
 1979    Dami grammar essentials. TS. SIL, Ukarumpa.

EZARD, Bryan
 1978    Classificatory prefixes of the Massim cluster. In Wurm and Carrington, eds 1978: 1159-1180.
 1979    Tawala grammar notes and basic vocabulary. Computer printout. SIL, Ukarumpa.
 1980    Tawala dictionary. Computer printout. SIL, Ukarumpa.

FAGAN, Joel L.
 1986    *A grammatical analysis of Mono-Alu (Bougainville Straits, Solomon Islands). PL*, B-96.

FELLOWS, S.B.
 1894    Grammar of the Pannieti dialect, British New Guinea, together with a comprehensive vocabulary. *Annual Report on British New Guinea, 1892-1893*:78-92.  Melbourne: Government Printer..

FERGUSON, Charles A.
 1963    Assumptions about nasals. In Greenberg, ed. 1963:42-47.

FISCHER, Hans
 1963    *Watut: Notizen zur Kultur eines Melanesierstammes in Nordost-Neuguinea.* Braunschweig: Albert Limbach
 1966    Wampet, Mumeng und Labu: drei kurze Wörterlisten. *Anthropos* 61:878-883.

FLAMING, Rachel
 n.d.a   Wandamen verbs. TS. UNCEN-SIL, Jayapura.
 n.d.b   Wandamen clauses. TS. UNCEN-SIL, Jayapura.

FOLEY, James
 1977    *Foundations of theoretical phonology.* London: Cambridge University Press.

FOLEY, William A.
 1976    Comparative syntax in Austronesian.  Ph.D. dissertation, University of California, Berkeley.

FOLEY, William A. and Robert D. VAN VALIN Jr.
 1984    *Functional syntax and universal grammar.* Cambridge: Cambridge University Press.

1985    Information packaging in the clause.  In Shopen, ed. 1985:282-364.

FORTGENS, J.
1921    *Bijdrage tot de kennis van het Sobojo (Eiland Taliabo, Soela-Groep)*.  's-Gravenhage: Martinus Nijhoff.

FOX, Charles E.
1955    *A dictionary of the Nggela language (Florida, British Solomon Islands)*.  Auckland: Unity Press.
1974    *Lau dictionary*.  *PL*, C-25.
1978    *Arosi dictionary*.  *PL*, C-57.

FOX, G.J.
1979    *Big Nambas grammar*.  *PL*, B-60.

FRANKLIN, Karl J., Harland B. KERR and Clive H. BEAUMONT
1974    *Tolai language course*, 3rd edition.  Huntington Beach, Calif.: SIL.

FRIEDERICI, G.
1912    *Beiträge zur Völker- und Sprachenkunde von Deutsch-Neuguinea*.  Mitteilungen aus den Deutschen Schutzgebieten.   Ergänzungsheft 5.
1913    *Untersuchungen über eine melanesische Wanderstrasse*.  Mitteilungen aus den Deutschen Schutzgebieten.  Ergänzungsheft 7.

FRIEDMAN, J. and M.J. ROWLANDS
1977    *The evolution of social systems*.  London: Duckworth.

GAMKRELIDZE, Thomas V.
1978    On the correlation of stops and fricatives in a phonological system.  In Greenberg et al, eds 1978b:9-46.

GEERTS, P.
1970    *'Are'are dictionary*.  *PL*, C-14.

GERAGHTY, Paul
1983a   *The history of the Fijian languages*.  *OL* special publication 19.  Honolulu: University of Hawaii Press.
1983b   Historical phonology of Eastern Oceanic and Central Pacific.  Seminar paper, Department of Linguistics RSPacS, Australian National University, Canberra.
1986    The sound system of Proto-Central-Pacific.  In Geraghty, Carrington and Wurm, eds 1986b:289-312.

GERAGHTY, Paul, Lois CARRINGTON and S.A. WURM, eds
1986a   *FOCAL I: papers from the Fourth International Conference on Austronesian Linguistics*. *PL*, C-93.
1986b   *FOCAL II: papers from the Fourth International Conference on Austronesian Linguistics*. *PL,* C-94.

GIBLIN, Eric
n.d.    A grammar and dictionary of the Mukawa language, with Gapapaiwa equivalents.  TS. SPC microfilm.

GOODENOUGH, Ward H.

1961a   Migrations implied by relationships of New Britain dialects to Central Pacific languages. *JPS* 70:112-126.

1961b   The Willaumez languages of New Britain.  Paper presented at the Tenth Pacific Science Congress, Honolulu.

GOULDEN, Rick J.

1982   A comparative study of Lusi and Bariai, two Austronesian languages of West New Britain.  M.A. dissertation, McMaster University, Ontario.

GRACE, George W.

1955   Subgrouping Malayo-Polynesian: a report of tentative findings. *American Anthropologist* 57:337-339.

1959   *The position of the Polynesian languages within the Austronesian (Malayo-Polynesian) language family. International Journal of American Linguistics Memoir* 16.

1961   Austronesian linguistics and culture history. *American Anthropologist* 63:359-368.

1968   Classification of the languages of the Pacific. In Vayda, ed. 1968:63-79.

1969   A Proto-Oceanic finder list. *WPLUH* 1/2: 39-84.

1971a   Notes on the phonological history of the Austronesian languages of the Sarmi coast. *OL* 10:11-37.

1971b   Tentative Oceanic subgrouping.  Mimeo.  4pp.  University of Hawaii.

1975   Linguistic diversity in the Pacific: on the sources of diversity.  Paper presented at the Thirteenth Pacific Science Congress, Vancouver.

1978   Introduction to papers from The Oceanic Comparative Linguistics Project. *WPLUH* 10/1:1-7.

1981   Indirect inheritance and the aberrant Melanesian languages.  In Hollyman and Pawley, eds 1981:255-268.

1985   Oceanic subgrouping: retrospect and prospect.  In Pawley and Carrington, eds 1985:1-18.

1986   Further thoughts on Oceanic subgrouping.  In Geraghty, Carrington and Wurm, eds 1986b:1-12.

GRANT, R.V.

1953   *A school dictionary in the Dobu language.*  Rabaul: Methodist Mission Press.

GREEN, R.C. and M. KELLY, eds

1972   *Studies in Oceanic culture history,* vol.3. Pacific Anthropological Records No.13. Honolulu: Bernice Pauahi Bishop Museum.

GREENBERG, Joseph H.

1957   *Essays in linguistics.*  Chicago: University of Chicago Press.

1966a   *Language universals.*  The Hague: Mouton.

1966b   Synchronic and diachronic universals in phonology. *Language* 42:508-517.

1971   The Indo-Pacific hypothesis.  In Sebeok, ed. 1971:807-871.

1978a   Introduction to Greenberg et al, eds 1978a.

1978b   Diachrony, synchrony and language universals.  In Greenberg et al, eds 1978, vol.1:61-91.

GREENBERG, Joseph H., ed.

1963   *Universals of language.*  Cambridge, Mass.: MIT Press.

GREENBERG, Joseph H., Charles A.FERGUSON and Edith A.MORAVCSIK, eds

1978a   Universals of human language, vol.1:*Theory*.  Stanford: Stanford University Press.

1978b   Universals of human language,vol.2: *Phonology*.  Stanford: Stanford University Press.

1978c   Universals of human language,.vol.4: *Syntax*.  Stanford: Stanford University Press.

GROVES, Terab'ata R., Gordon W. GROVES and Roderick JACOBS

1985   *Kiribatese: an outline description.  PL*, D-64.

GUISE, R.

1892   Vocabulary of Bula'a dialect, spoken in the Central District of British New Guinea, by some coast tribes. *British New Guinea, Annual Report by Her Majesty's Administrator of the Government from 1st July 1890 to 30th June 1891*, 108-114.  Melbourne: Government Printers.

HACKMAN, B.D.

n.d.   Unpublished fieldnotes, Solomon Islands languages.

HALIM, Amran, Lois CARRINGTON, and S.A.WURM, eds

1982a   *Papers from the Third International Conference on Austronesian Linguistics*, vol.1: *Currents in Oceanic.  PL*, C-74.

1982b   *Papers from the Third International Conference on Austronesian Linguistics*, vol.2: *Tracking the travellers.  PL*, C-75.

HAMBRUCH, Paul

1908   *Wuvulu and Aua (Maty- und Durour-Inseln).Mitteilungen aus dem Museum für Völkerkunde* 2/1.  Hamburg: Lucas Gräfe und Sillem.

HARDING, Thomas G.

1967   *Voyagers of the Vitiaz Strait: a study of a New Guinea trade system.*  Seattle: University of Washington Press.

HARDJADIBRATA, R.R.

1985   *Sundanese: a syntactical analysis.  PL*, D-65.

HARDWICK, Roma and Joan HEALEY

1967   Manga Buang language learning lessons 1-8. Unpublished workpaper.  SIL, Ukarumpa.

HARRISON, S.P.

1982   Proto-Oceanic *\*aki(ni)* and the Proto-Oceanic periphrastic causatives.  In Halim, Carrington and Wurm, eds 1982a: 179-230.

1983   Proto-Oceanic *\*na*: a case study in the evolution of a temporal marker.  Paper presented to the Austronesian Symposium, Fifteenth Pacific Science Congress, Dunedin.

HASSELT, F.J.F. van

1905   *Spraakkunst der Nufoorsche taal.*  Den Haag: Martinus Nijhoff.

HAU'OFA, Epeli

1981   *Mekeo: inequality and ambivalence in a village society.*  Canberra: Australian National University Press.

HAUDRICOURT, A.G.

1951   Variations parallèles en mélanésien. *Bulletin de la Société de Linguistique de Paris* 47:140-153.

HAWKINS, John A.
1979    Implicational universals as predictors of word order change. *Language* 55:618-648.
1980    On implicational and distributional universals of word order. *Journal of Linguistics* 16:193-236.
1982    Cross-category harmony, X-bar and the predictions of markedness. *Journal of Linguistics* 18:1-35.

HEALEY, Alan
1976    Austronesian languages: Admiralty Islands area. In Wurm, ed. 1976:349-364.

HEALEY, Joan
1967a   Manga Buang phonological hierarchy: part 2. Unpublished workpaper. SIL, Ukarumpa.
1967b   An introduction to Manga Buang clauses. Unpublished workpaper. SIL, Ukarumpa.

HELD, G.J.
1942    *Grammatica van het Waropensch (Nederlandsch Noord Nieuw-Guinea)*. Verhandelingen van het Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen 77/1.

HENDERSON, Jim and Anne HENDERSON
1974    Languages of the Louisiade archipelago and environs. *WPNGL* 3:39-61.

HENDRIKS, H.
1897    *Het Burusch van Màsàrete*. 's-Gravenhage: Martinus Nijhoff.

HOCKETT, Charles F.
1955    *Manual of phonology. International Journal of American Linguistics* Memoir 2.
1963    The problem of universals in language. In Greenberg, ed. 1963:1-22.

HOGBIN, H. Ian.
1947    Native trade around the Huon Gulf, north-eastern New Guinea. *JPS* 56:242-255.
1951    *Transformation scene: the changing culture of a New Guinea village*. London: Routledge and Kegan Paul.

HOLLYMAN, Jim and Andrew PAWLEY, eds
1981    *Studies in Pacific Languages and cultures in honour of Bruce Biggs*. Auckland: Linguistic Society of New Zealand.

HOLZKNECHT, K.G.
n.d.    Adzera-English dictionary. TS.

HOLZKNECHT, Susanne
1986a   A morphology and grammar of Adzera (Amari dialect), Morobe Province, Papua New Guinea. *PL*, A-70:77-166.
1986b   A 'lost' language of the Adzera family, Papua New Guinea. Seminar paper. Department of Linguistics, RSPacS, Australian National University.
f.c.    A comparative study of the languages of the Markham family. Ph.D. dissertation, Australian National University, Canberra

HOOLEY, Bruce A.
1970    Mapos Buang - Territory of New Guinea. Ph.D. dissertation, University of Pennsylvania.
1971    Austronesian languages of the Morobe District, Papua New Guinea. *OL* 10:79-151.

440

HOOPER, Robin
1985    Proto-Oceanic *qi*. In Pawley and Carrington, eds 1985:141-167.

HOSTETLER, Roman and Carolyn HOSTETLER
1975    A tentative description of Tinputz phonology. *WPNGL* 13:5-44.

HUBERS, H.
n.d.    Takia-English dictionary. TS.

HUCKETT, Joyce
1974    Notes on Iduna grammar. *WPNGL* 3:63-133.
1976    Iduna sentence structure. *WPNGL* 15:127-262.

HÜSKES, J., ed.
1932    *Pioniere der Südsee.* Salzburg: Herz-Jesu Missionshaus.

HUTCHISSON, Don and Sharon HUTCHISSON
1975    A preliminary phonology of Sursurunga. *WPNGL* 13:163-202.

HYMES, Dell, ed.
1971    *Pidginization and creolization of languages.* Cambridge: Cambridge University Press.

ILAGI, Gei
1975    Settlement patterns of Marshall Lagoon. *Oral History* 3/2:54-57.

IVENS, W.G.
1911    Grammar of the language of Sa'a, Malaita, Solomon Islands. *Anthropos* 6:755-773, 926-940.
1918    *Dictionary and grammar of the language of Sa'a and Ulawa, Solomon Islands.* Washington: Carnegie Institute.
1921    *Grammar and vocabulary of the Lau language, Solomon Islands.* Washington: Carnegie Institute.
1929    *A dictionary of the language of Sa'a (Mala) and Ulawa, south-east Solomon Islands.* London: OUP.
1933    A grammar of the language of Bugotu, Ysabel Island, Solomon Islands. *BSOAS* 7:141-177.
1934a   A grammar of the language of Longgu, Guadalcanal, British Solomon Islands. *BSOAS* 7:601-621.
1934b   A grammar of the language of Vaturanga, Guadalcanal, British Solomon Islands. *BSOAS* 7:349-375.
1937    A grammar of the language of Florida, British Solomon Islands. *BSOAS* 8:1075-1110.
1940    *A dictionary of the language of Bugotu.* London: Royal Asiatic Society.

JACKSON, Frederick H.
1986    On determining the external relationships of the Micronesian languages. In Geraghty, Carrington and Wurm, eds 1986b:201-238.

JAKOBSON, Roman
1958    Typological studies and their contribution to historical comparative linguistics. In *Proceedings of the Eighth International Congress of Linguists*, 17-35. Oslo: University Press.
1963    Implications of language universals for linguistics. In Greenberg, ed. 1963:208-219.

JENNESS, D. and A. BALLANTYNE
    1928    *Language, mythology and songs of the Bwaidoga, Goodenough Island.* Polynesian Society Memoirs 8. Wellington.

JOHNSON, R.W., ed.
    1976    *Volcanism in Australasia.* Amsterdam: Elsevier.
    1981    *Cooke-Ravian volume of vulcanological papers.* Geological Survey of Papua New Guinea Memoir 10.

JOHNSTON, Raymond L.
    1980    *Nakanai of New Britain: the grammar of an Oceanic language. PL*, B-70.
    1981    An introduction to the Bao language of the New Britain Whiteman family. TS.
    1982    Proto-Kimbe and the New Guinea Oceanic hypothesis. In Halim, Carrington and Wurm, eds 1982a:59-95.

JOHNSTON, Raymond L., ed.

    1980    *Language, communication and development in New Britain.* SIL, Ukarumpa.

JOINDREAU, E.
    1968    An essay on the grammar of the Roro language. Translation by H.Bluhme, of 1907 Essai de grammaire de la langue de Roro, Sacred Heart Mission, Yule Island. TS.

JONES, Alan A.
    n.d.    Mekeo area word lists. MS. Australian National University.

JONKER, J.C.G.
    1915    *Rottineesche Spraakkunst.* Leiden: E.J. Brill.

KASPRUŚ, A.

    1945    The languages of the Mugil District, N.E. New Guinea. *Anthropos* 37-40:711-778.

KEESING, R.M.
    1975    *Kwaio dictionary. PL*, C-35.
    1985    *Kwaio grammar. PL*, B-88.

KENNEDY, Jean
    1980    Recent archaeological work in the Admiralty Islands. *Mankind* 12:72-73.

KEY, C.A.
    1968    Trace element identification of the source of obsidian in an archaeological site in New Guinea. *Nature* 219:360.

KIRK, Robert and Emöke SZATHMARY, eds
    1985    *Out of Asia: peopling the Americas and the Pacific.* Canberra: The Journal of Pacific History.

KOCH, Harold
    1985    Markedness and reanalysis: a principle of morphological change. Seminar paper, Department of Linguistics RSPacS, Australian National University.

KOLIA, J.A.
    1975    A Balawaia grammar sketch and vocabulary. In: Dutton, ed. 1975:107-226.

LANYON-ORGILL, P.A.
  1945    Grammar of the Pokau language, Central Division of Papua, New Guinea. *BSOAS* 11:641-655.

LAUCK, Linda
  1976    Patep sentences. *WPNGL* 17:5-122.
  1980    Patep grammar sketch. Computer printout, SIL, Ukarumpa.

LAYCOCK, D.C.
  1973    *Sepik languages - checklist and preliminary classification. PL*, B-25.
  1979    Multilingualism: linguistic boundaries and unsolved problems in Papua New Guinea. In Wurm, ed. 1979:81-99.
  n.d.    Unpublished fieldnotes, Sepik area.

LAYCOCK, D.C. and W. WINTER, eds
  1987    *A world of language: papers presented to Professor S.A. Wurm on his 65th birthday. PL*, C-100.

LEE, Kee-dong
  1975    *Kusaiean reference grammar.* Honolulu: University Press of Hawaii.

LEE, Robert
  1978    Madak grammar essentials. TS. SIL, Ukarumpa.

LEE, Robert and Carolyn LEE
  1976    A tentative phonemic statement of Madak. TS. SIL, Ukarumpa.

LESLAU, Wolf
  1945    The influence of Cushitic on the Semitic languages of Ethiopia: a problem of substratum. *Word* 1:59-82.

LEVY, Richard S.
  1979    The phonological history of the Bugotu-Nggelic languages and its implications for Eastern Oceanic. *OL* 18:1-32.
  1980    Languages of the southeast Solomon Islands and the reconstruction of Proto-Eastern-Oceanic. In Naylor, ed. 1980:213-225.
  n.d.    Languages of the southeast Solomon Islands and the reconstruction of Proto-Eastern Oceanic. Mimeo, University of Kentucky.

LI, Charles N. and Sandra A. THOMPSON
  1974    An explanation of word order change SVO --- SOV. *Foundations of Language* 12:201-214.

LICHTENBERK, Frantisek
  1978    A third palatal reflex in Manam. *WPLUH* 10/1:183-190.
  1983    *A grammar of Manam. OL* special publications 18. Honolulu: University of Hawaii Press.
  1984    *To'amba'ita language of Malaita, Solomon Islands. WPAALMS* 65.
  1985    Possessive constructions in Oceanic languages and Proto-Oceanic. In Pawley and Carrington, eds 1985:93-140.
  1986    Syntactic-category change in Oceanic languages. *OL* 24:1-84.

LILLEY, Ian

    1986    Prehistoric exchange in the Vitiaz Strait, Papua New Guinea. Ph.D. dissertation. Australian National University.

    n.d.    Unpublished wordlists, Vitiaz Strait languages.

LINCOLN, Peter C.

    1976a    Describing Banoni, an Austronesian language of southeast Bougainville. Ph.D. dissertation, University of Hawaii, Honolulu.

    1976b    Banoni, Piva and Papuanization. *PL*, A-45:77-105

    1976c    Austronesian languages: Bougainville Province. In Wurm, ed. 1976:419- 440.

    1976d    Rai Coast survey: first report. Mimeo, University of Papua New Guinea.

    1976e    Rai Coast Austronesian language survey data, in two parts. Mimeo.

    1977    Subgrouping across a syntactic isogloss. Mimeo.

    n.d.    Basics of Gitua language. TS.

LISTER-TURNER, R. and J.B.CLARK

    1954a    *A grammar of the Motu language of Papua.* Second edition, edited by Percy Chatterton. Sydney: NSW Government Printer.

    1954b    *A dictionary of the Motu language of Papua.* Second edition, edited by Percy Chatterton. Sydney: NSW Government Printer.

LITHGOW, Daphne

    1984    *Dobu-English dictionary.* SIL, Ukarumpa.

LITHGOW, David R.

    1975    A grammatical analysis of a Dobu text. *WPNGL* 12:25-56.

    1976    Austronesian languages: Milne Bay and adjacent islands (Milne Bay Province). In Wurm, ed. 1976: 441-523.

LITHGOW, David and Oren CLAASSEN

    1968    *Languages of the New Ireland District.* Port Moresby: Department of Information and Extension Services.

LITHGOW, David and Daphne LITHGOW

    1974    *Muyuw dictionary.* SIL, Ukarumpa.

LITHGOW, David R. and Philip STAALSEN

    1965    *Languages of the D'Entrecasteaux Islands.* Port Moresby: Department of Information and Extension Services.

LÜDTKE, Helmut, ed.

    1980    *Kommunikationstheoretische Grundlagen des Sprachwandels.* Berlin: Walter de Gruyter.

LYNCH, John

    1975    Oral/nasal alternation and the realis/irrealis distinction in Oceanic languages. *OL* 14:87-99.

    1977a    On the history of the Tanna numerals and number-markers. *Te Reo* 20:3-28.

    1977b    Notes on Maisin - an Austronesian language of the Northern Province of Papua New Guinea. Mimeo, University of Papua New Guinea.

    1978a    Proto-Oceanic *l and *y in Proto-Central Papuan Or Why did the Koita put /yaras/ on their /yagatois/? Paper presented to the 12th Congress of the Linguistic Society of Papua New Guinea.

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1978b    Proto-Central Papuan: a reassessment.  Mimeo, University of Papua New Guinea.
1978c    Proto-South Hebridean and Proto-Oceanic.  In Wurm and Carrington, eds 1978:717-779.
1978d    *A grammar of Lenakel. PL*, B-55.
1980     Proto-Central Papuan phonology.  Mimeo, University of Papua New Guinea.
1981     Melanesian diversity and Polynesian homogeneity: the other side of the coin.  *OL* 20:95-129.
1982a    Towards a theory of the origin of the Oceanic possessive constructions.  In Halim, Carrington and Wurm, eds 1982: 243-268.
1982b    The linguistic prehistory of southern Vanuatu.  Seminar paper, Department of Linguistics RSPacS, Australian National University.
1982c    South-West tanna grammar outline and vocabulary.  *PL*, A-64:1-92.
1983a    Preliminary remarks on Proto-Erromangan.  In John Lynch, ed. *Studies in the languages of Erromango. PL,* C-79:193-220.
1983b    Proto Central Papuan phonology.  TS.  University of Papua New Guinea.
1986     The Proto-South Vanuatu pronominal system.  In Geraghty, Carrington and Wurm, eds 1986b:259-284.

LYNCH, John and D.T. TRYON
1985     Central-Eastern Oceanic: a subgrouping hypothesis.  In Pawley and Carrington, eds 1985:31-52.

MAAN, G.
1951     *Proeve van en Bulische spraakkunst.* 's-Gravenhage: Martinus Nijhoff.

MACDONALD, R. Ross and Soenjono DARJOWIDJOJO
1967     *A student's reference grammar of modern formal Indonesian.* Washington D.C.: Georgetown University Press.

McELHANON, K.A.
1984     *A linguistic field guide to the Morobe Province, Papua New Guinea. PL,* D-57.

McKEE, C.O.
1981     Geomorphology, geology and petrology of Manam volcano.  In Johnson, ed. 1981:23-38.

MAGER, John F.
1952     *Gedaged-English dictionary.* Columbus, Ohio: American Lutheran Church, Board of Foreign Missions.

MALINOWSKI, Bronislaw
1920     Classificatory particles in the language of Kiriwina.  *BSOAS* 1/4:33-78.

MARTINET, André
1955     *Economie des changements phonétiques.* Berne: Francke.

MAURER, H.
1966     *Grammatik der Tangga-Sprache (Melanesien).* Micro-Bibliotheca *Anthropos* 40.

MAYR, E.
1930     Wörter der Nissan-Sprache. *ZES* 21:252-256.

MEYER, O.
1932     Missionar und Wissenschaft.  In Hüskes, ed. 1932:185-196.

MILKE, Wilhelm
  1958   Zur inneren Gliederung und geschtichtlichen Stellung der ozeanisch-austronesischen Sprachen. *Zeitschrift für Ethnologie* 83:58-62.
  1961   Beiträge zur ozeanischen Linguistik. *Zeitschrift für Ethnologie* 86:162-182.
  1965   Comparative notes on the Austronesian languages of New Guinea. *Lingua* 14:330-348.
  1968   Proto-Oceanic addenda. *OL* 7:147-171.

MILLS, Roger F.
  1981   Additional addenda. *NUSA* 10:59-82.

MILNER, G.B.
  1963   Notes on the comparison of two languages (with and without a genetic hypothesis). In Shorto, ed. 1963: 28-44.

MOSEL, Ulrike
  1984   *Tolai syntax and its historical development. PL*, B-92.

MÜHLHÄUSLER, Peter
  1974   *Pidginization and simplication of language. PL*, B-26.
  1985   Patterns of contact, mixture, creation and nativization: their contribution to a general theory of language. In Bailey and Harris 1985:51-88.

MÜLLER, Hermann
  1907   Grammatik der Mengen-Sprache. *Anthropos* 2:80-99.

MUZZEY, Marguerite
  1978   Tentative Hote phonology. TS. SIL, Ukarumpa.
  1979   Hote grammar essentials. TS. SIL, Ukarumpa.

NAYLOR, Paz Buenaventura, ed.
  1980   *Austronesian studies: papers from the Second Eastern Conference on Austronesian Languages.* Ann Arbor: Center for South and Southeast Asian Studies, University of Michigan.

NEUHAUS, Karl
  1954   *Grammatik der Lir-Sprache in Melanesien.* Micro-Bibliotheca *Anthropos* 20.

ONGKODHARMA, Nitya
  n.d.a   Wandamen noun phrase. TS. UNCEN-SIL, Jayapura.
  n.d.b   Inter-clausal relations in Wandamen. TS. UNCEN-SIL, Jayapura.

ORAM, N.D.
  1968   Culture change, economic development and migration among the Hula. *Oceania* 38:243-275.
  1969   Taurama - oral sources for a study of recent Motuan prehistory. *Journal of the Papua and New Guinea Society* 2/2:79-91.
  1982a   Pots for sago: the *hiri* trading network. In Dutton, ed. 1982:1-34.
  1982b   Food and famine: towards a study of western Motu food supplies. Seminar paper. Department of Linguistics, RSPacS, Australian National University.

PAIN, C.F.
  1981   Stratigraphy and chronology of volcanic-ash beds on Lou Island. In Johnson, ed. 1976:221-225.

PAISAWA, Elsie, Louise PAGOTTO and Joan KALE
  1975    *A short sketch of Are (or Mukawa), Milne Bay, Papua New Guinea.*  Port Moresby: Department of Language, University of Papua New Guinea.

PALFREYMAN, W.D. and R.J.S. COOKE
  1976    Eruptive history of Manam volcano, Papua New Guinea.  In Johnson, ed. 1976: 117-131.

PALFREYMAN, W.D., D.A. WALLACE, and R.J.S. COOKE
  1981    Langila volcano: summary of reported eruptive history, and eruption and periodicity from 1961 to 1972.  In Johnson, ed. 1981:125-133.

PANZER, K.
  1920    Laewomba: grammatische Bemerkungen.  TS.

PARKINSON, Richard
  n.d.    Thirty years in the South Seas.  Tr.  N.C.Barry.  Mimeo.

PAWLEY, Andrew K.
  1970    Grammatical reconstruction and change in Polynesia and Fiji.  In Wurm and Laycock, eds 1970:301-368.
  1972    On the internal relationships of eastern Oceanic languages.  In Green and Kelly, eds 1972:1-142.
  1973    Some problems in Proto Oceanic grammar.  *OL* 12:103-188.
  1975    The relationships of the Austronesian languages of Central Papua.  In Dutton, ed. 1975:3-106.
  1977    On redefining 'Eastern Oceanic'.  Mimeo.
  1978    The New Guinea Oceanic hypothesis.  *WPLUH* 10/1:9-48.
  1979    *New evidence on the position of Rotuman. WPAALMS* 56.
  1981    Melanesian diversity and Polynesian homogeneity: a unified explanation for language.  In Hollyman and Pawley, eds 1981:269-309.

PAWLEY, Andrew K. and Lois CARRINGTON, eds
  1985    *Austronesian linguistics at the 15th Pacific Science Congress. PL*, C-88.

PAWLEY, Andrew K. and Roger C. GREEN
  1985    The Proto-Oceanic language community.  In Kirk and Szathmary, eds 1985:161-184.

PAWLEY, Andrew and Lawrence A. REID
  1980    The evolution of transitive constructions in Austronesian.  In Naylor, ed. 1980:103-130.

PEEKEL, Gerhard
  1909    *Grammatik der Neu-Mecklenburgischen Sprache, speziell der Pala-Sprache.*  Archiv für das Studium deutscher Kolonialsprachen 9.  Berlin: Dietrich Reimer.
  1930    Grammatische Grundzüge und Wörterverzeichnis der Label-Sprache.  *ZES* 20:10-34, 92-120.

PETRIE, Kenneth
  1980    The noun phrase in the Roro Language of Papua New Guinea: a preliminary study.  Mimeo.  University of Papua New Guinea.

POWDERMAKER, Hortense
  1933    *Life in Lesu.*  London: Williams and Norgate.

RAGEAU, One
1976    The Rigolorupu of Marshall Lagoon. *Oral History* 5/7:52-55.

RAUSCH, J.
1912    Die Sprachen von Südost-Bougainville, Deutsche Salomoninseln. *Anthropos* 7:105-134, 585-616, 964-994.

RAY, Sidney H.
1911    Comparative notes on Maisin and other languages of eastern Papua. *Journal of the Royal Anthropological Institute* 41:397-405.
1926    *A comparative study of the Melanesian island languages.* Cambridge: Cambridge University Press.
1939    The languages of the eastern Louisiade Archipelago. *BSOAS* 9:363-384.

REHBURG, Judy amd Salme TUOMINEN
1978    Takia grammar essentials. TS. SIL, Ukarumpa.

REID, Lawrence A.
1966    *An Ivatan syntax. OL* Special Publication No. 2. Honolulu: University of Hawaii Press.
1983    The sources of POC genitive constructions. Paper presented at the Austronesian symposium of the Fifteenth Pacific Science Congress, Dunedin.

REVEL-MACDONALD, Nicole
1979    *Le Palawan (Philippines): phonologie, catégories, morphologie.* Paris: Centre National de Recherche Scientifique.

RHOADS, Jim and Jim SPECHT
1980    Aspects of the oral history of the Bali-Witu Islands, West New Britain Province. *Oral History* 8.8:10-22.

ROSS, Malcolm D.
1976    Unpublished fieldnotes, the languages of western Melanesia and the south-east
-1982   Solomons.
1977    Relationships of the Austronesian languages of the Sepik and western Madang coast of New Guinea. Mimeo, University of Papua New Guinea.
1979a   Reconstructing Proto-Central Papuan. Mimeo, University of Papua New Guinea.
1979b   The Austronesian languages of Papua: towards a family tree. Mimeo, University of Papua New Guinea.
1981a   The dialects of Sinagoro and Keapara. TS. Australian National University.
1981b   Proto-Oceanic from the top down. Mimeo, University of Papua New Guinea.
1981c   Areal phonological features in north central New Ireland. Paper presented at the Fifteenth Congress of the Linguistic Society of PNG, Ukarumpa.
1982a   Aspect-marking in New Ireland: towards a historical reconstruction. In Carle et al, eds 1982: 173-196.
1982b   The development of the verb phrase in the Oceanic languages of the Bougainville region. In Halim, Carrington, and Wurm, eds 1982:1-52.
1983a   The role of phonological theories in language reconstruction. Seminar paper, Department of Linguistics RSPacS, Australian National University.
1983b   Proto Central Papuan morphosyntax. Computer printout, Australian National University.

1983c   The genetic relationships of the Austronesian languages of Papua. Paper presented at the Fifteenth Pacific Science Congress, Dunedin.

1984   Maisin: a preliminary sketch. *PL*, A-63:1-82.

1985   Current use and expansion of Tok Pisin: effects of Tok Pisin on some vernacular languages. In Wurm and Mühlhäusler, eds 1985:539-556.

1986   Towards a classification of the Oceanic languages of Bougainville and the western Solomons. In Geraghty, Carrington and Wurm, eds 1986b:175-200.

1987   A contact-induced morphosyntactic change in the Bel languages of Papua New Guinea. In Laycock and Winter, eds 1987:583-601.

ROSS, Malcolm with John Natu PAOL

1978   *A Waskia grammar sketch and vocabulary. PL* B-56.

SACK, Peter G.

1976   *The bloodthirsty Laewomba*. Department of Law, RSSS, Australian National University, Canberra.

SALISBURY, R.F.

1972   The origins of the Tolai people. *Journal of the Papua and New Guinea Society* 6:79-84.

SAPORTA, Sol

1963   Phoneme distribution and language universals. In Greenberg, ed. 1963:48-57.

SCHACHTER, Paul and Fe T. OTANES

1972   *Tagalog reference grammar*. Berkeley: University of California Press.

SCHEFFLER, H.W.

n.d.   Unpublished fieldnotes on the languages of Choiseul.

SCHLIE, Virginia

1984   Individuation and topicality as indices of transitivity: degrees of passive in Kara. Paper read to the Fourth International Conference on Austronesian Linguistics, Suva.

SCHMIDT, W.

1900   Die sprachlichen Verhältnisse von Neuguinea. *ZAOS* 5:354-384.

SCHOOLING, Stephen and Janice SCHOOLING

1980   A preliminary sociolinguistic and linguistic survey of Manus Province, Papua New Guinea. Mimeo, SIL, Ukarumpa.

SCHULTZE, Leonhard S.

1911   *Zur Kenntnis der melanesischen Sprache der Insel Tumleo*. Jena: Gustav Fischer.

SCHÜTZ, Albert J.

1969   *Nguna grammar. OL* Special Publications 5. Honolulu: University of Hawaii Press.

1986   *The Fijian language*. Honolulu: University of Hawaii Press.

SEBEOK, Thomas A., ed.

1971   *Current trends in linguistics*, vol. 8: *Linguistics in Oceania*. The Hague: Mouton.

SELIGMAN, C.G.

1910   *The Melanesians of British New Guinea*. Cambridge: Cambridge University Press.

SERJEANTSON, Susan W.
1985    Migration and admixture in the Pacific: insights provided by human leucocyte antigens. In Kirk and Szathmary, eds 1985:133-146.

SHOPEN, Timothy, ed.
1985    *Language typology and syntactic description*, vol.1: *Clause structure*. Cambridge: Cambridge University Press.

SHORT, Lillian M.T.
1935    The phonetics and grammar of the Hula language.  M.A. dissertation, University of Adelaide.

SHORTO, H.L., ed.
1963    *Linguistic comparison in south-east Asia and the Pacific*.  London: School of Oriental and African Studies.

SHUTLER, Richard, Jr
1978    Radiocarbon dating and Oceanic prehistory. *Archaeology and Physical Anthropology in Oceania* 13:215-228.

SIEGEL, Jeff
1984    An introduction to the Labu language. *PL*, A-69:83-159.

SILZER, Peter
1983    Ambai, an Austronesian language of Irian Jaya, Indonesia.  Ph.D. dissertation, Australian National University, Canberra.

SIMONS, Gary F.
1977a   *The Ghaimuta language of interior Guadalcanal*.  Working Papers for the Language Variation and Limits to Communication Project, Cornell University No. 8.
1977b   A multi-dialectal orthography for the Biliau language.  In Chipping and Lloyd, eds 1977:19-24.
1980    The verbal sentence in Arosi: a reinterpretation of Eastern Oceanic sentence structure.  In Naylor, ed. 1980:131-152.
1980    Morphological reconstruction and change in pronoun systems of the Malitan languages. Paper presented to the Third New Zealand Linguistics Conference, Auckland.
1983    Semantic reconstruction and change in the kinship systems of the southeast Solomons. Paper presented at the 15th Pacific Science Congress, Dunedin.

SIMONS, Gary F. and Linda SIMONS
1977    *A vocabulary of Biliau, an Austronesian language of New Guinea, with notes on its development from Proto-Oceanic*.  Working Papers for the Language Variation and Limits to Communication Project, Cornell University No. 2.

SIMONS, Linda
1977    A tentative phonemic statement of the language of Biliau.  In Chipping and Lloyd, eds 1977:5-18.

SMYTHE, W.E.
1958    Comparative linguistics of the Admiralty Islands. TS.
1970    Melanesian, Micronesian and Indonesian features in languages of the Admiralty Islands. Edited by A. Healey.  In Wurm and Laycock, eds 1970:1209-1234.

1975 Comparative wordlists of the Admiralty Islands languages. Edited by J.A. Z'graggen. *WPNGL* 14:117-216.

n.d.a Seimat grammar. TS.

n.d.b Kele grammar. TS.

**SNEDDON, J.N.**

1978 *Proto-Minahasan: phonology, morphology and wordlist. PL*, B-54.

**SNYDER, David**

1981 Teop Dictionary. Second printing, level 7. Computer printout. SIL, Ukarumpa.

**SNYDER, David and Ruth SNYDER**

n.d. Teop orthographic considerations. Computer printout. SIL, Ukarumpa.

**SPECHT, Jim**

1968 Preliminary report on excavations on Watom Island. *JPS* 77:117-34.

1974 Of menak and men: trade and the distribution of resources on Buka Island, P.N.G. *Ethnology* 13:225-237.

1980 Aspects of the oral history of the Bakovi people of West New Britain Province. *Oral History* 8/8:23-54.

**STAMM, Josef**

f/c. A grammar of the Lavongai language. In Beaumont, ed.

**STAMPE, David**

1969 The acquisition of phonetic representation. In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*: 443-454.

1979 *A dissertation on natural phonology*. Bloomington: Indiana University Linguistics Club.

**STAROSTA, Stanley**

1974 Causative verbs in Formosan languages. *OL* 13:279-370.

**STAROSTA, Stanley, Andrew K. PAWLEY and Lawrence A. REID**

1981 The evolution of focus in Austronesian. Paper presented to the Third International Conference on Austronesian Linguistics, Bali. Abridged version published in Halim, Carrington and Wurm, eds 1982b:145-170.

**STEELE, Susan**

1978 Word order variation: a typological study. In Greenberg et al, eds 1978c: 585-624.

**STEPHAN, Emil and Fritz GRAEBNER**

1907 *Neu-Mecklenburg (Bismarck-Archipel)*. Berlin: Dietrich Reimer.

**STOKHOF, W.A.L., ed. with Lia SALEH-BRONKHORST**

1980 *Holle lists: vocabularies in languages of Indonesia*, vol. 2: *Sula and Bacan Islands, north Halmahera, south and east Halmahera. PL*, D-28.

**STREICHER, J.F.**

1982 *Jabêm-English dictionary. PL*, C-68.

**STRESEMANN, Erwin**

1918 *Die Paulohisprache: Beitrag zur Kenntnis der Ambonischen Sprachen gruppe*. 's-Gravenhage: Martinus Nijhoff.

STRONG, W.M.
1911    The Maisin language. *Journal of the Royal Anthropological Institute* 41:381-396.
1912    Note on the Language of Kabadi, British New Guinea. *Anthropos* 7:155-160.
1914    The Roro and Mekeo languages of British New Guinea. *Zeitschrift für Kolonialsprachen* 4:286-311.

SUHARNO, Ignatius
1982    *A descriptive study of Javanese. PL*, D-45.

SWADLING, Pamela
1980a   Decorative features and sources of selected potsherds from archaeological sites in the Gulf and Central Provinces. *Oral History* 8/8:101-25.
1980b   The settlement history of the Motu and Koita speaking people of the Central Province, Papua New Guinea. In Denoon and Lacey, eds 1980:240-251.

TAI, James H-Y.
1976    On the change from SVO to SOV in Chinese. In S.B. Steever et al, eds *Papers from the Parasession on diachronic syntax*, 291-304. Chicago: Chicago Linguistic Society.

TAUERN, Odo D.
1930    Beitrag zur Kenntnis der Sprachen und Dialekte von Seran. *Anthropos* 23:1000-1020,24:953-981; 25:567-578.

TAYLOR, Andrew J.
1970a   Syntax and phonology of Motu (Papua): a transformational approach. Ph.D. dissertation, Australian National University, Canberra.
1970b   Reduplication in Motu. In Wurm and Laycock, eds 1970:1235-1245.

TERRELL, John E. and G.J. IRWIN
1972    History and tradition in the northern Solomons: an analytical study of the Torau migration to southern Bougainville in the 1860s. *JPS* 81:317-347.

THROOP, Craig
n.d.    Kaulong-English dictionary. Computer printout. SIL, Ukarumpa.

THURSTON, William R.
1982    *A comparative study of Anêm and Lusi. PL*, B-83.
1984    *Amara lexicon.* London, Ontario: Department of Anthropology, University of Western Ontario.

TIMOTEO, Pastor
1897    Notes on the Kabadi dialect of New Guinea. *JPS* 6:201-208.

TODD, Evelyn M.
1978a   Roviana syntax. In Wurm and Carrington, eds 1978:1035-1042.
1978b   A sketch of Nissan (Nehan) grammar. In Wurm and Carrington, eds 1978:1181-1239.

TRYON, D.T.
1973    Linguistic subgrouping in the New Hebrides: a preliminary approach. *OL* 12:303-352.
1976    *New Hebrides languages: an internal classification. PL*, C-50.

TRYON, D.T. and B.D. HACKMAN
1983    *Solomon Islands languages: an internal classification. PL*, C-72.

TURNER, Blaine
1986    *A teaching grammar of the Manam language. WPNGL* 34.

TWOMEY, Kevin
n.d.a    Kiriwinian vocabulary and grammar. MS. Losuia: Catholic Mission.
n.d.b    Vanatinai dictionary. MS.
n.d.c    Nimowan dictionary. TS.

UBEROI, J.Singh
1962    *The politics of the Kula Ring.* Manchester: Manchester University Press.

ULTAN, Russell
1970    *Some sources of consonant gradation.* Stanford Working Papers on Language Universals 2.

VAN DER TUUK, H.N.
1971    *A grammar of Toba Batak.* The Hague: Martinus Nijhoff.

VANDERWAL, R.
1973    Prehistoric studies in central coastal Papua. Ph.D. dissertation, Australian National University, Canberra.

VANOVERBERGH, Morice
1955    *Ilokano grammar.* Baguio City: Catholic School Press.

VAYDA, Andrew P., ed.
1968    *Peoples and cultures of the Pacific.* New York: Natural History Press.

VOORHOEVE, C.L., ed.
1982    *The Makian languages and their neighbours. PL,* D-46.

WAGNER, Hans
1944    A concise grammar in Sio. Tr. K.G. Holzknecht. TS.

WAKEFIELD, David. C.
1975    Miniafia phonology. TS. SIL, Ukarumpa.
n.d.    Miniafia grammar essentials. TS. SIL, Ukarumpa.

WALKER, G.P.L., R.F. HEMING, T.J. SPROD and H.R. WALKER
1981    Latest major eruptions of Rabaul volcano. In Johnson, ed. 1981:181-193.

WALKER, Roland
n.d.    Koiwai grammar sketch. TS. SIL, Jayapura.

WALLACE, D.J., R.J.S. COOKE, D.F. DENT, D.J. NORRIS and R.W. JOHNSON
1981    Kadovar volcano and investigations of an outbreak of thermal activity in 1976. In Johnson, ed. 1981:1-11.

WATERHOUSE, J.H.L.
1949    *Roviana and English dictionary.* Sydney: Epworth.

WEINREICH, Uriel
1963    *Languages in contact.* The Hague: Mouton.

WHEELER, G.C.

1913a    Nine texts in Mono speech. *Mitteilungen des Seminars für orientalische Sprachen* 16/1:1-48.

1913b    A text in Mono speech. *Anthropos* 8: 738-53.

1926    *Mono-Alu folklore (Bougainville Strait, Western Solomon Islands).* London: George Routledge and Sons.

WHINNOM, Keith

1971    Linguistic hybridization and the 'special case' of pidgins and creoles. In Hymes, ed. 1971:91-115.

WHITE, Geoffrey M., Francis KOKHONIGITA and Hugo PULOMANA

1988    *Cheke Holo dictionary. PL,* C-97.

WINSLOW, John H., ed.

1977    *The Melanesian environment.* Canberra: Australian National University Press.

WIVELL, Richard

1981a    Kairiru grammar. M.A. dissertation, University of Auckland.

1981b    *Kairiru lexicon. WPAALMS* 59.

WOLFENDEN, Elmer P.

1971    *Hiligaynon reference grammar.* Honolulu: University of Hawaii Press.

WOLFF, John U.

1974    Proto-Austronesian *R and *d. *OL* 13:77-122.

WURM, S.A.

1975    The East Papuan Phylum in general. In Wurm, ed. 1975:783-804.

WURM, S.A., ed.

1975    *New Guinea area languages and language study,* vol.1: *Papuan languages and the New Guinea linguistic scene. PL,* C-38.

1976    *New Guinea area languages and language study,* vol.2: *Austronesian languages. PL,* C-39.

1979    *New Guinea and neighboring areas: a sociolinguistic laboratory.* The Hague: Mouton.

WURM, S.A. and Lois CARRINGTON, eds

1978    *Second International Conference on Austronesian Linguistics: proceedings. PL,* C-61.

WURM, S.A. and Shiro HATTORI, eds

1981    *Language atlas of the Pacific area.* Part 1. Canberra: The Australian Academy of the Humanities/The Japan Academy. *PL,* C-66.

WURM, S.A. and D.C. LAYCOCK, eds

1970    *Pacific linguistic studies in honour of Arthur Capell. PL,* C-13.

WURM, S.A. and P. MÜHLHÄUSLER, eds

1985    *Handbook of Tok Pisin (New Guinea Pidgin). PL,* C-70.

WURM, S.A. and B.WILSON

1978    *English finderlist of reconstructions in Austronesian languages (post-Brandstetter). PL,* C-33.

YOUNG, Maribelle
  1978      *Bwaidoka tales*. *PL*, D-16.

Z'GRAGGEN, J.A.
  1975a     Introduction to Smythe 1975.
  1975b     *The languages of the Madang District, Papua New Guinea. PL*, B-41.
  1980a     *A comparative word list of the Northern Adelbert Range languages, Madang Province, Papua New Guinea. PL,* D-31.
  1980b     *A comparative word list of the Mabuso languages, Madang Province, Papua New Guinea. PL,* D-32.

ZAHN, H.
  1940      *Lehrbuch der Jabêmsprache (Deutsch-Neuguinea).* Beihefte zur *ZES* 21.

ZORC, R.D.P.
  1977      *The Bisayan dialects of the Philippines: subgrouping and reconstruction. PL*, C-44.

[Author unknown]
  n.d.      Ubir wordlist. Mimeo, Australian National University (Wanigela).

# INDEX

The index is divided into three sections. The first contains reconstructed forms for various proto languages, the second the names of languages, and the third is a general index.

## RECONSTRUCTIONS

This section lists all forms reconstructed in the text for Proto Oceanic and higher-order proto languages. Reconstructions for proto languages of lower order than Proto Oceanic are listed here only if they have no known Proto Oceanic antecedent, are discussed in isolation from their Proto Oceanic antecedent, or are innovatory relative to that antecedent. Reconstructions which are tentative or doubtful are marked '(?)'.

Reconstructions are listed by proto language from highest-order (PAN) to lowest-order, and in a rough geographical sequence from west to east. Within each proto language, reconstructions are listed in alphabetical order, with the following additions:

| | |
|---|---|
| *d* is followed by *D* | *r* is followed by *ʀ* |
| *g* is followed by *ɣ* | *z* is followed by *ʔ* |
| *n* is followed by *ñ, ŋ* | |

Parentheses and hyphens are ignored in alphabetisation. Where a reconstruction contains parenthesised alternants, e.g. *(C,t,ᴛ)awad* , only the first alternant is counted for alphabetisation purposes.

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*aken* verb suffix: oblique transitive 375
*apuy* 'fire' 34
*atas* 'top' 36
*babaq* 'underside' 34
*babinahi* 'woman' 34
*balay* 'public building' 34

*baluj* 'pigeon' 35
*banua* 'settlement' 34
*baŋkaq* 'canoe' 39, 45
*baqeʀu* 'new' 34
*batu* 'stone' 34, 36, 40
*baᴛuk* 'skull, shell' 34
*bekas* 'excrete' 35
*beŋbeŋ* 'butterfly' 35

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## PROTO MALAYO-POLYNESIAN (PMP)

## PROTO CENTRAL/EASTERN MALAYO-POLYNESIAN (PCEMP)

## PROTO EASTERN MALAYO-POLYNESIAN (PEMP)

## PROTO SOUTH HALMAHERA/WEST NEW GUINEA (Proto SHWNG)

## PRE-PROTO OCEANIC (Pre-POC)

Cross-references are given to corresponding POC reconstructions. Where no corresponding POC reconstruction occurs in the text, the POC orthographic equivalent is given in parentheses in accordance with the conventions used in this book, e.g. (= *raraŋ*).

*daun* 'leaf' 37 (*see also* POC *raun*)

*dawa* 'affine' 37 (= *rawa*)

*[do,ti]ndom* 'night' 38 (= *[ro,ti]drom*)

*dua* 'two' 37 (*see also* POC *rua*)

*duʀi* 'thorn' 37 (*see also* POC *ruʀi*)

*duyuŋ* 'dugong' 37 (*see also* POC *ruyuŋ*)

*ikan* 'fish' 38 (*see also* POC *ikan*)

*iko[e]* D:2S 38 (*see also* POC *iko[e]* )

*kadis* 'scratch' 37 (*see also* POC *karis*)

*ka[m][i]u* D:2P 38 (*see also* POC *kam[i]u*)

*ka[m]i* D:1EP 38 (*see also* POC *kami*)

*[kali]mpompo(ŋ)* 'butterfly' 46
(= *[kali]bobo(ŋ)*)

*kampit* 'hold' 35 (*see also* POC *kabit*)

*kani* 'eat' 38 (*see also* POC *kani*)

*kaʀat* 'bite' 38 (*see also* POC *kaʀat*)

*kaso* 'rafter' 38 (*see also* POC *kaso*)

*kasuadi* 'cassowary' 21 (*see also* POC *kasuari*)

*kayu* 'tree' 38 (*see also* POC *kayu*)

*kiʀam* 'axe' 38 (*see also* POC *kiʀam*)

*kita* D:1IP 38 (*see also* POC *kita*)

*kudon* 'cooking' pot' 37, 38 (*see also* POC *kuron*)

*kuku* 'finger' 38 (= *kuku*)

*kulit* 'skin' 38 (= *kulit*)

*kumis* 'beard' 38 (= *kumis*)

*kuʀita* 'octopus' 36 (*see also* POC *kuʀita*)

*kutu* 'hair louse' 36, 38 (*see also* POC *kutu*)

*lampa* 'big' 35 (= *laba*)

*lipon* 'tooth' 34 (= *lipon*)

*makadindiŋ* 'old' 415 (= *makaridriŋ*)

*mampuʀu(k)* 'rotten' 40, 42 (= *mabuʀu(k)*)

*manda* '(banana) ripe' 38 (= *madra*)

*[ma]ndindiŋ* 'cold' 27, 38, 43, 415 (*see also* POC *madridriŋ*)

*mandiʀi* 'stand' 38, 43 (*see also* POC *madriʀi*)

*maŋan* 'feed' 41 (= *maŋan*)

*maqudip* 'alive' 37 (*see also* POC *maquri(p)*)

*mata* 'eye' 36 (*see also* POC *mata*)

*[ma]tuduʀ* 'sleep' 37 (*see also* POC *matiruʀ*)

*mpaluj* 'pigeon' 35 (*see also* POC *baluc*)

*mpanij* 'wing' 35 (*see also* POC *banic*)

*mpekas* 'excrete' 35 (*see also* POC *bekas*)

*[mpi]mpiʀ[i]* 'lips' 35 (= *[bi]biʀ[i]*)

*mpiso* (?) 'navel' 44 (= *biso*)

*mpito* (?) 'navel' 44 (= *bito*)

*mpompo(ŋ)* 'butterfly' 35, 46 (= *bobo(ŋ)*)

*mpoŋi* 'night' 35 (*see also* POC *boŋi*)

*mpoʀok* 'pig' 35 (*see also* POC *boʀok*)

*mpuaq* 'areca nut' 35 (*see also* POC *buaq*)

*mpune* 'pigeon' 35 (*see also* POC *bune*)

*mpuso* 'navel' 35, 43 (= *buso*)

*mputo* (?) 'navel' 44 (= *buto*)

*muni* 'be hidden' 41 (= *muni*)

*naŋ* 'shine' 42 (= *naŋ*)

*natu* 'child' 36 (*see also* POC *natu*)

*-nda* P:3P 352 (*see also* POC *-dra*)

*ndamaʀ* 'torch, Pleiades' 38 (= *dramaʀ*)

*ndanum* 'fresh water' 38 (*see also* POC *[d]ranum* )

*ndaʀaq* 'blood' 38 (*see also* POC *draʀaq*)

*ndindiŋ* 'house partition' 38 (= *dridriŋ*)

*ndindiŋ* 'cold' 415 (= *dridriŋ*)

*-nta* P:1IP 37 (*see also* POC *-da*)

*ŋkapu* 'mist' 39 (= *gapu*)

*-ŋku* P:1S 39, 415 (*see also* POC *-gu*)

*ŋkudu* 'thunder' 39 (= *guru*)

*ñopi* 'suck' 41 (= *ñopi*)

*pale* 'public building' 34 (= *pale*)

*panako* 'steal' 41 (*see also* POC *pa[i]nako*)

*panaq* 'shoot' 34 (*see also* POC *panaq*)

*pandan* 'pandanus' 38, 45 (*see also* POC *padran*)

*panua* 'settlement' 34, 46 (*see also* POC *panua*)

*paŋan* 'eat' 41 (= *paŋan*)

*papaq* 'underside' 34 (= *papaq*)

*papine* 'woman' 34 (*see also* POC *papine*)

*paqoʀu* 'new' 34 (*see also* POC *paqoʀu*)

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*patu* 'skull, shell' 34 (= *patu*)

*patu* 'stone' 34, 36 (*see also* POC *patu*)

*piso* (?) 'navel' 43 (= *piso*)

*pitolo* 'hungry' 46 (*see also* POC *pitolo*)

*pituqun* 'star' 34 (*see also* POC *pituqun*)

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PROTO OCEANIC (POC)

## PROTO CENTRAL/EASTERN OCEANIC (PCEO)

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*ma* verbal proclitic: realis/past/non-future 426
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*(ŋ)ke* verb proclitic: suppositional, purposive, prospective 373
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*[w]atu* postverbal directional particle: 'away, hence' 423

## PROTO SOUTH-EAST SOLOMONIC (PSS)

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*karaŋo* 'dry' 331
*o* S:2S 365
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*o* S:2S 365

## PROTO POLYNESIAN (PPN)

*ai* locative proform 431

LANGUAGES

This section of the index lists references to languages and dialects in the text of this book. It includes references to syntactic examples, but not to lexical data given in support of reconstructions. Where a language occurs in a table occupying more than one page, reference is made only to the first page of that table. Language groups and reconstructed proto languages are included in the general index, and are not listed here.

Non-Austronesian languages are shown in italics, and non-Oceanic Austronesian languages in small capitals. A rough indication of the geographical location of each language is given in brackets. Where no country or larger region is referred to, the location is within Papua New Guinea. The abbreviation 'S.I.' stands for the Solomon Islands.

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